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Power for Development

A Review of the World Bank Group's Experience with Private Participation in the Electricity Sector

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Power for Development

A Review of the World Bank Group's Experience with Private Participation in the Electricity Sector

Fernando Manibog
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2003
The World Bank
Washington, D.C.

International Finance Corporation
Washington, D.C.

Multilateral Investment Guarantee Agency
Washington, D.C.

http://www.worldbank.org/oed
http://www.ifc.org/oeg

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Manufactured in the United States of America
First edition December 2003

Cover photo: World Bank Photo Library.

ISBN 0-8213-5693-3
e-ISBN 0-8213-5694-1

Library of Congress Cataloging-in-Publication Data

Manibog, Fernando Reyes.
Power for development: a review of the World Bank Group's experience with private participation in the electricity sector / Fernando Manibog.
p. cm. — (Operations evaluation studies)
Includes bibliographical references.
ISBN 0-8213-5693-3
1. Electric utilities. 2. Electric utilities—Deregulation. 3. Privatization. 4. Economic development projects—Evaluation. 5. World Bank Group. I. Title. II. World Bank operations evaluation study.

HD9685.A2M25 2003
333.793'2—dc22 2003064618

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Printed on Recycled Paper

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Acknowledgments

This study is a joint review by the World Bank Group's three evaluation units. The report was written by Fernando Manibog of the Operations Evaluation Department (OED) of the World Bank; Rafael Dominguez of the Operations Evaluation Group (OEG) of the International Finance Corporation; and Stephan Wegner of the Operations Evaluation Unit (OEU) of the Multilateral Investment Guarantee Agency. Literature reviews, background papers, contributory Project Performance Assessment Reports, and country case studies were prepared for the OED evaluation by Yves Albouy, Simone Lawaetz, Sunil Mathrani, Manuel Penalver, and Kevin Warr. Samir Stewart and Ferdinand Vinuya contributed to the development of the OED database on the World Bank's project portfolio. Dennis Long, Vanessa Poon, and Victoria Viray-Mendoza contributed to the OEG evaluation of IFC operations. Tomas Caspellan provided administrative assistance, and William Hurlbut provided editorial support.

Special thanks are due to the members of the advisory committee, who provided unique perspectives and advice: V.V. Desai (formerly Chief Economist and Director of Power Operations, Asian Development Bank); Navroz Dubash (World Resources Institute); Graham Thomas (independent consultant on electricity markets and restructuring); and Catherine Waddams (Centre for Competition and Regulation, University of East Anglia).

The report benefited greatly from the insights of the large number of past and present staff who were or are responsible for the World Bank Group's PSDE assistance evaluated for the study, including 154 Bank projects, 29 mature IFC investment operations, and eight MIGA projects, in a total of 80 countries, and associated advisory work. We thank all those who kindly agreed to be interviewed and who responded to our surveys: these include the Bank's Energy Sector Board and Private Sector Development Board; the Bank's Regional Energy Sector Managers; IFC's Power Department Managers; the Bank's Energy Sector Leaders, Task Team Leaders, Task Managers, and other Bank project staff, and IFC's Investment Officers, Environmental Specialists, and Power Engineers. We would like to especially thank the peer reviewers who commented thoroughly on successive versions of the report: Mark Segal, formerly Principal Economist in IFC's Power Department; Denis Carpio of OEG; and Andres Liebenthal of OED.

We are also grateful for the support of the Norwegian Ministry of Foreign Affairs, which funded

background analytical work by Håkon Nordang and by ECON of Norway, as well as the dissemination phase of the study.

We are especially thankful to the numerous stakeholders from private power investors, donor agencies, nongovernmental organizations, government officials, and public power entities who provided a diversity of insights by way of interviews and written correspondence throughout the process of preparing the portfolio review, the country case studies, the background papers, and the report.

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FOREWORD

This study evaluates the performance of the World Bank Group (WBG) during the 1990s in promoting private sector development in the electric power sector (PSDE). This joint review by the WBG's three evaluation units aims to inform the implementation of the WBG's 2001 Energy Business Renewal Strategy. It is based on an evaluation of the WBG's PSDE assistance in 80 countries through the World Bank's analytical and advisory work and its 154 projects, 29 mature International Finance Corporation (IFC) investment operations, and eight mature Multilateral Investment Guarantee Agency (MIGA) projects.

The report's main message is that, where countries showed a commitment to advancing reforms and where PSDE programs were properly implemented, PSDE has delivered its expected benefits and good outcomes. However, the quality of outcomes depended on the objectives pursued and on the types of assistance provided. Most countries remain in the early stages of reforming and deepening private sector involvement in their power sectors. The World Bank, pursuing multiple and complex reform objectives through a range of instruments across all regions, achieved good results where country ownership and sustained political commitment existed. It underestimated the complexity and time required for reforms to mature and achieve lasting and equitable country sector outcomes, however, and obtained poor or, at best, mixed

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PRÓLOGO

Este estudio evalúa el rendimiento del Grupo del Banco Mundial (WBG, por sus siglas en inglés) durante la década de 1990 en el fomento del desarrollo del sector privado en el sector de energía eléctrica (PSDE). Esta revisión conjunta por parte de las tres unidades de evaluación del WBG intenta informar acerca de la puesta en práctica de la Estrategia de renovación del negocio de la energía en 2001 del WBG. Está basada en una evaluación de la ayuda del PSDE del WBG en 80 países, por medio del trabajo analítico y de asesoría del Banco Mundial y sus 154 proyectos, 29 operaciones de inversión de la Corporación Financiera Internacional (CFI) y 8 proyectos del Organismo Multilateral de Garantía de Inversiones (OMGI).

El mensaje principal del informe es que el PSDE ha proporcionado sus beneficios esperados y buenos resultados en los casos en que los países mostraron un compromiso con las reformas para avanzar y los programas del PSDE se pusieron en práctica debidamente. Sin embargo, la calidad de los resultados dependía de los objetivos buscados y de los tipos de ayuda proporcionada. La mayoría de los países permanecen en las primeras fases de reformar y profundizar la participación del sector privado en sus sectores de la energía eléctrica. El Banco Mundial—que lucha por lograr objetivos de reforma compleja y múltiple por medio de una variedad de instrumentos en todas las regiones—logró buenos resultados cuando existía el concepto

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AVANT-PROPOS

Cette étude évalue les performances réalisées au cours des années 1990 par le Groupe de la Banque mondiale en matière de promotion du développement du secteur privé dans le domaine de l'énergie électrique (DSPE). Réalisée conjointement par les trois unités d'évaluation du Groupe de la Banque mondiale, elle a pour but de donner des informations au sujet de la mise en application la Stratégie de renouvellement de l'énergie de 2001 du Groupe de la Banque mondiale. Elle est basée sur une évaluation de l'aide offerte au secteur privé dans le domaine de l'énergie électrique par le Groupe de la Banque mondiale dans 80 pays, au moyen du travail analytique et consultatif de la Banque mondiale et de ses 154 projets, 29 opérations d'investissement parvenues à maturité de la Société financière internationale (SFI) et de 8 projets parvenus à maturité de l'Agence multilatérale de garantie des investissements (MIGA).

Le principal enseignement du rapport est que le DSPE a fourni les résultats attendus en matière de bénéfices et de biens dans les pays décidés à faire progresser les réformes et où les programmes DSPE avaient été mis en pratique correctement. Cependant, la qualité des résultats a dépendu des objectifs poursuivis et des types d'aide fournis. La plupart des pays en sont encore aux premiers stades de réformes et d'augmentation de la participation du secteur privé au domaine de l'énergie électrique. La Banque mondiale—poursuivant des objectifs de

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results where reforms were weak or reversed. IFC and MIGA, which focused on the single reform objective of private sector participation and which responded to market demand for new generation, typically to address shortages, achieved good project-level outcomes overall.

The study also points out that there is no single blueprint suitable for all sector reform and PSDE. There is instead an evolving menu of options for the combinations and sequences of reform steps that are driven by country-specific objectives and conditions. Poverty reduction and environmental mainstreaming ("doing good," in addition to "doing no harm") furthermore have not been intrinsic components of sector reform and PSDE strategies. Independent power producers have had a critical role to play in relieving supply bottlenecks, in leveraging public sector financing capacity, and in demonstrating early wins, but a lack of timely reforms in the distribution subsector can jeopardize the gains in the generation subsector.

The WBG's PSDE assistance is a work in progress. Learning-by-doing can work, but countries should set clear objectives and should take the lead in reform, supported by WBG advice drawn from its experience of similar situations in other countries. Joint World Bank–IFC–MIGA Country Assistance Strategies (CASs) have been more effective at supporting PSDE than have World Bank-only CASs, but coordination through CASs alone is insufficient.

Demand continues to be strong for the WBG's advice and assistance in PSDE, especially given the global environment of reduced private cap-

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de propiedad en el país y un compromiso político continuo. Pero el Banco Mundial subestimó la complejidad y el tiempo requerido para que las reformas madurasen y lograsen resultados duraderos y equitativos en el país y sector; obtuvo resultados deficientes, o como mucho mixtos, donde las reformas fueron débiles o inversas. La CFI y el OMGI—concentrados en el único objetivo de reforma de la participación del sector privado y respondiendo a la demanda del mercado para la nueva generación, típicamente tratar la escasez—lograron en general buenos resultados a nivel de los proyectos.

El estudio también señala que no hay un solo proyecto para reforma del sector y PSDE. Es un menú de opciones que evoluciona y cubre varias combinaciones y secuencias de pasos para la reforma, que vienen indicados por objetivos y condiciones específicos de cada país. Además, la reducción de la pobreza y la aceptación general del medio ambiente ("hacer cosas bien" además de "no hacer daño") no han sido componentes intrínsecos de la reforma del sector y las estrategias de PSDE. Los productores independientes de energía han tenido que jugar un papel crítico para aliviar los embotellamientos de suministros, influenciar la capacidad financiera del sector público y demostrar ganancias iniciales. Pero la falta de reformas a tiempo en el subsector de distribución puede poner en peligro las ganancias en el subsector de generación.

La ayuda de PSDE del WBG es un "trabajo en marcha". Aprender sobre la marcha puede funcionar, pero los países deben fijar objetivos claros y estar al frente, apoyados por conse-

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réforme multiples et complexes au moyen de divers instruments à travers toutes les régions—a obtenu de bons résultats dans les pays qui avaient manifesté leur adhésion et où il existait un engagement politique soutenu. Mais la Banque mondiale avait sousestimé la complexité et le temps nécessaire pour permettre aux réformes de parvenir à maturité et pour obtenir des résultats par secteur de pays durables et équitables ; elle a ainsi obtenu des résultats peu satisfaisants, ou tout au moins discutables dans les pays où les réformes étaient faibles ou lentes à s'enraciner. La SFI et la MIGA—concentrant tous leurs efforts sur le seul objectif de réforme de la participation du secteur privé et répondant à la demande du marché pour de nouvelles productions afin surtout de faire face à la pénurie—ont obtenu dans l'ensemble de bons résultats pour le projet.

Ce rapport fait également remarquer qu'il n'existe aucun plan directeur de réforme sectorielle et de développement du secteur privé dans le domaine de l'énergie électrique. Il s'agit d'un menu d'options évolutif couvrant diverses combinaisons et séquences d'étapes de réformes mues par des objectifs et conditions spécifiques au pays. De plus, la lutte contre la pauvreté et l'intégration environnementale (ne pas se contenter de « ne pas faire de mal », mais également « faire du bien ») ont été les composantes intrinsèques de la réforme sectorielle et des stratégies du DSPE. Les producteurs d'électricité indépendants ont eu un rôle crucial à jouer dans le dégagement des goulots d'étranglement en matière d'approvision-

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ital flows, heightened macroeconomic and political risks, and scant sponsor/investor interest. In particular, the WBG has an urgent and crucial role to play in slow-reforming countries and in low-income countries whose high political risk and regulatory deficiencies make them less attractive to investors.

The study recommends that the WBG continue to pursue PSDE. In doing so, it should: (i) provide operational guidance to staff on when and how to continue promoting PSDE; (ii) give greater emphasis to the mainstreaming of poverty reduction and environmental objectives in the design of future PSDE strategies; and (iii) encourage operational innovations to ensure greater consistency between WBG practices and instruments and its PSDE goals, including through more systematic monitoring and evaluation of impacts.

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jos sensatos del WBG sacados de lecciones de experiencia en otros países en circunstancias similares. Las Estrategias de Asistencia a un País (CAS), en conjunto del Banco Mundial, CFI y OMGI, han sido más eficaces en apoyar el PSDE que las CAS solamente del Banco Mundial, pero la coordinación por medio de las CAS solamente es insuficiente.

En general, el consejo y ayuda del WBG en PSDE continúa siendo una demanda, dado el ambiente global actual de flujo de capital privado reducido, riesgos macroeconómicos y políticos elevados y escaso interés de patrocinadores e inversores. En particular, el WBG tiene un papel urgente y crucial que jugar en los países con reformas lentas y de ingreso bajo, cuyo alto riesgo político y deficiencias de regulación hacen que sean menos atractivos a los inversores.

El estudio recomienda que el WBG continúe buscando PSDE. Al hacer esto, debería: (i) proporcionar orientación de operación al personal sobre cuándo y cómo continuar fomentando el PSDE; (ii) dar mayor énfasis a la aceptación general de la reducción de la pobreza y los objetivos ambientales en el diseño de las estrategias futuras del PSDE; y (iii) alentar las innovaciones operacionales para asegurar una mayor consistencia entre las prácticas e instrumentos del WBG y sus metas de PSDE, incluyendo el hacerlo mediante más control sistemático y evaluación de impactos.

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nement, dans l'optimisation de la capacité de financement du secteur public et dans l'obtention de gains précoces. Mais l'absence de réformes réalisées en temps opportun dans le sous-secteur de la distribution peut mettre en péril les gains obtenus dans le sous-secteur de la production.

L'aide accordée par le Groupe de la Banque mondiale au DSPE constitue un « travail en cours ». L'apprentissage par la pratique est une option envisageable, mais les pays doivent se fixer des objectifs précis et se positionner en tête du mouvement grâce aux conseils judicieux du Groupe de la Banque mondiale résultant de leçons tirées de l'expérience dans d'autres pays dans des conditions semblables. Les stratégies CAS (Stratégies d'aide aux pays) menées conjointement par la Banque mondiale, la SFI et la MIGA ont apporté un soutien bien plus efficace au DSPE que celles qui avaient été mises en œuvre par la Banque mondiale seule, mais la coordination par le truchement des seules CAS demeure insuffisante.

Dans l'ensemble, le conseil et l'aide du Groupe de la Banque mondiale pour favoriser le DSPE continue d'être recherché compte tenu de l'environnement global actuel de réduction des mouvements de capitaux privés, d'augmentation des risques macro-économiques et politiques et de faible intérêt montré par les commanditaires et investisseurs. En particulier le Groupe de la Banque mondiale a un rôle urgent et crucial à jouer dans les pays lents à opérer des réformes et dans les pays à faible revenu dont les risques politiques élevés et les déficiences en

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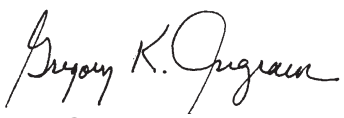
matière de réglementation les rendent moins attrayants pour les investisseurs.

L'étude recommande que Groupe de la Banque mondiale continue de poursuivre le DSPE. Ce faisant, il doit : (i) fournir des directives opérationnelles au personnel sur quand et comment continuer à promouvoir le DSPE, (ii) accentuer la rationalisation de la lutte contre la pauvreté et des objectifs environnementaux dans les futurs plans stratégiques du DSPE et (iii) encourager les innovations opérationnelles afin d'assurer une plus grande cohérence entre les pratiques et les instruments du Groupe de la Banque mondiale et ses objectifs en matière de DSPE, par une surveillance et une évaluation des effets plus systématiques.



Gregory K. Ingram
Director-General, Operations Evaluation

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SUMMARY

This study evaluates the performance of the World Bank Group (WBG) during the 1990s in promoting private sector development in the electric power sector (PSDE). This joint review by the WBG's three evaluation units[1] addresses four evaluation questions: (i) how did private participation and the WBG's role change in the 1990s?; (ii) to what extent has the WBG's assistance supported its PSDE strategies?; (iii) what have been the results of the WBG's PSDE interventions?; and (iv) what are the broad lessons that should guide the WBG's future business directions in promoting PSDE?

The WBG's experience with PSDE since the early 1990s suggests that, where PSDE was properly implemented, it has delivered results, and the WBG should continue to support such interventions. The outcomes of the assistance provided by the Bank, IFC, and MIGA depend on country commitment, objectives pursued, and the types of assistance provided. There is no universal blueprint for PSDE; rather, there is a continually evolving menu of options whose validity depends on country-specific objectives and conditions. Most countries remain in the early stages of reforming and deepening private sector involvement in their power sectors. The Bank, pursuing multiple and complex reform objectives through a range of instruments across all regions, achieved good results in those cases where country ownership and political commitment existed. However, it underestimated the com-

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RÉSUMEN

Este estudio evalúa el rendimiento del Grupo del Banco Mundial (WBG, por sus siglas en inglés) durante la década de 1990 en el fomento del desarrollo del sector privado en el sector de energía eléctrica (PSDE). Esta revisión conjunta por parte de las tres unidades de evaluación[1] del WBG presenta cuatro preguntas de evaluación: (i) ¿Cómo han cambiado la participación privada y el papel del WBG en la década de 1990?; (ii) ¿Hasta qué punto la ayuda del WBG ha apoyado sus estrategias del PSDE?; (iii) ¿Cuáles han sido los resultados de las intervenciones del PSDE del WBG?; (iv) ¿Cuáles son las lecciones que deberían guiar las directrices de negocio futuras del WBG para fomentar el PSDE?

La experiencia del WBG con el PSDE desde principios de la década de 1990 sugiere que el PSDE ha dado resultados donde se puso en práctica debidamente y el WBG debería continuar apoyando tales intervenciones. Sin embargo, los resultados de la ayuda del Banco, CFI y OMGI dependen del compromiso del país, de los objetivos perseguidos y de los tipos de asistencia proporcionada. No hay un solo proyecto para el PSDE; más bien es un menú de opciones en continuo cambio dirigidas por los objetivos y condiciones específicas del país. La mayoría de los países permanecen en las primeras fases de reformar y profundizar la participación del sector privado en sus sectores de la energía eléctrica. El Banco, que lucha por lograr objetivos de reforma compleja y múltiple por

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RÉSUMÉ ANALYTIQUE

Cette étude évalue les performances réalisées au cours des années 1990 par le Groupe de la Banque mondiale en matière de promotion du développement du secteur privé dans le domaine de l'énergie électrique (DSPE). Réalisée conjointement par les trois unités d'évaluation[1] du Groupe de la Banque mondiale, elle aborde quatre questions d'évaluation : (i) comment la participation du secteur privé et le rôle du Groupe de la Banque mondiale ont-ils évolué au cours des années 1990 ? (ii) dans quelle mesure l'aide du Groupe de la Banque mondiale a-t-il soutenu ses stratégies DSPE ? (iii) quels ont été les résultats des interventions du Groupe de la Banque mondiale en matière de DSPE ?; (iv) quels sont les grands enseignements qui doivent guider les futures orientations commerciales du Groupe de la Banque mondiale pour promouvoir le DSPE ?

L'expérience de Groupe de la Banque mondiale avec le DSPE depuis le début des années 1990 donne à penser que le DSPE a fourni des résultats là où il a été correctement mis en pratique et que le Groupe de la Banque mondiale doit continuer à soutenir ces interventions. Cependant, les conséquences de l'aide offert par la Banque, la SFI et la MIGA dépendent de l'engagement du pays, des objectifs poursuivis et des types d'aide fournis. Il n'existe aucun plan directeur pour le DSPE ; il s'agit plutôt d'un menu d'options évolutif, mues par des objectifs et des conditions spécifiques au pays. La plupart

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plexity of the reforms needed and the time required for those reforms to mature and achieve lasting and equitable country-sector outcomes, and where the reforms were weak or slow to take root it obtained poor or, at best, mixed results. IFC and MIGA, focusing on the single reform objective of private sector participation and responding to market demand, overall achieved good project-level outcomes, but while good, individual private sector project outcomes contribute to sector reform they cannot alone ensure good sector-level outcomes. From a different perspective, good private sector project outcomes are possible at different stages of reform, but they are not a sufficient gauge of the WBG's achievement of its overall PSDE sectoral objectives. Good project-level outcomes are a necessary condition for good sector-level outcomes, but this is achievable only with strong government commitment to country-sector reform objectives. Achieving these reforms has been and continues to be difficult in most of the WBG's client countries.

The WBG's advice and assistance continue to be in demand, but its role in advocating PSDE has become less clear in the current global environment of sharply reduced private capital flows. While the evaluation evidence supports the WBG's promotion of PSDE, some observers have identified an emergent crisis in power sector reform in developing countries as strategic investors have withdrawn from the sector over the past 18 months, and are concerned that the Bank's support for PSDE consequently has become less effective. About a dozen investors have withdrawn from India, and the eco-

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medio de una variedad de instrumentos en todas las regiones, logró buenos resultados cuando existía el concepto de propiedad en el país y un compromiso político continuo. Pero el Banco subestimó la complejidad y el tiempo requerido para que las reformas madurasen y lograsen resultados duraderos y equitativos en el país y sector; obtuvo resultados deficientes, o como mucho mixtos, donde las reformas fueron débiles o tardaron tiempo en arraigarse. La CFI y el OMGI, concentrados en el único objetivo de reforma de la participación del sector privado y respondiendo a la demanda del mercado, lograron en general buenos resultados a nivel de los proyectos. Pero si bien los resultados buenos e individuales de proyectos del sector privado contribuyen a la reforma del sector, no pueden por sí mismos asegurar resultados buenos a nivel del sector. Desde una perspectiva diferente, los resultados buenos de proyectos del sector privado son posibles en diferentes etapas de la reforma, pero no son una medida suficiente de los logros del WBG en sus objetivos generales del sector del PSDE. Los buenos resultados a nivel de proyecto son una condición necesaria para los buenos resultados a nivel del sector, pero esto solamente se puede lograr con un fuerte compromiso del gobierno hacia los objetivos de reforma del sector en el país. Lograr estas reformas, sin embargo, ha sido y continúa siendo difícil en la mayoría de los países clientes de WBG.

El consejo y ayuda del WBG continúan estando en demanda, pero su papel en defender PSDE se ha vuelto menos claro en el ambiente global actual de un flujo de capital privado

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des pays demeurent aux stades précoces d'établissement de réformes et d'augmentation de la participation du secteur privé dans le domaine de l'énergie. La Banque, poursuivant des objectifs de réforme multiples et complexes par un ensemble d'instruments à travers toutes les régions, a obtenu de bons résultats dans les pays qui avaient manifesté leur adhésion et où il existait un engagement politique soutenu. Mais la Banque avait sous-estimé la complexité et le temps nécessaire pour permettre aux réformes de parvenir à maturité et pour obtenir des résultats par secteur de pays durables et équitables ; elle a ainsi obtenu des résultats peu satisfaisants, ou au mieux discutables, dans les pays où les réformes se sont avérées faibles ou lentes à s'enraciner. La SFI et la MIGA—concentrant tous leurs efforts sur le seul objectif de réforme de la participation du secteur privé et répondant à la demande du marché—ont obtenu dans l'ensemble de bons résultats pour le projet. Mais si les bons résultats du projet dans le secteur privé individuel contribuent à une réforme sectorielle, ils ne peuvent pas, à eux seuls, assurer de bons résultats au niveau sectoriel. D'un point de vue différent, de bons résultats de projet dans le secteur privé sont possibles à différents stades de réformes, mais ils ne constituent pas une mesure suffisante pour évaluer l'accomplissement du Groupe de la Banque mondiale en ce qui concerne ses objectives sectoriels du DSPE en général. De bons résultats au niveau du projet constituent une condition nécessaire pour obtenir de bons résultats au niveau du secteur, mais ceci ne peut être obtenu que par

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nomic crisis in Latin America has forced the postponement of power supplier privatization in Peru, Ecuador, and Brazil. Observers elsewhere have reported the risk of renationalization in some countries. Other observers, however, see the sharp drop in investor interest as temporary, noting the emergence of local and regional players and highlighting recent transactions, such as the Delhi distribution privatization and private power deals in Kazakhstan and Central European countries. The WBG is most needed in low-income countries where high political risk and regulatory deficiencies deter investors. Bank staff accordingly require guidance on when and how to continue promoting PSDE in an environment of heightened risk and uncertainty. Operational guidance is particularly needed in five areas: (i) how to reignite private interest in developing country power sectors; (ii) how to balance public and private investments; (iii) how to select the sequence of reforms and PSDE interventions that will work best in a particular country-sector situation; (iv) how to incorporate the expansion of energy access for the poor and environmental considerations that go beyond safeguard compliance (that is, that "do good" rather than simply "do no harm") into the WBG's PSDE and sector reform agenda; and (v) how to achieve much stronger Bank, IFC, and MIGA coordination, coherence, and synergy, including within the Country Assistance Strategy (CAS) framework.

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bruscamente reducido. Si bien la evidencia de evaluación apoya la continua promoción del PSDE por parte del WBG, algunos observadores ven una crisis en la reforma del sector de la energía eléctrica en los países en desarrollo, ya que inversores estratégicos se han retirado del sector en manadas en los últimos 18 meses, y están preocupados porque el apoyo del PSDE por parte del Banco se ha vuelto menos eficaz. Cerca de una docena de inversores se ha retirado de la India, y la crisis económica actual en Latinoamérica ha forzado el retraso de las privatizaciones de proveedores de energía en Perú, Ecuador y Brasil. Los observadores han informado de riesgos de renacionalización en algunos países. Otros ven la caída abrupta del interés del inversor como algo temporal, apuntando la emergencia de jugadores locales y regionales, y destacando las transacciones recientes tales como la privatización de distribución en Delhi y las transacciones de energía privada en Kazajstán y países de Europa central. Sin embargo, los países de ingreso bajo son los que más necesitan al WBG, pues el alto riesgo político y las deficiencias de regulación disuaden a los inversores. Por lo tanto, el personal del WBG necesita orientación profesional acerca de cuándo y cómo seguir fomentando el PSDE con este aumento de riesgos e incertidumbres. La orientación profesional de operación se necesita particularmente en cinco áreas: (i) cómo volver a despertar el interés privado en los sectores de energía de países en desarrollo; (ii) cómo equilibrar las inversiones públicas y privadas; (iii) qué secuencia de reformas y qué intervenciones del PSDE funcionan

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l'engagement sérieux du gouvernement vis-à-vis de réformes à l'échelle nationale et sectorielle. La mise en place de ces réformes, cependant, a été et continue d'être difficile dans la plupart des pays clients du Groupe de la Banque mondiale.

Les conseils et l'aide du Groupe de la Banque mondiale continuent d'être recherchés, mais le rôle d'encouragement du DSPE assumé par la Banque est devenu moins clair dans la situation globale actuelle où l'on observe de fortes réductions des flux de capitaux privés. Tandis que les preuves fournies par l'évaluation vont en faveur de la poursuite de la promotion du DSPE par le Groupe de la Banque mondiale, certains observateurs voient une crise dans la réforme du secteur d'énergie dans les pays en voie de développement, étant donné que les investisseurs stratégiques se sont retirés du secteur en grand nombre au cours des 18 derniers mois et qu'ils pensent avec inquiétude que le soutien de la Banque en faveur du DSPE a perdu de son efficacité. Une douzaine d'investisseurs environ se sont retirés des Indes et la crise économique qui sévit actuellement en Amérique latine a obligé l'ajournement de privatisations de fournisseurs d'énergie au Pérou, en Équateur et au Brésil. Les observateurs ont signalé des risques de renationalisation dans certains pays. D'autres observateurs pensent que le déclin marqué de l'intérêt des investisseurs est temporaire du fait de l'apparition de participants locaux et régionaux et de transactions récentes, telles que la privatisation de la distribution à Delhi et les transactions d'énergie privées au Kazakhstan et dans les pays d'Europe centrale.

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How have private participation and the WBG's role changed in the 1990s?

Since 1990, developing country power sectors and the WBG's support to them have been transformed. There has been a move away from public monopolies toward private ownership and a liberalized market structure, with market and technological innovations widening the choices for industry structure and ownership and reducing the likelihood of a return to vertically integrated monopolies. The main drivers for this change were the supply shortages and massive financing needs of the power sector; the persistently poor performance, despite decades of donor support, of public power monopolies; the wider choices for power market structures, spurred by technological and market innovations in the electricity supply industry; and the growth in private capital for global power investments.

The Bank's "business-as-usual" lending to public power utilities proved untenable, and in 1993 it announced an Electric Power Lending Policy, supported by IFC and MIGA. The policy linked the WBG's support with country commitment to reforms, specifically in the three areas of commercialization, corporatization, and arm's-length regulation. IFC's first investment with independent power producers (IPPs) was made as early as 1989, but it was not until 1996 that the Bank's "Statement of Good Practices in the Electric Power Sector" (GP4.45) added private sector involvement as a clear goal. By then, the Bank had adopted a *de facto* reform approach that, in addition to commercialization, corpora-

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mejor en situaciones particulares del sector del país; (iv) cómo incorporar en la agenda de reforma del sector y del PSDE del WBG la expansión del acceso a la energía para los pobres y las consideraciones ambientales más allá de un cumplimiento con las medidas preventivas, es decir, "hacer el bien" además de "no hacer daño"; (v) cómo lograr una coordinación, coherencia y sinergia mucho más fuerte entre el Banco, la CFI y el OMGI, incluyendo dentro del marco de la Estrategia de Asistencia a un País (CAS).

¿Cómo han cambiado en la década de 1990 la participación privada y el papel del WBG?

Desde 1990 hasta el presente, los sectores de energía de los países en desarrollo y el apoyo del WBG a ellos se han transformado, alejándose de los monopolios públicos hacia la propiedad privada y una estructura de mercado liberalizada. Sin embargo, en lugar de volver a los monopolios integrados verticalmente, las innovaciones tecnológicas y de mercado han ampliado las posibilidades para la estructura y la propiedad de la industria. Los principales impulsores de este cambio fueron la escasez de abastecimiento y las necesidades financieras masivas del sector de la electricidad, el rendimiento persistentemente deficiente de los monopolios de electricidad públicos a pesar de las décadas de apoyo por parte de donantes, la gama más amplia de posibilidades en las estructuras del mercado de electricidad estimuladas por innovaciones tecnológicas y de mercado en la industria de proveedores de electricidad y el crecimiento del capital privado para las inversiones en electricidad global.

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Cependant, l'aide du Groupe de la Banque mondiale est surtout nécessaire dans les pays à faible revenu où les risques politiques sont élevés et où les déficiences réglementaires découragent les investisseurs. Le personnel du Groupe de la Banque mondiale a donc besoin de directives pour déterminer quand et comment promouvoir le DSPE dans un climat d'augmentations du risque et d'incertitudes. Il est particulièrement nécessaire d'établir des directives opérationnelles dans cinq domaines : (i) comment ressusciter l'intérêt des groupes privés dans les secteurs d'énergie des pays en voie de développement, (ii) comment équilibrer les investissements publics et privés, (iii) quelles sont les séquences de réforme et quelles sont les interventions de DSPE qui donnent les meilleurs résultats dans des situations particulières à un secteur et à un pays, (iv) comment intégrer l'expansion de l'accès à l'énergie dans les pays pauvres avec des considérations environnementales qui vont au-delà du simple respect des mesures de protection, c.-à-d. ne pas se contenter de « ne pas faire de mal », mais également « faire du bien » dans le programme DSPE et de réformes sectorielles du Groupe de la Banque mondiale, (v) comment obtenir une coordination, une cohérence et une synergie plus étroite entre la Banque, la SFI et la MIGA, dans le cadre des Stratégies d'aide aux pays (CAS).

Comment la participation privée et le rôle du Groupe de la Banque mondiale ont-ils évolué au cours des années 1990 ?

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tization, and regulation, also included unbundling, private investments in generation, private participation in transmission and distribution, and market competition. In the Bank's operational usage, this full package of seven reform components had evolved into "steps" and a "scorecard."

The 1993 policy enunciated what to do, but because of the limited experience worldwide in implementing such policies it was not accompanied by a strategy on how to do it. This shortcoming was acknowledged, the Bank anticipating that the necessary experience would be obtained through "learning-by-doing." However, this technocratic view did not give adequate weight to the political economy of reform and proved too optimistic: while the 1993 policy is basically sound, the lack of accompanying strategic and operational guidance raises many questions about its implementation. Moreover, the Bank's PSDE policy pronouncements were belated and reactive: both the 1993 and 1996 policy statements merely formalized what had already become a reality in the electric power sector—namely, massive global private capital flows. This trend was interrupted by the 1997–98 Asian financial crises. The Bank's 2001 Energy Business Renewal Strategy (EBRS) was a response to poor portfolio performance in the 1990s, the decline in sector lending, and the pressure to encompass poverty alleviation and environmental sustainability in its sector assistance (as addressed in the 2000 "Fuel for Thought" Strategy on Energy and the Environment).

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La concesión de préstamos del Banco "como de costumbre" a las empresas del servicio público demostró ser insostenible y en 1993 emitió una Política de préstamos para la energía eléctrica, apoyada por la CFI y el OMGI. La política vinculaba el apoyo del WBG con el compromiso del país a las reformas, específicamente en tres áreas: comercialización, corporación y regulación manteniendo las distancias. La primera inversión de la CFI con productores independientes de electricidad (IPP) se hizo en 1989; sin embargo, no fue hasta 1996 que la "Declaración de buenas prácticas en el sector de la energía eléctrica" del Banco (GP4.45) añadió la implicación del sector privado como meta clara. Para entonces, el Banco había adoptado un enfoque de reforma *de facto* que, además de la comercialización, corporación y regulación, también incluyó separación, inversiones privadas en la generación de electricidad, participación privada en la transmisión y distribución y competencia en el mercado. En el uso operacional del Banco, este paquete completo de siete componentes de reforma había evolucionado hacia "pasos" y una "tarjeta de puntuación".

No obstante, mientras la política de 1993 enunciaba lo que se debía hacer, no estaba acompañada de una estrategia sobre cómo hacerlo, debido a la limitada experiencia a nivel mundial para poner en práctica tales políticas. Si bien esta deficiencia se reconoció en el momento, el Banco anticipó que la experiencia necesaria se obtendría "aprendiendo sobre la marcha". Sin embargo, la vista tecnocrática no asignaba suficiente peso a la *economía política* de la reforma y resultó ser demasiado optimista:

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De 1990 à aujourd'hui, les secteurs d'énergie des pays en voie de développement et le soutien que leur a accordé le Groupe de la Banque mondiale, ont subi des transformations, s'éloignant du statut de monopoles publics pour revenir vers la privatisation et une structure de marché libéralisée. Cependant, au lieu de permettre un retour à des monopoles intégrés verticalement, les innovations commerciales et technologiques ont élargi les choix pour la structure et la propriété industrielles. Les principaux facteurs à la base de ce changement ont été la pénurie d'approvisionnement et les besoins financiers massifs du secteur de l'énergie électrique, les performances continuellement insatisfaisantes des monopoles d'énergie publics en dépit de décennies de soutien offert par les bailleurs de fonds, l'augmentation des choix dans les structures du marché de l'énergie causée par des innovations technologiques et commerciales dans l'industrie de l'approvisionnement en électricité, et la croissance de capitaux privés pour les investissements globaux en énergie.

Le processus de prêt « habituel » de la Banque aux services d'électricité publics s'est avéré insoutenable et, en 1993, la Banque a publié une charte de prêt en faveur de l'énergie électrique, soutenue par la SFI et la MIGA. Cette charte liait le soutien offert par le Groupe de la Banque mondiale à l'engagement pris par les pays assurant la mise en pratique de réformes, notamment dans trois domaines : commercialisation, corporatisation et réglementation. Le premier investissement de la SFI avec des producteurs d'énergie indépendants

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To what extent has the WBG's assistance supported its PSDE strategies?

The WBG's PSDE policies, lending, and analytical and advisory work supported the move toward private sector participation. By the end of the 1990s, power market reforms had become central to the Bank's sector assistance and PSDE was a major component in the portfolios of the Bank, IFC, and MIGA. But the timing and roles of the Bank, MIGA, and IFC differed. Through a diverse set of lending, technical assistance, guarantee, and advisory instruments, the Bank focused heavily on reforms to transform the structure and ownership of the power sector in 68 countries across all six regions. Following the 1993 policy, 75–93 percent of the Bank's annual lending volume for the electric power sector supported PSDE, either in the form of free-standing projects or as a component of regular power projects. (This understates the Bank's PSDE involvement, which is also present in adjustment and nonpower lending.) IFC helped promote the WBG's PSDE agenda by supporting private investments in response to the urgent need for additional generating capacity, especially in Latin America and Asia. In particular, IFC was a pioneer in financing private generation projects in the late 1980s and early 1990s, mostly in the context of foreign-sponsored IPPs. By the end of the 1990s, greenfield power generation projects comprised 82 percent of IFC's funding commitment in power. Like IFC, MIGA supported generation projects largely by providing political risk insurance for private power investments, making its first under-

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mientras la Política de 1993 es básicamente sólida, la falta de la inclusión de una orientación estratégica y operacional plantea muchas preguntas sobre su puesta en práctica. Es más, los pronunciamientos sobre la política del PSDE del Banco llegaron tarde y fueron reactivos en lugar de estar a la vanguardia: ambas declaraciones de las políticas de 1993 y 1996 formalizaron lo que se había convertido en una realidad en el sector de la energía eléctrica, es decir, concretamente flujos masivos y globales de capital privado. Esta tendencia se interrumpió antes de la crisis financiera asiática de 1997-98. La estrategia de renovación del negocio de la energía (EBRS) de 2001 del Banco fue una respuesta al rendimiento deficiente de las carteras en la década de 1990, el descenso en la concesión de préstamos al sector, y presiones para provocar alivio a la pobreza y viabilidad ambiental en la ayuda al sector (tratado en la Estrategia sobre energía y el medio ambiente "Combustible para pensar" del año 2000).

¿Hasta qué punto la ayuda del WBG ha apoyado sus estrategias del PSDE?

Las políticas, préstamos y trabajo analítico y asesor del PSDE del WBG apoyó el paso hacia la participación del sector privado. Para finales de la década de 1990, las reformas en el mercado de energía se habían convertido en el centro de la ayuda al sector del Banco, y el PSDE era un componente principal en las carteras del Banco, la CFI y el OMGI. Sin embargo, la sincronización y los papeles a jugar del Banco, OMGI y CFI diferían. Por medio de un conjunto diverso de préstamos, asistencia

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avait déjà lieu en 1989, tandis qu'il a fallu attendre 1996 pour que la déclaration de bonnes pratiques dans le secteur de l'énergie électrique formulée par la Banque (GP4.45) ajoute la participation du secteur privé en tant qu'objectif déclaré. À cette époque, la Banque avait adopté une méthode de réformes *de facto* qui, en plus de la commercialisation, de la corporatisation et de la réglementation, comprenait également la séparation juridique (« unbundling »), des investissements privés en production, la participation privée en transmission et distribution et la concurrence ommerciale. Dans l'utilisation opérationnelle de la Banque, ce dossier constitué de sept réformes avait évolué en « étapes » et « revue d'activité ».

Mais, tandis que la charte de 1993 énonçait ce qu'il fallait faire, elle n'était accompagnée d'aucune stratégie indiquant la manière de le faire à cause de l'expérience limitée, à l'échelle mondiale, de la mise en pratique de chartes de ce genre. Bien que les insuffisances aient été reconnues à l'époque, la Banque prévoyait d'acquérir l'expérience nécessaire par la pratique. Cependant, ce point de vue technocratique n'a pas conféré un poids adéquat à l'*économie politique* des réformes et s'est montré trop optimiste : tandis que la charte de 1993 est essentiellement bien fondée, le manque de stratégie et de directives opérationnelles destinées à l'accompagner soulève de nombreuses questions au sujet de sa mise en pratique. De plus, les déclarations contenues dans la charte de DSPE de la Banque ont été tardives et réactives plutôt qu'offensives ou proactives : les déclarations contenues dans la charte de 1993 et

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writing in the sector in 1994. MIGA guarantees for electric power investments accelerated in the 1990s, also mainly in Latin America and the Caribbean (LAC) and Asia. IFC and MIGA also responded to the increasing market demand for the financing of private sector projects (mostly generation)—one of the seven PSDE reform components being pursued by the WBG.

The energy practice of the Bank evolved significantly during the 1990s, in line with the shift in the Bank's portfolio away from power generation and toward sector reform and adjustment and toward transmission and distribution. Lending and operational budgets declined and the energy practice focused more intensively on private sector development (PSD); market reforms; energy for the poor (for example, in fiscal year 2002 [FY02] six out of seven loans directly addressed poverty reduction and PSD); energy and the environment (for example, power projects with explicit environmental objectives increased from 10 percent of the total in 1990 to 50 percent in 2001); and related analytical and advisory (AAA) products, notably through the Energy Sector Management Assistance Program (ESMAP). Toward the end of the 1990s, an Energy Sector Board (ESB) was established to (i) lead strategy formulation and implementation and promote cross-sectoral integration; (ii) catalyze the exchange of best practices, train staff, and mobilize learning events; and (iii) ensure portfolio quality and strategic relevance through country-sector and Quality-at-Entry reviews.

In practice, the Bank's approach to sector reform and its PSDE intensity

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técnica, garantía e instrumentos asesores, el ***Banco*** se centró en gran manera en las reformas para transformar la estructura y propiedad de los sectores de energía en los 68 países y todas las 6 regiones. Tras la Política de 1993, de 75 a 93% del volumen de préstamos anuales del Banco para el sector de energía eléctrica apoyaba al PSDE, bien como proyectos individuales o como componentes de los proyectos normales de energía (esto subestima la participación del PSDE del Banco, que también está presente en ajustes y préstamos no relacionados con el sector de energía). La ***CFI*** ayudó a fomentar la agenda del PSDE del WBG apoyando las inversiones privadas en respuesta a las necesidades urgentes de capacidad adicional para generar, especialmente en Latinoamérica y Asia. En particular, la CFI fue pionera en financiar proyectos de generación privados a finales de la década de 1980 y principios de 1990, sobretodo en el contexto de los IPP con patrocinio extranjero. A finales de la década de 1990, los proyectos totalmente nuevos de generación de electricidad comprendían el 82% del compromiso de la CFI para financiar la energía. Al igual que CFI, ***OMGI*** apoyaba en gran manera los proyectos de generación proporcionando seguro contra riesgo político para inversiones privadas en energía, y la primera garantía en el sector ocurrió en 1994. Las garantías de OMGI para las inversiones en energía eléctrica se aceleraron en la década de 1990, principalmente en los países latinoamericanos y en Asia, CFI y OMGI respondieron al aumento de demanda en el mercado para la financiación de proyectos del sector privado (sobretodo generación), que

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de 1996 ont formalisé ce qui était devenu une réalité dans le secteur de l'énergie électrique – à savoir des flux de capitaux privés massifs, globaux. Cette tendance a été interrompue par les crises financières qui frappèrent l'Asie de 1997 à 1998. La Stratégie de renouvellement de l'énergie de la Banque en 2001 constituait une réponse aux performances peu satisfaisantes du portefeuille de valeurs au cours des années 1990, au déclin dans le ecteur de crédit et aux pressions pour inclure la lutte contre la pauvreté et l'environnement durable dans son aide sectorielle (sujet de la Stratégie sur l'énergie et l'environnement de 2000 « Pensons carburant »).

Dans quelle mesure l'aide fournie par le Groupe de la Banque mondiale a-t-elle soutenu ses stratégies en matière de DSPE ?

Les chartes de DSPE du Groupe de la Banque mondiale, les prêts et le travail analytique et consultatif ont soutenu l'évolution vers la participation du secteur privé. Vers la fin des années 1990, les réformes du marché de l'énergie étaient devenues un facteur central en matière d'aide sectorielle de la Banque et le DSPE était une composante majeure des portefeuilles de la Banque, de la SFI et de la MIGA. Mais le choix du moment et les rôles de la Banque, de la MIGA et de la SFI différaient. Par un ensemble divers de prêts, d'aide technique, de garanties et d'instruments consultatifs, la ***Banque*** s'est concentrée fortement sur les réformes visant à transformer la structure et la possession des secteurs d'énergie dans 68 pays et 6 régions. À la suite de la charte de 1993, un montant de 75 à

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went beyond that mandated by the 1993 policy. The policy promoted commercialization and corporatization ahead of privatization as a means to introduce innovation and competition—a reform-sequencing approach influenced by reforms in Chile, England, and Wales, which were the only experiences available for analysis at that time. Poor governance and state ownership in the power sectors of most Bank client countries meant there was no real basis from which to achieve commercial standards, however. Subsequent to the 1993 policy and without explicitly enunciating it as a major strategic change, the Bank thus mostly advocated privatization and private participation through management contracts as the means to achieving commercialization. This shift led to a highly reform-intensive power portfolio, which overall performed poorly during most of the 1990s (see below, *What were the project-level results?*).

This poor performance contributed to the branding of electric power as a "sunset sector" for the Bank (albeit not for the WBG as a whole). Priorities in CASs were also shifting away from the power sector because of the increased internal transaction costs associated with power projects, in part due to the vocal opposition of international nongovernmental organizations, and because of the continued poor financial performance of power utilities plagued by low tariffs and collection levels, exacerbated by deteriorating macroeconomic environments, particularly in South and East Asia. Thus, while the Bank's total annual electric power lending (which includes both PSD and non-PSD

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era uno de los siete componentes de reforma de PSDE que quería lograr el WBG.

La práctica sobre la energía en el ***Banco*** evolucionó significativamente durante la década de 1990, en línea con el alejamiento de la generación de energía en la cartera del Banco, hacia la reforma y ajuste del sector, así como la transmisión y distribución. Mientras la concesión de préstamos y los presupuestos operacionales disminuían, la práctica de la energía se enfocaba más intensamente en el fomento del sector privado (PSD); las reformas del mercado; la energía para los pobres (por ejemplo, en el ejercicio de 2002, 6 de cada 7 préstamos trataba directamente la reducción de la pobreza y PSD); la energía y el medio ambiente (por ejemplo los proyectos de energía con objetivos explícitos del ambiente aumentaron de 10% en 1990 a 50% en 2001); y productos analíticos y asesores (AAA) relacionados, especialmente mediante el Programa de asistencia para la gestión del sector de energía (ESMAP). Hacia el final de la década de 1990, se estableció una Junta del sector de la energía (ESB) para: (i) dirigir la formulación y puesta en práctica de estratégicas y fomentar la integración entre los sectores; (ii) catalizar el intercambio de las mejores prácticas, entrenar al personal y movilizar los acontecimientos de aprendizaje; y (iii) asegurar la calidad de la cartera y la importancia estratégica por medio de revisiones del sector país y "calidad al entrar".

En práctica, el enfoque del Banco hacia la reforma del sector y la intensidad de su PSDE fueron más allá de lo mandado por la Política misma. La Política de 1993 fomentaba la comercialización y corporación antes

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93 pour cent du volume de prêts de la Banque dans le secteur d'énergie électrique a soutenu le DSPE, soit sous forme de projets indépendants, soit sous forme de composantes de projets d'énergie ordinaires (ceci ne fait pas justice à la participation au DSPE de la Banque, qui est également présente dans les prêts d'aide à l'ajustement et les prêts non-énergétiques). La ***SFI*** a contribué à promouvoir le programme DSPE du Groupe de la Banque mondiale en soutenant les investissements privés en réponse aux besoins urgents de capacité de production supplémentaire, notamment en Amérique latine et en Asie. En particulier, la SFI a été l'un des premiers organismes à financer les projets de production privés vers la fin des années 1980 et au début des années 1990, la plupart du temps dans le contexte de projets d'énergie indépendants (PEI) financés par des entités étrangères. Vers la fin des années 1990, des projets de production d'énergie entièrement nouveaux comprenaient 82 pour cent de l'engagement financier de la SFI en énergie. Comme la SFI, la ***MIGA*** a largement soutenu les projets de production en fournissant une assurance contre les risques politiques pour les investissements d'énergie privés, avec sa première souscription dans le secteur en 1994. Les garanties offertes par la MIGA pour les investissements en énergie électrique se sont accélérées au cours des années 1990, principalement aussi dans les pays d'Amérique latine, des Caraïbes et d'Asie. La SFI et la MIGA ont répondu à l'augmentation de la demande du marché pour le financement de projets du secteur privé (la plupart de production)—

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directed lending) reached a peak of US$3.2 billion in FY96, it dropped precipitously to US$440 million in FY99. Power lending accounted for 15 percent of total Bank commitments in FY96 but only 1.5 percent in FY99.

By comparison, IFC's annual power investment approvals reached a peak of US$872 million, or 16 percent of total approvals, in FY95, but dropped to US$335 million (6 percent) by FY99. Cumulative gross approvals totaled US$4.4 billion over the 1990s compared to US$177 million before the 1990s. MIGA guarantees peaked in FY00, both in terms of the volume of coverage issued and the number of projects supported. By 2001, WBG financial commitments to the power sector were on the rise once more.

What have been the results of the WBG's PSDE interventions?

What were the project-level results?

For IFC, the development outcomes, including environmental effects, of its mature investment operations in electric power outperformed its all-sector portfolio. The investment quality of IFC's electric power sector portfolio remained better than average, despite the recent slight decline that accompanied the downtrend in IFC's overall portfolio. For MIGA, early indications are also positive on the performance of the private power investments that are supported by its guarantees. In contrast, a 1999 self-evaluation singled out the power lending portfolio as one of the Bank's worst performers (although results have improved recently as a result of portfolio restructuring). OED's as-

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de privatizar como medio de introducir innovación y competencia. Fue un enfoque de secuencia de reformas influenciado por las reformas en Chile, Inglaterra y Gales, que fueron las únicas experiencias disponibles para ser analizadas en aquel momento.Sin embargo, el gobierno deficiente y la propiedad del estado no proporcionaron una base para alcanzar estándares comerciales en los sectores de la energía de la mayoría de países clientes del Banco. Por lo tanto, posterior a la Política de 1993, y sin enunciarlo explícitamente como cambio estratégico importante, el Banco defendió en su mayor parte la privatización, así como la participación privada por medio de contratos de gerencia, como medio de lograr la comercialización. Este cambio llevó a una cartera de energía con una reforma altamente intensiva, que en última instancia tuvo un rendimiento deficiente durante la mayor parte de la década de 1990 (véase el párrafo 12).

Este rendimiento deficiente contribuyó a que se diera el nombre de "sector de la puesta del sol" a la energía eléctrica para el Banco (si bien es cierto que no para el WBG en su totalidad) Las prioridades de las CAS también se alejaron del sector de la energía debido a: (i) aumento de los costos internos de transacciones asociados con los proyectos de energía, en parte debido a la oposición vocal de las organizaciones internacionales no gubernamentales; y (ii) el rendimiento financiero deficiente continuo de las empresas de servicio público plagadas de tarifas y niveles de recolección bajos, exacerbado por ambientes macroeconómicos en deterioro, particularmente en el sur y

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une des sept composantes de réforme du DSPE mises en œuvre par le Groupe de la Banque mondiale.

La pratique de l'énergie dans la ***Banque*** a évolué fortement au cours des années 1990, ce qui correspond au mouvement d'abandon de la production d'énergie dans le portefeuille de la Banque, pour se tourner vers la réforme et l'ajustement sectoriel ainsi que vers la transmission et la distribution. Tandis que les budgets de prêt et opérationnels déclinaient, la pratique de l'énergie s'est concentrée plus intensément sur le développement du secteur privé, les réformes du marché, l'énergie au profit des pauvres (par exemple, durant l'exercice 2002, 6 prêts sur 7 avaient pour but de réduire directement la pauvreté et de développer le secteur privé), l'énergie et l'environnement (par exemple, les projets d'énergie visant des objectifs environnementaux explicites ont augmenté de 10 pour cent en 1990 à 50 pour cent en 2001), et les produits analytiques et consultatifs, notamment par le truchement du Programme d'assistance à la gestion du secteur énergétique (ESMAP). Vers la fin des années 1990, un Conseil au secteur énergétique (ESB) avait été établi pour : (i) formuler une stratégie d'attaque et mettre en pratique et promouvoir l'intégration sur plusieurs secteurs, (ii) catalyser l'échange des meilleurs pratiques, former le personnel et mobiliser les journées d'apprentissage, et (iii) assurer la qualité du portefeuille et l'à-propos stratégique par des revues pays-secteur et des revues de la « qualité à l'entrée ».

En pratique, la méthode de la Banque en matière de réformes sec-

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sessment of the results of specific PSDE components is equally sobering: 55 percent had good outcomes, 22 percent were mixed, and the rest did not achieve their objectives. These overall disappointing project-level outcomes mostly reflect the low achievements of ambitious sector-level objectives (see next paragraph), except in those countries that have the most advanced reforms. Results of the relatively few freestanding PSDE projects were better, but this is because they were implemented in countries already focused on reforms.

What have been the sector-level outcomes? Evidence of country sector gains from reforms and PSDE has been emerging in a few countries, where the ultimate outcomes have been systematically monitored. Sector efficiency improved where PSDE and reforms have advanced, as in some Latin American and Central American countries and in Eastern European countries seeking accession to the European Union. In these cases, shortages have been reduced, energy access has increased, service quality has improved, fiscal gains have grown, and financial subsidies have declined. But where reforms failed, stalled, or were reversed, and where PSDE did not materialize, power sectors remain weak and continue to deteriorate operationally and financially (as in Africa and South Asia) or are facing continued political or financial risk (as in South and East Asia). Most developing countries outside the Latin America region remain at low to moderate levels in the "reform scorecard," formulated in a 1999 study financed by ESMAP. A few countries that opened the sector to IPPs

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este de Asia. Por lo tanto, mientras la concesión de préstamos total para la energía eléctrica anual del Banco (que incluyó préstamos directos tanto PSD como no PSD) alcanzó los $3.200 millones de dólares en el ejercicio de 1996, ésta se redujo precipitadamente a $440 millones de dólares en el ejercicio de 1999. La concesión de préstamos para energía representó un 15% de los compromisos totales del Banco para el ejercicio de 1996, y solamente 1,5% en el ejercicio de 1999.

En comparación, las aprobaciones de inversión anual en energía de la CFI alcanzaron una cima de $872 millones de dólares, o un 16% de las aprobaciones totales en el ejercicio de 1995, pero bajaron a $335 millones de dólares, o 6% del total en el ejercicio de 1999. Las aprobaciones brutas acumulativas alcanzaron un total de $4.400 millones de dólares en la década de 1990 comparado con $177 millones de dólares antes de esa década. Las garantías del OMGI llegaron a su cima en el ejercicio de 2000, tanto en términos del volumen de cobertura emitida como en el número de proyectos apoyados. Para 2001, los compromisos financieros del WBG al sector de la energía estaban de nuevo en aumento.

¿Cuáles han sido los resultados de las intervenciones del PSDE del WBG?

¿Cuáles fueron los resultados a nivel de proyecto? Para la ***CFI***, los *resultados del desarrollo* de sus operaciones de inversión maduras en energía eléctrica, incluyendo los efectos en el medio ambiente, tuvieron el mejor rendimiento de la cartera de todo el sector. La calidad de inversión de la

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torielles et son rôle dans le DSPE sont allés au-delà de ce qui est mandaté par la charte elle-même. La charte de 1993 avait promu la commercialisation et la corporatisation avant la privatisation comme moyen d'introduire l'innovation et la concurrence—une approche séquentielle de réformes influencée par les réformes mises en œuvre au Chili, en Angleterre et au pays de Galles, qui constituaient les seules expériences disponibles pour l'analyse à cette époque. Mais la gestion peu satisfaisante des affaires et l'adhésion du pays n'ont pas fourni de base pour atteindre des normes commerciales dans les secteurs énergétiques de la plupart des pays clients de la Banque. Donc, à la suite de la charte de 1993 et sans l'énoncer explicitement comme un changement stratégique majeur, la Banque avait encouragé la privatisation, ainsi que la participation privée par des contrats de gestion, comme moyens d'obtenir la commercialisation. Ce changement a conduit à un portefeuille d'énergie fortement intensif en réformes, qui n'a finalement pas été satisfaisant dans l'ensemble pour la plus majeure partie des années 1990 (voir paragraphe. 12).

Ces performances peu satisfaisantes ont contribué à surnommer l'énergie électrique le « secteur du soleil couchant » pour la Banque (mais non pas pour le Groupe de la Banque mondiale dans son intégralité). Les priorités des CAS se sont également éloignées du secteur énergétique à cause de : (i) l'augmentation du coût des transactions internes liées aux projets d'énergie, en partie à cause de l'opposition vocale des organismes non gouvernementaux internationaux et (ii) la continuation des per-

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in response to capacity shortages were slow or weak in reforming the transmission and distribution (T&D) subsector, resulting in an imbalance between generation and T&D. It should not be inferred from these poor sector outcomes, however, that better results would have been achieved by perpetuating the pre-1990s public monopoly model.

Overall, the successful implementation of reforms and PSDE have been constrained by (i) a lack of country commitment, (ii) macroeconomic and political crises, (iii) lack of experience among PSDE practitioners, particularly with political economy factors, and (iv) insufficient operational guidance to staff on the implementation of the 1993 policy. Moreover, the Bank did not fully understand the size of the technical and financial resources required to reform the power sector—resources that few developing countries possess. Despite strong efforts by Bank staff under severe resource constraints (particularly since the late 1990s), it proved difficult to apply the 1993 policy to seriously noncommercial power sectors. Many of the Bank's country clients are still undecided or are considering which reform route to follow, many have stalled in their attempts at reform, and a few have reversed their privatization plans. With some notable exceptions in Latin and Central America and Eastern Europe, the power sectors of developing countries continue to be in crisis, particularly in terms of their finances and their ability to meet demand, at least cost, on an environmentally sustainable basis.

Improving energy access for the poor through PSDE was overshad-

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cartera del sector de la energía eléctrica de la CFI permaneció mejor que la media, a pesar de su ligero descenso reciente junto con una bajada en la cartera general de la CFI. Para el ***OMGI***, las indicaciones iniciales son también positivas en el rendimiento de las inversiones privadas en energía respaldadas por sus garantías. En contraste, para el ***Banco***, una autoevaluación en 1999 señaló en particular la cartera de préstamos de energía como una de las que tuvo peores resultados para el Banco, si bien dichos resultados han mejorado recientemente como resultado de la reestructura de la cartera. La evaluación del DEO sobre los resultados de componentes específicos del PSDE es igualmente aleccionadora: 55% tuvo resultados buenos, 22% fueron mixtos y el resto no logró sus objetivos. Estos resultados generales decepcionantes a nivel de proyecto, reflejan principalmente los bajos logros de los objetivos ambiciosos a nivel de sector (véase a continuación), excepto en los países con las reformas más avanzadas. Los resultados de los relativamente pocos proyectos independientes del PSDE fueron mejores, pero esto se debe a que fueron puestos en práctica en países ya enfocados en las reformas.

¿Cuáles han sido los resultados a nivel del sector? La evidencia de ganancias en el sector país de las reformas y del PSDE ha estado emergiendo en unos pocos países donde los resultados finales se han controlado sistemáticamente. La eficiencia del sector mejoró donde el PSDE y las reformas han avanzado, como en algunos países de Latinoamérica y América Central y en países de Europa del este que

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formances financières médiocres des services d'électricité affligés de tarifs et niveaux de recouvrement faibles, exacerbés par la détérioration des conditions macroéconomiques, en particulier en Asie du sud et de l'est. Par conséquent, tandis que les prêts d'énergie électriques annuels totaux de la Banque (comprenant les prêts de développement du secteur privé (PDS) et non PDS) ont atteint 3,2 milliards $US au cours de l'exercice 1996, ils ont chuté précipitamment à 440 millions $US au cours de l'exercice 1999. Les prêts d'énergie comptaient pour 15 pour cent des engagements totaux de la Banque pour l'exercice 1996, et pour seulement 1,5 pour cent pour l'exercice 1999.

En comparaison, les approbations d'investissement en énergie annuelles de la SFI ont culminé à 872 millions $US, soit 16 pour cent des approbations totales pour l'exercice 1995, pour retomber à 335 millions $US, soit 6 pour cent du total, au cours de l'exercice 1999. Les approbations brutes cumulatives se sont élevées à 4,4 milliards $US pendant les années 1990, contre 177 millions $US avant les années 1990. Les garanties MIGA ont atteint un maximum au cours de l'exercice 2000, à la fois en termes de volume de couverture offerts et en nombre de projets supportés. En 2001, les engagements financiers du Groupe de la Banque mondiale dans le secteur énergétique se sont trouvés une fois de plus en augmentation.

Quels ont été les résultats des interventions du Groupe de la Banque mondiale en matière de DSPE ?

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owed in the 1990s by the urgent and overriding need in many countries to add generation capacity. Existing customers, including low-income consumers and industries providing employment to the poor, clearly benefited from the relatively quick elimination or reduction of supply shortages. However, lagging reforms in T&D over the 1990s have constrained power delivery and made expansion of access, especially of the poor, all the more challenging. Investment and operating costs of rural energy projects furthermore are high, relative to revenue potential, making returns unattractive to private investors. Few private rural energy and renewable energy projects have been commercially viable or competitive with investment opportunities in the generation subsector.

WBG financial instruments aimed at creating physical infrastructure require projects to adhere to WBG environmental guidelines during implementation and operation. Because the WBG's environmental requirements are in many countries more stringent than the local regulations, WBG projects tend to be more environmentally friendly by design. IFC power projects have a better environmental compliance record than projects in other sectors. However, according to the 2002 Environment Strategy and the OED Environment Review, the environmental "do good" (in addition to the "do no harm") agenda has yet to be fully mainstreamed in WBG operations.

CASs served as platforms for putting PSDE in country agendas but were not designed to integrate sectoral strategies across the WBG. In-

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buscan acceso a la Unión Europea. Es estos casos, la escasez se ha reducido, el acceso a la energía ha aumentado, la calidad de servicio ha mejorado, las ganancias fiscales han crecido y los subsidios financieros han disminuido. Pero los casos en que las reformas fallaron, se estancaron o se invirtieron, y donde el PSDE no se materializó, los sectores de la energía permanecen débiles y continúan deteriorándose desde el punto de vista operacional y financiero (como en África y Sur de Asia), o se están enfrentando a riesgos continuos políticos o financieros (como en el Sur y Este de Asia). La mayoría de los países en desarrollo fuera de la región de Latinoamérica permanecen en niveles bajo a moderado en la "tarjeta de puntuación de la reforma", formulada en un estudio de 1999 financiado por ESMAP. Unos pocos países que abrieron el sector a los IPP en respuesta a la escasez de capacidad fueron lentos o débiles a la hora de reformar el subsector de la transmisión y distribución (T y D), dando como resultado un desequilibrio entre la generación y la T y D. No se debe inferir de estos resultados deficientes del sector, sin embargo, que se habrían logrado mejores resultados perpetuando el modelo de monopolio público anterior a la década de 1990.

En general, la puesta en práctica con éxito de las reformas y el PSDE se ha visto limitada por: (i) falta de compromiso del país; (ii) crisis macroeconómicas y políticas; (iii) falta de experiencia entre los profesionales de PSDE, particularmente con factores de la economía política; y (iv) insuficiente orientación profesional operacional al personal sobre

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Quels ont été les résultats au niveau de projet ? Pour la ***SFI***, les *résultats du développement,* notamment les effets environnementaux, de ses opérations d'investissement en énergie électrique parvenus à maturité, ont surpassé en performances tous les secteurs de son portefeuille. La qualité des investissements du portefeuille du secteur d'énergie électrique de la SFI est demeurée meilleure que la moyenne en dépit du léger déclin subi récemment, avec une tendance à la baisse de son portefeuille global. Pour la ***MIGA***, les premières indications au sujet des performances des investissements énergétiques privés soutenus par ses garanties, sont également positives. Par contraste, pour la ***Banque***, une auto-évaluation réalisée en 1999 a révélé que le portefeuille de prêts dans l'énergie était l'un des pires performeurs de la Banque, bien que les résultats se soient améliorés dernièrement suite à une restructuration. L'évaluation faite par le Département de l'évaluation des opérations (OED) au sujet des résultats des composantes spécifiques du DSPE est également peu encourageante : 55 pour cent ont eu de bons résultats, 22 pour cent ont eu des résultats mitigés et le reste n'a pas atteint ses objectifs. Ces résultats au niveau de projet, décevants dans l'ensemble, reflètent pour la plupart la faiblesse des réalisations par rapport aux objectifs ambitieux au niveau sectoriel (voir ci-dessous), excepté dans les pays où les réformes sont les plus avancées. Les résultats des projets de DSPE indépendants relativement peu nombreux ont été meilleurs, mais ceci parce qu'ils ont été mis en œuvre dans des pays déjà centrés sur des réformes.

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formal discussions beyond the CAS, among task managers in different WBG units, facilitated a coordinated approach and timing of assistance. In a few cases where internal discussions were not conducted the WBG sent conflicting signals to client countries and sponsors. Nonaligned incentive structures also led to occasional competition among the different private sector financing and guarantee instruments of the Bank, IFC, and MIGA.

What are the lessons that should guide the WBG's future business directions in promoting PSDE?

The main lessons learned from this evaluation are:

- The PSD-led power sector reform process is complex, time-consuming, resource-intensive, and requires phasing and good sequencing to create the conditions for sector transformation. PSD-oriented reforms are more promising than reforms confined to publicly owned companies. There is no "one-size-fits-all" reform model and each approach should be country-specific. Although commonsensical, these lessons were not well heeded by the WBG in the past.
- PSDE is a work in progress. Learning-by-doing can work, but the client country should set clear objectives and take the lead in reform, supported by WBG advice drawn from its experience in other countries in which similar circumstances were encountered.
- The evidence on PSDE timing and sequencing is ambiguous. There

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la puesta en práctica de la Política de 1993. Es más, el Banco no comprendió totalmente el tamaño de los recursos técnicos y financieros requeridos para reformar los sectores de la energía, recursos que pocos países en desarrollo poseen. A pesar de los fuertes esfuerzos del personal del Banco bajo limitaciones de recursos serias (particularmente desde los últimos años de la década de 1990), demostró ser difícil aplicar la Política de 1993 a dedicados sectores de la energía no comerciales. Muchos de los países clientes del Banco todavía están indecisos, o están considerando qué ruta de reforma seguir, muchos se han detenido en sus intentos de reforma, mientras unos pocos han invertido sus planes de privatización. Con algunas excepciones notables, en Latinoamérica y América Central y algunos países del Este de Europa, los sectores de energía de los países en desarrollo continúan estando en crisis, particularmente en términos de sus finanzas y habilidad de hacer frente a la demanda, al mínimo precio con una base sostenible desde el punto de vista ecológico.

La mejora del acceso a la energía para los pobres por medio de PSDE fue eclipsada en la década de 1990 por la necesidad urgente y preponderante de añadir capacidad de generación en muchos países. Los clientes actuales, incluyendo los consumidores de ingreso bajo y las industrias que proporcionan empleo a los pobres, se beneficiaron claramente de la eliminación o reducción relativamente rápida de la escasez de suministro. Sin embargo, las reformas rezagadas en la T y D en la década de 1990 han limitado el reparto de energía y han hecho que la ex-

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Quels ont été les résultats au niveau sectoriel ? Les preuves de gains au niveau du pays et du secteur provenant des réformes et du DSPE sont apparues dans quelques pays où les résultats finaux ont été systématiquement surveillés. L'efficacité sectorielle s'est améliorée dans les pays où le DSPE et les réformes ont avancé, comme dans certains pays d'Amérique latine, d'Amérique centrale et d'Europe de l'est cherchant à accéder à l'Union européenne. Dans ces cas, la pénurie a été diminuée, l'accès à l'énergie a augmenté, la qualité des services s'est améliorée, les gains fiscaux se sont accrus et les subventions financières ont décliné. Mais dans les pays où les réformes n'ont pas réussi, ou ont tourné court ou ont été inversées et où le DSPE ne s'est pas matérialisé, les secteurs d'énergie restent faibles et continuent à se détériorer opérationnellement et financièrement (comme en Afrique et en Asie du sud), ou font face à un risque politique ou financier permanent (comme en Asie du sud et de l'est). La plupart des pays en voie de développement en dehors des régions d'Amérique latine restent à des niveaux bas ou modérés d'après la « carte de pointage des réformes », selon une étude de 1999 financée par l'ESMAP. Les quelques pays qui ont ouvert le secteur aux PEI en réponse à une pénurie de capacité ont été lents ou faibles à appliquer des réformes dans le sous-secteur de la transmission et de la distribution (T&D), ce qui a provoqué un déséquilibre entre production et T&D. Il ne faut pas cependant conclure de ces mauvais résultats sectoriels que de meilleurs résultats auraient été obtenus en perpétuant le modèle de

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are countries in which "leapfrogging" to privatization has led to positive sector change, but there are others in which this did not lead to sector improvements. Similarly, substantial efficiency gains were achieved in some countries where good public governance and the right tariff structures were first put in place, but there are also many situations where decades of Bank support for the incremental reform of public monopolies had little or no success. Where intermediate public sector reform steps are required, PSDE must be a clear long-term goal.

- The evidence on the importance of country commitment is unambiguous. Country factors, such as realistic priorities, a clear road map, local champions, and early wins, drive successful reforms and good PSDE performance. Building a constituency for reform through civil society participation is also critical to reform sustainability.
- Poverty reduction and environmental mainstreaming ("doing good" in addition to "doing no harm") for the most part have not been intrinsic components of designing sector reform strategies and promoting PSDE. This has undermined the potential local and international popular support for such measures.
- Lack of reform in the distribution subsector can jeopardize the potential gains of reforms in the generation subsector.
- IPPs have a role to play in efficiently and sustainably relieving supply bottlenecks, leveraging public sector financing capacity,

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pansión del acceso, especialmente para los pobres, constituya un mayor reto. Es más, la inversión y costos de operación de los proyectos de energía rural son altos en relación con el potencial de ingresos, haciendo que el rendimiento no sea atractivo para los inversores privados. Mientras tanto, pocos proyectos privados de energía rural y energía renovable han sido viables desde el punto de vista comercial o competitivos con las oportunidades de inversión en el subsector de generación.

Los instrumentos financieros del WBG que se proponen crear una infraestructura física requieren que los proyectos acaten las pautas del medio ambiente del WBG durante la puesta en práctica y operación. Puesto que los requisitos del WBG para el medio ambiente son más estrictos que las normativas locales en muchos países, los proyectos del WBG tienden a ser mejores para el ambiente por su diseño. Los proyectos de energía de la CFI tienen un récord de cumplir mejor con las normas del ambiente que proyectos en otros sectores. Sin embargo, según la Estrategia del medio ambiente de 2002 y la Revisión del medio ambiente del DEO, los puntos a tratar para el ambiente de "hacer el bien" (además de "no hacer daño") todavía se tiene que incorporar en las operaciones del WBG.

Las CAS sirvieron de plataformas para poner el PSDE en los puntos a tratar de los países, pero no estaban diseñadas par integrar las estrategias del sector en todo el WBG. Las conversaciones informales más allá de la CAS, entre gerentes de tareas en diferentes unidades del WBG, facilitaron un enfoque coordinado y una sincronización de ayuda. En pocos

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monopole public d'avant 1990.

Dans l'ensemble, la réussite de la mise en pratique des réformes et du DSPE a été gênée à cause : (i) du manque d'engagement des pays, (ii) des crises macroéconomiques et politiques, (iii) du manque d'expérience des spécialistes du DSPE, notamment en matière de facteurs d'économie politique et (iv) des directives opérationnelles insuffisantes pour le personnel sur la mise en pratique de la charte de 1993. De plus, la Banque n'a pas pleinement compris l'importance des ressources financières et techniques nécessaires pour réformer les secteurs d'énergie, ressources que peu de pays en voie de développement possèdent. En dépits d'efforts suivis par le personnel de la Banque sous le fortes contraintes de ressources (particulièrement depuis la fin des années 1990), il s'est avéré difficile d'appliquer sérieusement la charte de 1993 à des secteurs d'énergie non commerciaux. De nombreux pays clients de la Banque ne sont toujours pas décidés ou sont en train d'envisager la route à suivre en matière de réformes ; beaucoup d'entre eux ont arrêté leurs essais de réforme, tandis que quelques autres sont revenus sur leurs plans de privatisation. Avec certaines exceptions notables, en Amérique latine et en Amérique centrale et dans certains pays d'Europe de l'est, les secteurs d'énergie des pays en voie de développement continuent d'être en crise, notamment pour ce qui est de leurs finances et de leur aptitude à satisfaire la demande, au moindre coût, tout en assurant la préservation de l'environnement.

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and demonstrating early wins. IPPs have yielded good development outcomes under the right country, sectoral, and contractual conditions. However, IPPs that are not well sited and that are not complemented by an efficient T&D reform program can lead to an imbalance between generation and T&D capacity. In some cases they have been seen to reduce the pressure on country leadership and policymakers to pursue further reforms.

- Joint Bank–IFC–MIGA CASs are more effective at supporting PSDE than Bank-only CASs, but coordination through CASs alone is insufficient.

What are the recommendations for the WBG's future business directions in promoting PSDE?

Based on its evaluation findings, the study recommends the following:

a) On an urgent basis, the WBG should provide operational guidance to WBG staff on when and how to continue promoting PSDE, given the current situation of heightened macroeconomic and political risks and scant investor interest. Such guidance should be grounded in the Bank's recently enacted PSD strategy.

- The Bank's Energy and Mining Sector Board, in close consultation with the Private Sector Development Board, should provide WBG staff with updated and practical operational guidance for pursuing PSDE. This guidance should be based on what works best, in terms of reform packages and

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casos donde no se llevaron a cabo discusiones internas, el WBG envió señales contradictorias a los países clientes y patrocinadores. Las estructuras incentivas no alineadas también llevaron a la competencia ocasional entre los diferentes instrumentos de financiación y garantía en el sector privado del Banco, CFI y OMGI.

¿Cuáles son las lecciones que deberían guiar la dirección de negocios futura del WBG en el fomento del PSDE?

Las lecciones principales aprendidas a partir de esta evaluación son:

- El proceso de reforma del sector de la energía dirigido por el PSD es complejo, lleva tiempo, es intensivo en cuanto a recursos y requiere hacerse por etapas y en secuencias a fin de crear las condiciones para la transformación del sector. Las reformas orientadas por PSD son más prometedoras que las reformas limitadas a las compañías públicas. No hay un modelo de reforma que sirva para todos y cada enfoque debe ser específico para el país. Aunque es lógico, el WBG no hizo caso a estas lecciones en el pasado.
- PSDE es un "esfuerzo en marcha". Aprender sobre la marcha puede funcionar, pero el país debe fijar objetivos claros y estar al frente, apoyado por consejos sensatos del WBG sacados de lecciones de experiencia en otros países en circunstancias similares.
- La evidencia de la sincronización y secuencia de PSDE es ambigua. Hay países en los que el salto hacia la privatización llevó a cambios positivos en el sector, pero hay

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L'amélioration de l'accès à l'énergie pour les pays pauvres par le DSPE a été éclipsée au cours des années 1990 par le besoin urgent et primordial d'ajouter une capacité de production dans de nombreux pays. Les clients existants, y compris les clients à faibles revenus et les industries fournissant un emploi aux pauvres, ont clairement bénéficié de l'élimination ou de la réduction relativement rapide de la pénurie d'approvisionnement. Cependant, le retard des réformes dans le domaine de T&D durant les années 1990 a gêné la fourniture de l'énergie et a rendu l'expansion de l'accès à l'énergie, spécialement pour les pauvres, encore plus difficile. De plus, les coûts d'investissement et d'opération des projets d'énergie ruraux sont élevés relativement par rapport aux revenus potentiels, rendant ainsi les intérêts peu attrayant pour les investisseurs privés. Entre temps, peu de projets d'énergie rurale privés et d'énergie renouvelable ont été commercialement viables ou concurrentiels avec les opportunités d'investissement dans le sous-secteur de la production.

Les instruments financiers du Groupe de la Banque mondiale visant à créer une infrastructure physique exigent que les projets adhèrent aux directives environnementales du Groupe de la Banque mondiale pendant la mise en œuvre et l'exploitation. Les exigences environnementales du Groupe de la Banque mondiale étant plus rigoureuses que les règlements locaux de nombreux pays, les projets du Groupe de la Banque mondiale tendent à être plus respectueux de l'environnement par leur conception. Les projets d'éner-

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their sequencing, in different country-sector situations, for different needs and different institutional capacities. Best-practice examples can be developed for a range of frequently observed country attributes.

- The development of this guidance should be a joint effort between the Bank, IFC, and MIGA, and the guidance should define a framework to fully analyze PSDE alternatives to ensure environmental sustainability and align with the WBG's poverty reduction mission.
- WBG senior management should clarify the roles of the Bank, IFC, and MIGA in promoting PSDE, particularly in terms of increased financial and advisory support.

b) In its future PSDE interventions, the WBG should give greater emphasis to the mainstreaming of the poverty reduction and environmental objectives (in addition to its traditional macrofiscal and sector efficiency objectives) that are at the core of the WBG's overall energy strategy.

- The WBG should put a greater focus on reforming and facilitating private investments in the distribution subsector. This will require action to improve cash collection, reduce losses, address corruption, achieve better targeting of subsidies, expand the access of the rural poor, and privatize distribution where and when circumstances permit.
- The WBG should maximize the involvement of the local private sector in small-scale and/or decentralized projects. This will require innovative approaches and

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otros en los que esto no llevó a mejoras del sector. De manera similar, se lograron ganancias sustanciales en algunos países donde se implementaron primero un buen gobierno público y estructuras correctas de tarifas, pero también hay muchas situaciones en las que décadas de apoyo del Banco para la reforma en incrementos de monopolios públicos tuvieron poco o ningún éxito. En los casos donde se requieren pasos intermediarios para la reforma del sector público, el PSDE debe ser una meta clara a largo plazo.

- La evidencia de la importancia del compromiso de los países es ambigua. Los factores del país, tales como prioridades realistas, directrices claras, campeones locales y ganancias iniciales, llevan a reformas con éxito y a un buen rendimiento del PSDE. Crear un grupo que apoye las reformas mediante la participación de la sociedad civil es también crítico para la viabilidad de la reforma.
- La reducción de la pobreza y la incorporación del medio ambiente ("hacer las cosas bien" además de "no hacer daño") no han sido en su mayoría componentes intrínsecos del diseño de estrategias para la reforma del sector y de fomentar el PSDE, debilitando así su apoyo de la opinión pública internacional y local.
- La falta de reformas en el subsector de distribución puede poner en peligro las ganancias potenciales de las reformas en el subsector de generación.
- Los IPP tienen un papel que jugar para aliviar los embotellamientos de suministro de manera eficaz y

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gie de la SFI respectent mieux l'environnement que les projets dans d'autres secteurs. Cependant, selon la Stratégie de l'environnement de 2002 et la Revue de l'environnement d'OED, le programme environnemental « faire du bien » (et ne pas se contenter de « ne pas faire de mal ») doit cependant être complètement intégré aux opérations du Groupe de la Banque mondiale.

Les Stratégies d'aide aux pays (CAS) ont servi de plates-formes pour inscrire le DSPE au programme des pays, mais elles n'étaient pas conçues pour intégrer des stratégies sectorielles dans le Groupe de la Banque mondiale. Des discussions officieuses allant au-delà des CAS, entre responsables des tâches dans les différentes unités du Groupe de la Banque mondiale, ont permis une approche coordonnée et une aide en temps opportun. Dans quelques cas où des discussions internes n'ont pas eu lieu, le Groupe de la Banque mondiale a envoyé des signaux contradictoires aux pays et aux clients commanditaires. Des structures d'incitation non alignées ont également conduit à une concurrence occasionnelle entre les différents instruments de financement et de garantie des secteurs privés de la Banque, de la SFI et de la MIGA.

Quelles sont les leçons qui doivent guider l'orientation des futures affaires du Groupe de la Banque mondiale pour promouvoir le DSPE ?

Les principales leçons qui découlent de cette évaluation sont :

- Le processus de réforme du secteur d'énergie conduite par

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much better cross-sectoral integration within the Bank and among the Bank, IFC, and MIGA.

c) The WBG should encourage operational innovations to ensure greater consistency between its practices and instruments and its evolving PSDE goals.

- The WBG needs to improve the coordination of the various units active in PSDE. To this end, it should pursue better integration of its PSDE objectives within the CAS framework, including in non-joint CASs, and with Poverty Reduction Strategy Papers (PRSPs).
- The Bank, IFC, and MIGA management should support flexibility and the exercise of initiative in PSDE operations and AAA, to enable better response to rapidly changing country sector conditions and to opportunities that are not always foreseeable in the CAS. Through its diverse lending and advisory instruments the WBG should promote more public–private partnerships and the investigation of promising innovations, such as the pro-poor design of reforms and output-based aid schemes, for which robust monitoring and evaluation systems are essential.
- The WBG should develop performance indicators and related internal systems and should help strengthen borrower capacities (including through project funding) to monitor and evaluate the achievements and impacts of its PSDE interventions. These monitoring and evaluation (M&E) efforts should be keyed to the Energy Business Renewal Strategy

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viable, influenciar la capacidad financiera del sector público y demostrar ganancias iniciales. Han producido buenos resultados de desarrollo bajo las condiciones correctas del país, sector y contractuales. Sin embargo, los IPP que no están bien ubicados ni complementados por un programa de reforma de la T y D eficaz pueden producir un desequilibrio entre la capacidad de generación y de la T y D. En algunos casos redujeron la presión sobre el liderazgo del país y los encargados de formular la política a fin de lograr más reformas.

- Las CAS conjuntas del Banco, CFI y OMGI son más eficaces para apoyar el PSDE que las CAS solamente del Banco, pero la coordinación mediante las CAS solamente es insuficiente.

¿Cuáles son las recomendaciones para la dirección de negocios futura del WBG en el fomento del PSDE?

Basándose en los hallazgos de la evaluación, el estudio recomienda lo siguiente:

a) De manera urgente, el WBG debe proporcionar orientación operacional al personal del WBG sobre cuándo y cómo continuar fomentando el PSDE bajo la situación actual de aumento de riesgos macroeconómicos y políticos y el escaso interés de los inversores. Tal orientación debe estar basada en la estrategia de PSD del Banco recientemente aprobada.

- El Consejo Sectorial de Energía y Minería del Banco, consultando estrechamente con la Junta de de-

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PSD est complexe, il est exigeant en termes de temps et de ressources et demande une mise en place progressive et un bon séquençage pour créer des conditions de transformation sectorielle. Les réformes orientées vers le développement de la fourniture d'énergie sont plus prometteuses que les réformes limitées aux entreprises publiques. Il n'existe pas de modèle de réforme « taille unique » et chaque méthode doit être adaptée au pays. Ces leçons, bien qu'évidentes, n'ont pas été bien observées par le Groupe de la Banque mondiale par le passé.

- Le DSPE est un « travail en cours ». L'apprentissage par la pratique peut réussir, mais le pays doit formuler des objectifs précis et se positionner en tête du mouvement, aidé des conseils judicieux du Groupe de la Banque mondiale tirés des leçons de l'expérience acquise dans d'autres pays dans des circonstances semblables.
- La preuve de la pertinence du choix du moment et de la mise en séquence du DSPE est ambiguë. Dans certains pays la progression par bonds vers la privatisation a provoqué des changements sectoriels positifs, mais dans d'autres pays, elle n'a causé aucune amélioration sectorielle. De même, des gains d'efficacité substantiels ont été obtenus dans certains pays dans lesquels une bonne gestion des affaires publiques et des structures de tarif judicieuses ont été mises en place en premier lieu, mais dans de nombreuses situations, le soutien accordé pendant des décennies par la Banque à des réformes in-

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and other relevant strategy and policy objectives, especially in the relatively neglected areas of helping the poor and mainstreaming environmental sustainability.

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sarrollo del sector privado, debería proporcionar al personal del WBG orientación operacional actualizada y práctica para continuar el PSDE basándose en lo que funcione mejor, en términos de paquetes de reforma y su secuencia, y dadas las situaciones de sectores país, necesidades y capacidades institucionales. Los mejores ejemplos de práctica se pueden desarrollar para una gama de atributos de países observados con frecuencia.

- El desarrollo de esta orientación debe ser un esfuerzo conjunto entre el Banco, CFI y OMGI, y debería definir un marco para analizar completamente las alternativas del PSDE que asegurarían la viabilidad del medio ambiente y estarían en línea con la misión de reducción de la pobreza del WBG.
- La administración superior del WBG debería clarificar los papeles a jugar del Banco, CFI y OMGI para el fomento del PSDE, particularmente en términos del aumento de apoyo financiero y asesor.

b) En sus futuras intervenciones en el PSDE, el WBG debería poner un mayor énfasis en la generalización de la reducción de la pobreza y los objetivos ambientales (además de sus objetivos tradicionales macrofiscales y de eficacia del sector), que son estrategias básicas y generales del WBG para con la energía.

- El WBG debería aumentar su enfoque en reformar y facilitar las inversiones privadas en el subsector de distribución, que requerirá acciones para mejorar la recolección de dinero, reducción

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crémentielles des monopoles publics, a été couronné de peu ou pas de succès. Lorsque des étapes intermédiaires de réforme du secteur public sont nécessaires, les réformes en rapport avec le DSPE doivent constituer un objectif de long terme clairement énoncé.

- La preuve de l'importance de l'engagement du pays n'est, quant à elle, pas ambiguë. Les facteurs de pays, tels que des priorités réalistes, une feuille de route claire, des champions locaux et des gains précoces, permettent des réformes réussies et un DSPE performant. L'établissement d'un groupe d'intérêt pour des réformes par la participation de sociétés civiles est également essentielle à la durabilité des réformes.
- La lutte contre la pauvreté et l'intégration environnementale (ne pas se contenter de « ne pas faire de mal », mais également « faire du bien ») n'ont généralement pas été des composantes intrinsèques des plans de stratégies de réformes sectorielles et de la promotion du DSPE, ce qui a fait baisser leur aura aux yeux de l'opinion publique locale et internationale.
- Le manque de réformes dans le sous-secteur de la distribution peut mettre en péril les gains potentiels de réformes dans le sous-secteur de la production.
- Les PEI ont un rôle à jouer pour dégager les goulots d'étranglement en matière d'approvisionnement de manière efficace et substantielle, pour augmenter la capacité de financement du secteur public et pour obtenir des gains précoces. Ils ont fournis de

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de pérdidas, tratar el tema de la corrupción, lograr una mejor asignación de los subsidios, aumentar el acceso de los pobres en zonas rurales y privatizar la distribución donde y cuando las circunstancias lo permitan.

- El WBG debería llevar al máximo la participación del sector privado local en proyectos a pequeña escala y/o descentralizados, lo cual requerirá enfoques innovadores y una mejor integración a través de los sectores dentro del Banco, y entre el Banco, la CFI y el OMGI.

c) El WBG debería fomentar innovaciones operacionales para asegurar una mayor consistencia entre sus prácticas e instrumentos y las metas del PSDE a medida que evolucionan.

- El WBG necesita mejorar la coordinación de las diferentes unidades activas en el PSDE. En este sentido, debería luchar por una mejor integración de los objetivos del PSDE dentro del marco de la CAS, incluyendo las CAS no conjuntas y Documentos para la estrategia de la lucha contra la pobreza (PRSP).
- La administración del Banco, CFI y del OMGI debe apoyar la iniciativa y flexibilidad en las operaciones del PSDE y AAA, a fin de responder mejor a las condiciones del país sector que están cambiando rápidamente y a las oportunidades que no son siempre previsibles en la CAS. Mediante sus instrumentos diversos de préstamos y asesores , el WBG debería fomentar más asociaciones públicas-privadas e innovaciones prometedoras, tales como diseño

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bons résultats de développement dans les pays, les secteurs et les conditions contractuelles appropriés. Cependant, les PEI qui ne sont pas bien placés et ne sont pas appuyés par un programme de réformes T&D efficace peuvent conduire à un déséquilibre entre la production et la capacité T&D. Dans certains cas, ils ont réduit la pression sur les dirigeants et sur les décideurs du pays pour poursuivre des réformes plus poussées.

- Les stratégies CAS (Stratégies d'aide aux pays) menées conjointement par la Banque mondiale, la SFI et la MIGA ont apporté un soutien bien plus efficace au DSPE que celles qui avaient été mises en œuvre par la Banque mondiale seule, mais la coordination par le truchement des seules CAS demeure insuffisante.

Quelles sont les recommandations en matière de futures orientations commerciales futures du Groupe de la Banque mondiale pour promouvoir le DSPE ?

Sur la base des constats de son évaluation, l'étude recommande les dispositions suivantes :

a) De manière urgente, le Groupe de la Banque mondiale doit fournir des directives opérationnelles au personnel du Groupe de la Banque mondiale au sujet de quand et comment continuer à promouvoir le DSPE dans la situation actuelle d'augmentation de risques macroéconomiques et politiques, et du peu d'intérêt manifesté par les investisseurs. Ces directives doivent être fondées sur la stratégie DSP

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de reformas y esquemas de ayuda basados en resultados y en favor de los pobres, para lo cual es esencial tener sistemas sólidos de control y evaluación.

- El WBG debería crear indicadores de rendimiento y sistemas internos relacionados, así como ayudar a fortalecer las capacidades de los prestatarios (incluso mediante la financiación de proyectos) para seguir y evaluar los logros e impactos de las intervenciones de su PSDE. Estos esfuerzos de seguimiento y evaluación deben estar adaptados a la Estrategia de renovación del negocio de la energía y a otros objetivos relevantes de estrategia y política, especialmente en las áreas relativamente abandonadas, de ayudar a los pobres e incorporar la viabilidad ambiental.

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édictée récemment par la Banque.

- La Commission du secteur de l'énergie et des mines de la Banque, en étroite consultation avec la Commission de développement du secteur privé, doit fournir au personnel du Groupe de la Banque mondiale des directives opérationnelles mises à jour et pratiques pour promouvoir le DSPE, en se basant sur ce qui réussit le mieux, en termes d'ensembles de réformes et de leur mise en séquence, des situations au niveau pays et au niveau secteur, des besoins et des capacités institutionnelles. Des exemples de meilleures pratiques peuvent être développés pour un groupe d'attributs de pays observés fréquemment.
- Le développement de ces directives doit être un effort combiné entre la Banque, la SFI et la MIGA, et doit définir un cadre pour analyser pleinement les alternatives au DSPE devant assurer la pérennité de l'environnement et correspondre à la mission de lutte contre la pauvreté du Groupe de la Banque mondiale.
- La direction du Groupe de la Banque mondiale doit clarifier les rôles de la Banque, de la SFI et de la MIGA pour promouvoir le DSPE, particulièrement en termes d'augmentation de support financier et consultatif.

b) Dans ses futures interventions en matière de DSPE, le Groupe de la Banque mondiale devra accorder une plus grande importance à l'intégration de la lutte contre la pauvreté et aux objectifs environnementaux (en plus de ses objectifs

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traditionnels d'efficacité macro-fiscale et sectorielle), qui sont au cœur de la stratégie d'énergie d'ensemble du Groupe de la Banque mondiale.

- Le Groupe de la Banque mondiale doit davantage concentrer ses efforts sur la réforme et la facilitation des investissements privés dans le sous-secteur de la distribution, ce qui va exiger des actions visant à augmenter les recettes, à réduire les pertes, à diminuer la corruption, à améliorer le choix des objectifs de subventions, à étendre l'accès à l'énergie des pauvres vivant à la campagne et à privatiser la distribution où et quand les conditions le permettent.
- Le Groupe de la Banque mondiale doit maximiser la participation du secteur local privé à des projets de petite envergure et/ou décentralisés exigeant des approches innovatrices et une bien meilleure intégration intersectorielle au sein de la Banque et entre la Banque, la SFI et la MIGA.

c) Le Groupe de la Banque mondiale doit encourager les innovations opérationnelles pour assurer une plus grande cohérence entre ses pratiques et instruments, et ses objectifs en matière de DSPE au fur et à mesure de leur évolution.

- Le Groupe de la Banque mondiale doit améliorer la coordination entre les différentes unités actives en matière de DSPE. Dans ce but, il doit poursuivre une meilleure intégration de ses objectifs de DSPE dans le cadre des CAS, y compris dans les CAS non communes et dans les Documents de stratégie de lutte contre la pauvreté (PRSP).

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- La direction de la Banque, de la SFI et de la MIGA doit soutenir l'initiative et la souplesse des opérations DSPE et AAA, afin de mieux répondre à des conditions de pays et de secteur en évolution rapide et à des opportunités qui ne sont pas toujours prévisibles dans CAS. Par ses différents instruments de prêt et de consultation, le Groupe de la Banque mondiale doit promouvoir davantage de partenariats publics-privés et d'innovations prometteuses, comme par exemple un modèle de conception de réformes et de schémas d'aide basés sur les résultats en faveur des pauvres, pour lequel une surveillance attentive et des systèmes d'évaluations sont essentiels.
- Le Groupe de la Banque mondiale doit développer des indicateurs de performances et des systèmes internes en rapport, et aider à renforcer les capacités d'emprunt (y compris par des financements de projets) pour surveiller et évaluer les accomplissements et les effets de ses interventions en matière de DSPE. Ces efforts de surveillance et d'évaluation (M&E) doivent s'accorder avec la Stratégie de renouvellement de l'énergie et les autres objectifs des stratégies et chartes pertinentes, notamment dans des domaines relativement négligés d'aide aux pauvres et d'intégration de la préservation de l'environnement.

ABBREVIATIONS AND ACRONYMS

AAA	Analytical and advisory assistance
ADB	Asian Development Bank
AFR	Africa Region
ARPP	Annual Review of Portfolio Performance
ASTAE	Asia Alternative Energy Program
BOT	Build, operate, transfer
CAE	Country Assistance Evaluation
CAS	Country Assistance Strategy
CCS	Country case studies
CPW	IFC Power Department
DEC	Development Economics and Chief Economist Vice Presidency
EAP	East Asia and Pacific Region
EBRD	European Bank for Reconstruction and Development
EBRS	Energy Business Renewal Strategy
ECA	Europe and Central Asia Region
EHS	environmental health and safety
ERR	Economic rate of return
ESB	Energy Sector Board
ESMAP	Energy Sector Management Assistance Program
ESW	Economic and sector work
FFT	Fuel for Thought (Bank Strategy Paper)
FRR	Financial rate of return
FY	Fiscal year
GDP	Gross domestic product
GEF	Global Environment Facility
GHG	Greenhouse gases
ES	Evaluation Summary
IADB	Inter-American Development Bank
IBRD	International Bank for Reconstruction and Development
ICR	Implementation Completion Report
IDA	International Development Association
IFC	International Finance Corporation
IPPs	Independent power producers
IRR	Internal rate of return
LAC	Latin America and Caribbean Region
MAL	Maximum aggregate liability
MIGA	Multilateral Investment Guarantee Agency
MNA	Middle East and North Africa Region
M&E	Monitoring and evaluation
OED	Operations Evaluation Department, IBRD/IDA
OEG	Operations Evaluation Group, IFC
OEU	Operations Evaluation Unit, MIGA
PAD	Project Appraisal Document
PPA	Power Purchase Agreement
PPAH	Pollution Prevention and Abatement Handbook
PPAR	Project Performance Assessment Report, OED
PRSP	Poverty Reduction Strategy Paper
PSD	Private sector development

PSDE	Private sector development in the electric power sector
PSR	Project Status Report, IBRD
QAG	Quality Assurance Group
SAL	Structural Adjustment Loan
SAR	South Asia Region
SECAL	Sectoral Adjustment Loan
SSA	Sub-Saharan Africa
TA	Technical assistance
TATF	Technical Assistance Trust Fund
T&D	Transmission and distribution
WBG	World Bank Group
XPSR	Expanded Project Supervision Report, OEG

Overview: Private Sector Development in the Electric Power Sector

The global electric power industry experienced deep changes in its economic, political, and technological features in the last decades of the 20th century. Those changes fundamentally altered the ownership and market structure of the sector and required the World Bank Group (WBG) to adjust its assistance in ways that supported a shift to private sector development in the electric power sector (PSDE).

The Current Sector Environment

Since the 1950s, the power sector had been dominated by publicly owned monopolies over the full range of sector activities from production to distribution. This was in accordance with the prevailing notion that large-scale technologies and their high-fixed costs favored state financing, and that monopoly stewardship by the state enhanced consumer welfare. The sector also was considered critical to national security and a tool with which governments might pursue social equity objectives in their development efforts. These views prevented competition and discouraged foreign investment. From the late 1980s, however, the promise of greater efficiency through market-based competition and technological advances encouraged the vertical unbundling of power generation and an increase in private investment.

Developing countries had the same problems as industrial countries with noncompetitive public sector utilities, but with the additional disadvantages of weak or nonexistent regulatory institutions, political opposition to the economic pricing of electricity, the unattractive prospect of revenues in local, often weak, currencies, poor tariff collection rates, and weak governance. When change began to sweep through the industrial countries, developing countries also started to reform their power sectors, dismantling the government monopoly control of generation. Most, however, were slow in liberalizing transmission and distribution (T&D), resulting in limited private investments in this subsector.

Power sector reform requires the restructuring of institutional and market frameworks and the opening of the sector to private participation. The establishment of both components in the same power system has been a relatively recent experience in both industrial and developing countries, with success and failures in both. Commitment to reform is difficult to secure and sustain, as it entails the politically unattractive requirements of adjusting tariffs and attracting foreign corporate involvement. The power sector is prone to corruption both internationally and locally because the stakes are high and the oppor-

tunities for rent-seeking are plentiful. With politics, circumstances, and timing lying at the heart of power sector reform, the transformation process and its outcomes at each stage are fragile. Experience shows that progress and sustainability are highly susceptible to the local political economy and to macroeconomic shocks: Argentina, a successful reformer until recently, has fallen victim to both.

After growing rapidly in the early 1990s, private interest in the power sector waned following the 1997 Asian financial crisis. A 2002 World Bank survey revealed that private power investors are retreating from developing countries, and the medium-term prospects are discouraging: of 50 firms surveyed, 52 percent are retreating and only three firms continue to be interested (Lamech and Saeed 2002 and 2003). Interest is lowest where there is greatest need—in the distribution business. As a matter of special concern, the 50 firms are unanimous that public–private partnerships are not important for them, and ranked such partnerships lowest as a factor governing investment success. These survey findings are striking, given that during the 1990s the 15 or so major private power investors tended to concentrate their interest on only about 10 middle- to high-income countries. The global picture shows that while the World Bank is pursuing the creation of a PSDE-enabling environment in 68 countries, private foreign interest itself is dwindling. The growth in demand for power in developing countries meanwhile is estimated to require hundreds of billions of dollars in power infrastructure investments during the rest of this decade. Reigniting private sector interest in developing country power sectors will be difficult. This issue is of special importance to IFC and MIGA, which mobilize transactions with mostly foreign private partners.

The effectiveness and sustainability of PSDE will depend on identifying measures that enable the power sector to better manage the political and macroeconomic risks. The WBG's advice and assistance continue to be in demand, but its role in advocating PSDE has become less clear as a result of the sharp decline in private investor interest in emerging markets. While some observers have identified this as a crisis in power sector reform in developing countries, others see the sharp drop in investor interest as temporary, noting that although the big names are absent or have withdrawn, local and regional players have emerged and new transactions continue to occur. Notable among these are the Delhi distribution privatization and private power deals in Kazakhstan and Central European countries. For the Bank Group, whose clients predominantly are low-income countries with high political and regulatory risks, the decline in private investor interest could be interpreted as being less of a concern, but it should be noted that these are precisely the countries where the WBG's PSDE engagement is most needed. Given these heightened uncertainties and risks, WBG staff need guidance more than ever on ways by which to reignite private interest and through which to continue to promote PSDE.

The Role of the World Bank Group in the 1990s

In the 1960s and 1970s, the World Bank, comprising the International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA), was through its support of state-owned utilities a major financier of the electric power sector in developing countries. In the 1980s, global pressure to address the persistently poor performance of those utilities led the Bank to start focusing its electric power lending and policy advice on the promotion of private sector involvement. Despite the decades of Bank support for public power utilities, their financial position continued to be desperate, institutions and governance remained weak, low technical and operational efficiencies endured, and national policies on pricing and investment planning resisted change. The power markets in industrial countries meanwhile were being transformed by lower-cost technologies, new regulatory developments, and the growth of independent power producers, which demonstrated that utilities could turn to cheaper and more efficient private power for part of their supply.

By the early 1990s, lending to public utilities had become untenable, and the WBG adopted a policy to promote private sector development in the electric power sector. This was formalized in the 1993 Electric Power Lending Policy (World Bank 1993b), which was endorsed by the Inter-

national Finance Corporation (IFC) and which was also consistent with the mandates of the Multilateral Investment Guarantee Agency (MIGA). The 1993 policy was predicated on "commitment lending," which meant that assistance would be given only when a country's institutional and structural reform policies were satisfactory. During the 1990s, lending predicated on government commitment was tested in India, historically a recipient of large volumes of Bank power lending. In 1993, precipitated by India's economic crisis of the early 1990s and the poor performance of the State Electricity Boards (SEBs), the Bank decided to lend only to states that agreed to unbundle their SEBs, establish an independent regulatory authority, and privatize all new generation and distribution investments. From 1990 to 1996 the Bank adopted a strategy of not lending, and this led to progress by several states in reforming their power sector. Although there has been some recent backsliding on reforms, both the Operations Evaluation Department (OED) and the Quality Assurance Group (QAG) of the World Bank concluded at the time of OED's 2001 Country Assistance Evaluation (OED/World Bank 2001b) that the Bank's approach is a best-practice model that should be emulated throughout the Bank's power sector portfolio.

The Bank Group's PSDE policies are supported by activities in three strategic areas of emphasis: energy efficiency, rural and renewable energy, and environmental sustainability. In the 1993 "Energy Efficiency and Conservation in the Developing World" (World Bank 1993a), the Bank emphasizes energy pricing to improve overall energy efficiency and promote environmental protection, private sector development (PSD), and competitive markets. In the 1996 "Rural Energy and Development: Improving Energy Supplies for Two Billion People" (World Bank 1996b) the Bank seeks to develop new approaches for providing energy to the rural poor. Where the private sector is involved, it suggests several actions to make private companies more inclined to serve rural areas and to promote a regulatory regime that favors competition among retailers and distributors. The 2000 strategy paper "Fuel For Thought: Environmental Strategy for the Energy Sector" (World Bank 2000a) addresses the links between the private sector and environmentally sustainable development by stating that energy sector and pricing reforms will likely improve overall efficiency through the adoption of cleaner energy technologies.

The most recent Bank Group statement on PSDE is "The World Bank Group's Energy Program: Poverty Alleviation, Sustainability, and Selectivity" (World Bank 2001d). This Energy Business Renewal Strategy (EBRS) was prepared to address the shortcomings of the past energy program and to align the energy business practice with the overall strategic framework of the WBG.

Energy practice in the Bank evolved significantly during the 1990s, in line with the shift of the Bank's portfolio away from power generation in favor of sector reform and adjustment and transmission and distribution. Within a smaller lending portfolio and more constrained operational budgets, the practice has had to focus more intensively on complex market reforms, climate change, energy access, and poverty reduction, and related analytical and advisory (AAA) products, notably through the Energy Sector Management Assistance Program (ESMAP). By the end of the 1990s, an Energy Sector Board (ESB) was established to (i) lead strategy formulation and implementation, based on rapidly changing internal development priorities and external trends; (ii) catalyze the exchange of best practices, train staff, and mobilize learning events (notably Energy Week); and (iii) ensure portfolio quality and strategic relevance through country-sector and Quality-at-Entry reviews. The role of the Bank's energy practice has become complex: country clients and private stakeholders have multiplied; internal and external pressures for quality and accountability have increased; and cross-sectoral integration with nonenergy sectors (public sector reform, private sector development, and poverty reduction and economic management networks) within a matrix-managed Bank have become a daily operational necessity.

Evaluation Objective and Framework

Objective

The purpose of this study is to assess the results of the WBG's PSD-related interventions during the 1990s in the power sectors of some 80 developing and transition countries and to answer four

evaluation questions: (i) how have private participation and the WBG's role changed in the 1990s?; (ii) to what extent has the WBG's assistance supported its PSDE strategies?; (iii) what have been the results of the WBG's PSDE interventions?; and (iv) what are the lessons that should guide the WBG's future business directions in promoting PSDE? As WBG assistance in the power sector is still needed, particularly at this time when foreign investors are retreating from the sector, the study derives lessons from experience to inform the ongoing implementation of the EBRS.

To date, PSDE practitioners have been learning by doing, with the WBG having the advantage of institutional scope and memory. The continually evolving practices in PSDE make difficult the establishment of convincing theories about the optimal sequencing of reforms, although the catalogue of things to avoid continues to expand. Within the WBG, PSDE practice is a moving target, making it particularly difficult to establish evaluative benchmarks to measure results, other than the stated objectives of the individual PSDE project and the overall PSDE program (if any) at the country level. Moreover, given the number of stakeholders and practitioners (other than the WBG), as well as the unpredictability of reform outcomes, it is challenging to assess the extent to which WBG interventions were pivotal or decisive catalysts of reform, and to recommend how this role could be enhanced in the future.

Framework

OED evaluated the results of PSDE interventions in relation to the Bank Group's approach to PSDE as it evolved during the 1990s. This evaluation focused on the performance benchmarks stemming from the objectives of the 1993 Electric Power Lending Policy. It also reviewed the Bank's experience in terms of applying this experience to the objectives of the 2001 EBRS. The objectives of the 1993 policy, its 1996 best-practice statement (World Bank 1996a), and the Bank's reform approach emphasized the commercialization and corporatization of utilities, with a view to eventual privatization; an adequate legislative and regulatory framework for private sector participation; the unbundling of integrated utilities into generation, transmission, and distribution; and a competitive market with private participation in greenfield projects and the privatization of existing assets. The EBRS objectives include the promotion of PSD, macrofiscal balancing, protecting the environment, and helping the poor directly. The evaluation framework also includes the Country Assistance Strategy (CAS) objectives, because an evaluation based on individual projects alone would not capture the sector-level outcomes of power reforms; many of the Bank Group coordination and strategic issues raised in the evaluation furthermore can only be addressed at the country level.

The EBRS objective of promoting PSD is of particular interest to this study. The specific EBRS performance indicators comprise the creation of transparent and nondiscriminatory regulatory mechanisms; the introduction and expansion of competition; the divestiture of assets to strategic investors; catalyzing private investments by liberalizing entry to energy markets; strengthening the voice of consumers and communities; and strengthening local financial institutions to provide long-term financing for rural energy business.

OED derived evidence and evaluative findings from (i) literature reviews; (ii) a review of the Bank's portfolio of 154 PSDE-related projects, based on Implementation Completion Reports, Project Status Reports, OED's Evaluation Summaries and Performance Assessment Reports, and other project documentation; (iii) country case studies of Côte d'Ivoire, Pakistan, the Philippines, Poland, and Turkey, four of which were done jointly with the Operations Evaluation Group (OEG) of IFC (IFC has no power operations in Poland); (iv) analysis of other country examples offering PSDE lessons of broad applicability; (v) a survey of task managers responsible for PSDE projects;[1] (vi) semistructured interviews of Bank task team leaders and energy sector managers and IFC investment officers and managers; (vii) a review of six regional energy strategies; and (viii) a review of the 1990s CASs for the five country case studies and 10 other countries with major PSDE programs, to assess their PSDE content and to analyze the linkages between the stated PSDE priorities and the lending and economic and

sector work/analytical advisory assistance (ESW/AAA) programs in each country. Comments were also received from a group of external reviewers and taken into account in the final drafting of the study.

OEG's evaluation findings are based on a synthesis of project-level evaluations covering the 29 mature IFC projects of the 57 approved projects of the 1990s.[2] The study draws from existing XPSR (Expanded Project Supervision Report) evaluation findings on 15 IFC operations and from OEG mini-evaluations of 14 other projects that were made using an abbreviated version of the XPSR evaluation framework. These mini-evaluations were drawn from a review of project documents, interviews with IFC project teams (investment officers, environmental specialists, economists, and technical specialists) and field visits to projects in case study countries. The IFC evaluation also draws from OEG's Annual Review findings.

MIGA's Operations Evaluation Unit (OEU) drew its findings from a review of MIGA's electric power portfolio. Additionally, OEU synthesized the results of evaluations of eight mature projects, selected through random and stratified sampling of active and mature operations, representing 25 percent of all MIGA-supported projects in electric power generation during FY94–01.

Scope and Limitations

This study evaluates the WBG's performance against its existing policy and strategic commitments to support PSDE. As such, it does not include a review of the broader underlying rationale for promoting PSD. The study focuses on the WBG's activities in the electric power sector; it does not cover WBG interventions in the electric power sector that are not directed at promoting PSD. It does not include an evaluation of the renewable energy subsector, as the number of mature WBG operations in this subsector is too small to serve as a basis for evaluative judgments and conclusions. While within the scope of the original Approach Paper, coal, oil, and gas are not addressed in this study. These energy subsectors are covered in the OED/OEG/OEU review of the WBG's experience in Extractive Industries (EI) (the EI study was conceptualized subsequent to the decision to undertake the PSDE study). The study period is from FY90–99. Where appropriate, the study also provides observations on the WBG's PSDE activities in FY00–01. Performance and outcome ratings are based on the respective evaluation criteria of the Bank, IFC, and MIGA. The study does not duplicate the analysis of the Bank's and IFC's respective Annual Reviews of Portfolio Performance and Evaluation Findings, but builds on their data and findings. Given the large size of the Bank's analytical and advisory assistance (AAA) and the serious data inadequacies on AAA performance, the in-depth review of PSDE-related AAA operations was limited to country studies using generally accepted AAA criteria. Due to insufficient data, the study does not include an evaluation of IFC's advisory operations nor the electric power components of nonpower sector projects. Since few countries are at the advanced stages of power reforms, the study emphasizes the assessment of the PSDE promotion process; it assesses outcomes and impacts to the extent made possible by available literature, project evaluations, and limited country studies. Details on the methodology and tools used in the study are provided in Annex A.

2 PSDE Objectives and Instruments

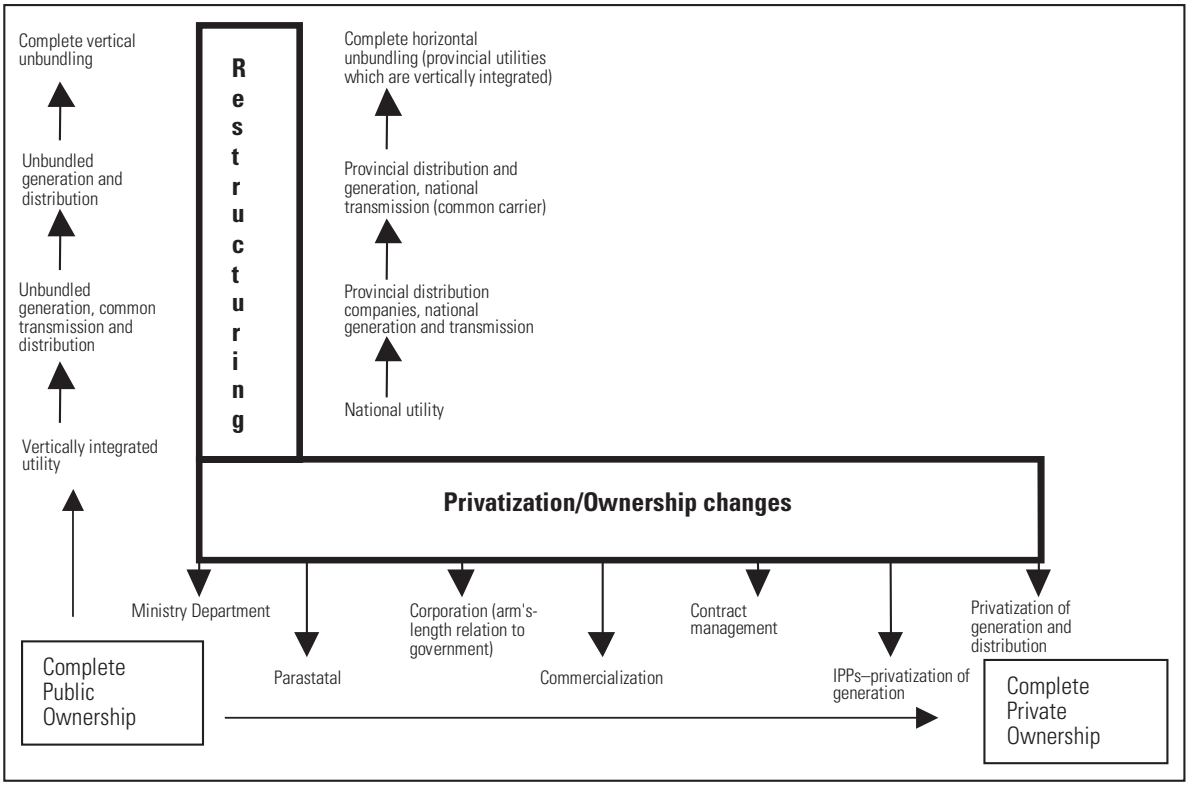
The power sector reforms that swept the industrial countries and some developing countries in the 1990s can be presented graphically by focusing on the degree to which they attempted to change the competitive structure of different segments in the industry, and on the changes in ownership from public to private (Turkson 2000) (Figure 2.1).

Although in practice some of the possible changes were chosen from a menu of objectives, the literature and Bank Group practice gradually evolved toward a combination of seven PSDE reform areas: (i) commercialization; (ii) corporatization; (iii) arm's-length regulation; (iv) unbundling; (v) private participation in production (greenfield and divestiture); (vi) private participation in transmission and distribution (greenfield and divestiture); and (vii) building competitive markets in production, transmission, and distribution.

The relative mix of restructuring and privatization adopted by each country depended on the country's political choices, but also evolved throughout the 1990s. One approach was to maintain the state-owned monopoly structure but to invite independent power producers (IPPs) to construct new power plants and sell their electricity to the public monopoly as a single buyer (Indonesia, Pakistan, and the Philippines), usually on the basis of a long-term Power Purchase Agreement (PPA). A second approach was to promote private ownership of a vertically integrated generation, transmission, and distribution system (IFC advisory work in Cameroon, in conjunction with Bank lending). A third approach was to unbundle the state monopoly and privatize the separate entities, while establishing a regulatory body to oversee both the competitive and the uncompetitive segments of the restructured power industry (Chile, Peru, Ukraine). Regardless of the path, the underlying objective was to minimize or eliminate the sector's fiscal drain, as well as improve supply efficiencies, access, quality of service, and the financial performance of utilities.

The Bank, IFC, and MIGA played different roles in helping countries along the two axes and achieved different results. The division of specialization between the three gradually evolved on PSDE (and PSD in general), and was only formally specified in the PSD strategy in 2002 (World Bank 2002c). The Bank is now expected to concentrate on the legal and regulatory framework, thus improving the enabling environment for PSDE, and, where needed, on helping improve the performance of the remaining public components of the sector. IFC is expected to assist the process by helping to finance new private sector

Figure 2.1 **Reform Options to Achieve Structural and Ownership Changes in the Power Sector**



investments and by helping government institutions with the privatization process itself.[1] MIGA's role is to assist foreign investors by providing coverage against political risks. During the 1990s, the roles of the Bank and IFC occasionally overlapped.

The WBG also used a variety of instruments to help countries pursue their PSDE objectives. Most were financial instruments (loans from the Bank and IFC, equity investments by IFC, guarantees by the Bank and MIGA), but analytical work by the Bank and advisory services provided by IFC also were important. Bank lending was not only for investment, but also was for technical assistance and to fund components of adjustment loans.

World Bank lending to the power sector was high through most of the 1990s, but dropped sharply after 1998, following the Asian financial crisis and the sudden halt in capital flows to emerging markets. The pattern of IFC investments is similar, while MIGA guarantees expanded rapidly and seem to have maintained the same pace. The Bank's electric power lending reached a peak of US$3.2 billion in FY96, dropping to US$440 million in FY99 before rebounding to US$994 million in FY00 (see Table 2.1). Power accounted for 15 percent of total Bank commitments in FY96, but only 1.5 percent in FY99. By comparison, IFC's power investment approvals also reached a peak of US$872 million in FY95 and had declined to about 40 percent of that level by FY99, but the cumulative gross approvals of US$4.4 billion over the 1990s reflects tremendous growth compared to the low level of US$45 million in FY90. MIGA guarantees peaked in FY00, both in the volume of coverage issued and the number of projects supported. In FY00, power projects accounted for a record 40 percent of MIGA's gross liability issued, whereas in the second half of the 1990s that figure had oscillated around 15 percent. At the same time, the average size of MIGA projects and their complexity also increased.

Table 2.1 **IBRD/IDA Lending, IFC Investments, and IBRD/IDA and MIGA Guarantees in the Electric Power Sector, FY90–01**

	FY90	FY91	FY92	FY93	FY94	FY95	FY96	FY97	FY98	FY99	FY00	FY01
IBRD/IDA lending*												
Number of projects	16	10	25	19	10	16	20	17	15	6	9	9
Approvals (US$ millions)	2,968	1,707	3,554	2,739	1,613	2,242	3,247	1,889	2,067	440	994	824
Bank power project lending as % of total commitments	14.34	7.52	16.37	11.56	7.74	9.95	15.21	9.87	7.23	1.52	6.51	4.78
PSDE-related (US$ millions), of which:	875	735	456	1,672	1,457	1,919	2,468	1,638	1,409	349	750	766
Freestanding	98	195	127.5	1.2	230	411	329.4	184	0	0	0	0
Components (only power sector)	777	540	328	1,671	1,227	1,508	2,139	1,454	1,409	349	750	766
PSDE-related as a % of electric power lending	29.5	43.1	12.8	61.0	90.3	85.6	76	86.7	68.2	79.4	75.4	92.9
IBRD/IDA guarantees												
Number of operations	0	0	0	0	1	3	2	0	1	2	0	1
Value (US$ millions)	0	0	0	0	57	404	125	0	10	330	0	61
IFC investments												
Number of approved investments	2	2	1	7	8	9	6	8	8	6	11	8
Value of gross approvals (US$ millions)	45	107	97	512	676	872	623	518	584	335	632	687
IFC power approvals as % of IFC total approvals	2.0	3.8	3.0	13.0	15.8	16.0	7.7	7.7	9.9	6.3	10.8	12.8
MIGA guarantees												
Number of projects guaranteed	0	0	0	0	1	3	5	7	6	5	8	4
Maximum aggregate liability (US$ millions)	0	0	0	0	15	137	132	94	132	161	638	394

*Includes only projects in the electric power sector group. Most of the projects include PSDE components; 16 are standalone PSDE projects

Sources: IBRD/IDA Lending—Business Warehouse; IBRD/IDA Guarantees—Project Finance and Guarantee Group; IFC Investments—International Finance Corporation; MIGA Guarantees—Multilateral Investment Guarantee Agency.

Bank and IFC lending approvals, as well as Bank and MIGA guarantees, have to be seen in the context of the huge (and unanticipated) increase in private capital flows to developing countries between 1990 and 1997. Similarly, the drying up of those flows—and of new private investment—in developing countries following the 1997 Asian financial crisis affected WBG activities. For example, while IFC approvals remained relatively strong (except in 1999), its funding commitments slowed down. Finally, the geographical differences in the Bank Group's PSDE assistance are also partly explained by the concentration of private capital flows in Latin America and Asia (both East and South).

The level of support for PSDE from other multilateral development banks is small compared to the WBG, based on a comparison of their overall lending programs, their electric power sector portfolios, and their PSDE components (where known). Since 1994, the European Bank for Reconstruction and Development (EBRD) supported 10 projects in power and energy, of which two are equity investments, totaling US$230.8 million. The Asian Development Bank (ADB) approved 40 loans in the energy sector between 1995 and 1999, representing 11 percent of ADB loans, but there are no data on how much of this lending is specific to PSDE. More than 50 percent of the active projects of the Inter-American Development

Bank (IADB) are in the energy sector, and 47 percent of the infrastructure portfolio of IADB's Inter-American Investment Corporation is in the power sector, but PSDE-specific data again are unavailable. IADB's grant-making Multilateral Investment Fund supports the establishment of regulatory mechanisms to encourage private participation, some of which is geared toward PSDE.

3 Project Results

The WBG supported PSDE through interventions in 80 countries, through different combinations of WBG institutions and instruments. The Bank pursued power sector reforms (mainly through components in larger projects); IFC and MIGA facilitated private power investments.

OED's review of the Bank's PSDE portfolio shows that (i) project objectives are consistent with the seven PSDE reform areas that evolved in the Bank's energy practice during the 1990s, and (ii) the level of financial support varied widely, ranging from small technical assistance components to large energy Sector Adjustment Loans (SECALs). World Bank-defined regions include Africa (AFR), East Asia and Pacific (EAP), Europe and Central Asia (ECA), Latin America and Caribbean (LAC), Middle East and North Africa (MNA), and South Asia (SAR). Along these regional lines, in AFR, ECA, and MNA the Bank predominated and IFC and MIGA had little presence; in EAP, LAC, and SAR the Bank, IFC, and MIGA were all involved (Table 3.1). Close to 40 percent of IFC's operations are in LAC and SAR alone. IFC's involvement in the power sector in the 1990s focused mainly on financing independent power producers (IPPs) in accordance with one of the seven PSDE reform areas.

As discussed below, project-level results (that is, individual transactions) have been good overall for IFC and MIGA, but in Bank projects it has been mixed. Sector-level outcomes overall have been mixed, as discussed in the next chapter. Since IFC and MIGA are transaction-oriented with regard to the WBG's wider reform agenda, this chapter focuses on their performance based on a synthesis of their respective project-level outcomes and indicators. In pursuing the WBG's PSDE agenda, both IFC and MIGA concentrated on supporting private participation in the generation subsector, and to a lesser extent in the T&D subsector. Private participation in these two subsectors is an integral part of the reform agenda supported by the WBG. The Bank, for its part, mostly pursued sector-wide reforms through diverse and multisectoral lending and AAA instruments (see also Annex B).

Bank Involvement: Reforming Power Sectors and Mainstreaming PSDE

The Bank mainstreamed PSDE, as its traditional power lending sharply declined. The shifts in the Bank's reform portfolio during the 1990s also show a positive response to the 1993 Electric Power Lending Policy and the Bank's 1996 best-practice statement. The Bank increasingly supported PSD and

Table 3.1 **Regional Distribution of Bank, IFC, and MIGA Operations**

Region	Bank	% share	IFC	% share	MIGA	% share
Africa (AFR)	30	20	3	5	2	5
East Asia and Pacific (EAP)	35	23	6	9	9	23
Europe and Central Asia (ECA)	39	25	7	11	2	5
Latin America/Caribbean (LAC)	25	16	22	34	20	51
Middle East/N. Africa (MNA)	5	3	2	3	0	0
South Asia (SAR)	20	13	16	25	6	15
World			8	13		
Total Projects*	154		64		39	
Total Countries	68		29		25	
Total Countries in WBG: 80						

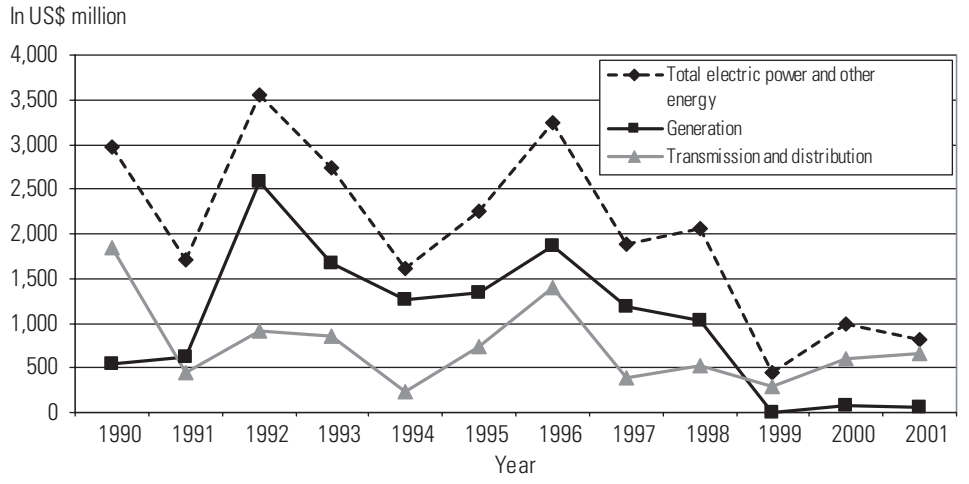
* The Bank column of 154 investment and adjustment operations includes 138 PSDE components in nonenergy sectors, for which the Implementation Completion Reports, Evaluation Summaries, Performance Audit Reports, and Project Status Reports were all reviewed. The IFC column includes 57 investment operations (29 of which are mature and have been evaluated) and seven Global Environment Facility (GEF) projects (none of which has been evaluated).

private participation in its power and nonpower lending. While power lending volumes dropped, the number of projects with PSDE components grew from 7 in 1990 to 18 annually after 1994, indicating the mainstreaming of PSDE objectives into nearly all power projects, as well as adjustment and nonelectric power projects (notably in public enterprise reform) and partial risk guarantees. Within the power sector alone, the lending volume of projects that pursued reforms and PSDE accounted for from 75 to more than 90 percent of electric power project approvals during the period following the 1993 policy (Table 2.1). As the number of country clients increased and PSD instruments became more diverse, the following PSDE trends can be observed, based on OED's portfolio review (see also Annex C):

- The Bank's support for corporatization increased in the early 1990s and has remained relatively stable. Commercialization peaked in the mid-1990s before falling back to 1990 levels.
- From its modest efforts in 1990, the Bank's agenda has evolved to an emphasis on arm's-length regulation (now the most frequent project objective) and private participation in transmission and distribution.
- The building of competitive markets has shown a consistent increase since 1996.
- The Bank's work on private participation in production and unbundling has experienced wide swings, and appears to be tapering off.

Bank lending for transmission and distribution has overtaken generation expansion. The Bank's lending for the expansion of generation capacity dropped from a peak of US$2.6 billion in 1992 to almost nothing in 2002 (Figure 3.1). It has now been overtaken by lending for transmission and distribution, where much still remains to be done given the pivotal role of improvements in the distribution subsector to the success of overall reforms, as will be discussed in Chapter 4. Of the 154 Bank projects that supported PSDE, 63 projects (40 percent) also supported transmission and distribution. Most of the projects were approved in the early to mid-1990s and were in the EAP, AFR, SAR, and ECA regions. There were few distribution projects in LAC and MNA. Almost half of the projects supporting T&D did not perform well. Of the 38 closed projects, OED rated the outcome of 17 projects (45 percent) as unsatisfactory or marginally unsatisfactory, mainly due to persistent high losses and inability to improve revenue collection, lack of adequate tariff adjustments, and/or weak institutional capacities. The sustainability of 42 percent of these closed projects was rated as uncertain (18 percent) or un-

Figure 3.1 **IBRD/IDA Lending for Generation Collapsed, Putting Transmission and Distribution in the Lead by FY01 (approvals in US$ millions)**

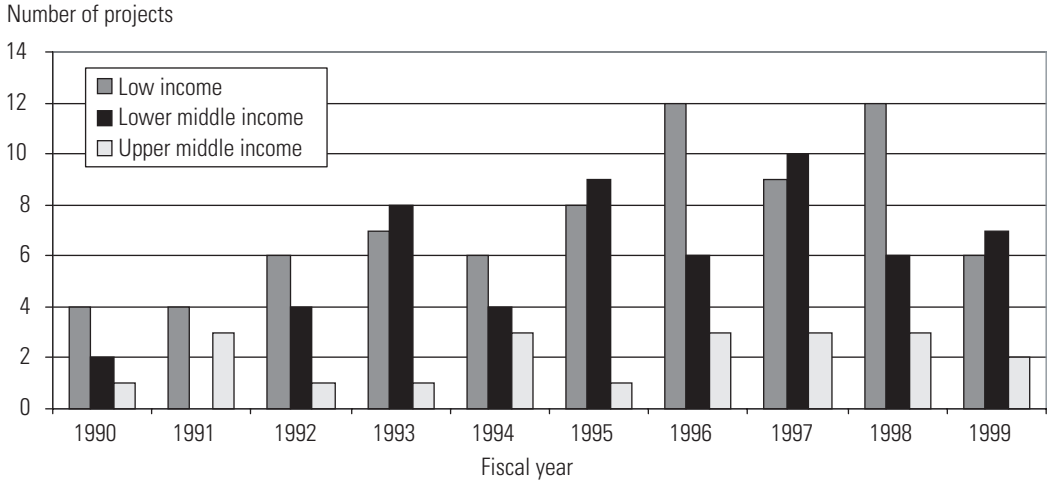


likely (24 percent)—seven out of the nine AFR projects were rated as having unlikely or uncertain sustainability. Of the 25 active projects, three are reported as unsatisfactory in terms of achieving their development objectives due to lack of government commitment and implementation delays, in addition to the foregoing reasons.

The Bank's PSDE support has focused largely on low-income and lower-middle-income countries. While the Bank remained a relatively small player in global PSDE financing, its assistance has emphasized underserved low-income and lower-middle-income countries. The Bank supports PSDE in a large number of mostly low-income countries. OED's portfolio review shows that most of the Bank's PSDE-related projects were approved for low-income countries. There were fewer approvals for upper-middle-income countries (Figure 3.2).

Results of the Bank's reform-intensive PSDE projects are positive in only 55 percent of cases, and mixed in

Figure 3.2 **The Bank's PSDE Projects Have Focused on Low- and Lower-Middle-Income Countries**



22 percent. Only 16 of the 154 projects in the Bank's PSDE portfolio are freestanding, and 13 of those have an outcome rating of satisfactory.[1] Also, 138 projects (90 percent of the portfolio) have PSDE components for which there are no independent ratings. (For reference, the ratings for all these projects are provided in Annex D.) In a review of the latest Project Status Reports (active projects) and the Evaluation Summaries or Implementation Completion Reports (closed projects) across the PSDE portfolio, OED found that about 55 percent of projects had achieved their stated PSDE objective(s) and 22 percent partly achieved their objectives. Sixteen percent and eight percent of projects respectively returned "not achieved" or unclear results (Table 3.2). The LAC and ECA regions returned the highest number of PSDE-related projects that achieved (or are achieving) their objectives, such as the passing of reform legislation, strengthening of regulatory capacities, adjustment of tariffs, and unbundling. For PSDE components alone, this finding is more positive than the 1999 portfolio review, which showed, based on aggregate portfolio data, that the energy sector—including power and oil and gas—was one of the worst performing in the Bank (this has improved recently through portfolio restructuring). In sum, based on inputs and outputs at the project level, the Bank appears to be only half-successful in pursuing the discrete objectives of its reform agenda.

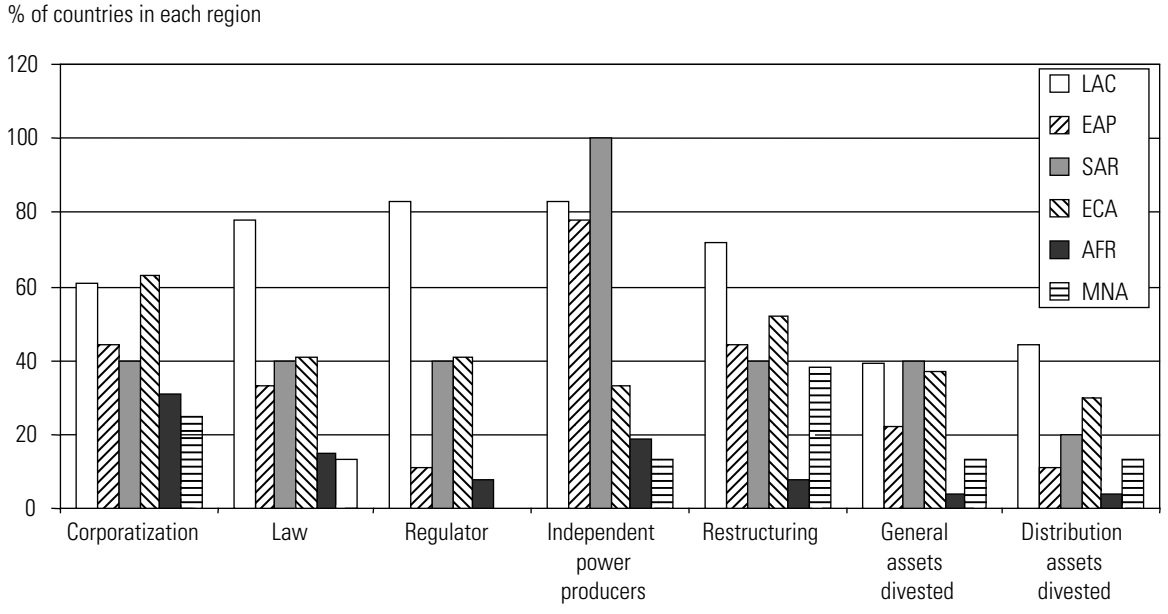
Do freestanding PSDE projects perform better than projects with PSDE components? A review

Table 3.2 The Bank's PSDE Project-Level Results (based on achievement of stated PSDE objectives)

Region	Status	Achieved	Partly achieved	Not achieved	Unclear	Subtotal no. of Projects	"Achieved" as % of no. of projects
AFR	Active	8	2	6	1		
	Closed	3	6	3	0		
	Subtotal	**11**	**8**	**9**	**1**	**29**	**38**
EAP	Active	11	4	2	2		
	Closed	10	5	1	0		
	Subtotal	**21**	**9**	**3**	**2**	**35**	**60**
ECA	Active	10	3	0	2		
	Closed	17	5	3	0		
	Subtotal	**26**	**8**	**3**	**2**	**39**	**67**
LAC	Active	8	0	0	1		
	Closed	9	4	2	1		
	Subtotal	**17**	**4**	**2**	**2**	**25**	**68**
MNA	Active	0	1	1	1		
	Closed	1	1	0	0		
	Subtotal	**1**	**2**	**1**	**1**	**5**	**20**
SAR	Active	4	1	1	3		
	Closed	3	2	5	1		
	Subtotal	**7**	**3**	**6**	**4**	**20**	**35**
Total Results	Active	41	11	10	10		
	Closed	43	23	14	2		
	Total	**84**	**34**	**24**	**12**	**154**	**55**

Source: Based on PSRs as of March 2002 for active projects and OED Evaluation Summaries and Implementation Completion Reports (ICRs) for closed projects.

Figure 3.3 **Countries in Each Region Taking Key Reform Steps in Power (percentage)**



Note: Number of Countries Surveyed in Each region (LAC=19; EAP=11; SAR=5; ECA=37; AFR=71; MNA=11).
Source: Robert Bacon, "A Scorecard for Energy Reform in Development Countries", Viewpoint No. 175. World Bank, April 1999.

of the Bank's PSDE portfolio suggests that satisfactory (or unsatisfactory) outcomes are not associated with a project being freestanding or a component of a larger project (see Annex E). These outcomes are also not fully explained by type of instrument or heavy Bank inputs of ESW/AAA. Good PSDE outcomes are driven mainly by country factors, including the country commitment, broad-based ownership, strong local champions, a clear road map, and early wins. The relevance and timing of the Bank's interventions and its ability to effectively navigate the local political economy are important supporting factors. In promoting PSDE, the Bank should give more attention to building country ownership and the buy-in of stakeholders; it also should sustain any early successes at reform with well-timed, relevant ESW/AAA to help chart the reform steps and with appropriately tailored lending instruments. This will require the Bank to improve its ability to work with local champions for reform and to understand the country's political economy context.

Countries and regions vary widely on their reform status. When assessing PSDE outcomes, a key question to answer is where developing countries stand on power reforms. An independent assessment of reform achievements in 115 countries, prepared in 1999 by the Bank's Energy Sector Management Assistance Program (ESMAP), examined this question (ESMAP 1999).[2] The assessment (hereafter "the Scorecard") indicates each country's overall reform status and, where applicable, the impacts directly attributable to the WBG (as in many LAC countries, the WBG often became involved only after reforms had been initiated by the country). Without implying causality, countries with WBG involvement tend to be associated with higher scores for reform in the Scorecard, while countries without WBG involvement tend to have low reform scores. IFC, for example, considers engaging only when a country has opened its power sector to private involvement, and does not come in to specifically launch reforms. This also explains why the WBG

is most present in LAC, which has been most active in all the reform areas (Figure 3.3).

Based on stated PSDE objectives in project documents and on the most recently available regional energy strategies, the following section discusses the degree of reforms pursued in each of the Bank's regions. AFR, ECA, and MNA represent the "basic" reform group of countries, and EAP, LAC, and SAR the "intermediate" and "advanced" reform group. AFR, EAP, and ECA have the heaviest emphasis on commercialization. As seen from Figure 3.3, LAC and ECA emphasized corporatization. By a large degree, LAC's reforms had the strongest legal and regulatory focus compared to the other regions. LAC, EAP, and SAR involved the most IPPs, with the other three regions far behind. LAC also led in power industry restructuring and asset divestiture. SAR's PSDE reform agenda is the most evenly distributed across all the reform areas, with India alone accounting for more than half of the PSDE-related actions, when tabulated at the project level. ECA had the most PSDE-related projects, followed by EAP. In AFR, many countries have only one project with a small PSDE component. While LAC and SAR have relatively low numbers (25 and 20 projects, respectively, out of the 154 reviewed) this may be misleading, since these lending operations were reform-intensive, and these are the regions where the Bank, IFC, and MIGA were all present.

(i) Regions with mostly Bank involvement only (AFR, MNA, ECA)

Region	Overall PSDE Status
AFR	PSDE achievements are few, recent, and at risk
MNA	PSDE efforts are just being initiated
ECA	PSDE progress has shown mixed results and sustainability is uncertain
LAC	Most advanced in PSDE; power sector transformations have been most profound
EAP	PSDE progress is threatened by financial and political risks
SAR	Innovative and intensive PSDE reforms are at risk of backsliding

In AFR, the Bank pursued mainly basic reforms (commercialization and corporatization, and some regulatory improvements) and promoted Performance Management Contracts, most of which did not work well (see Box 3.1). PSDE achievements are few, and the challenges remain considerable. Most AFR countries have low access to electricity, lack financial resources for system expansion, and have inefficient management, often resulting in substantial losses to government budgets. OED's portfolio review shows that the positive outcomes were only achieved late in the 1990s.[3] For these few countries,[4] macroeconomic instability, serious delays, or partial and unbalanced reforms have put the PSDE gains at risk. In others, the PSDE-related achievements have been cancelled out by negative project outcomes.[5] Adjustment operations have not been effective vehicles for PSDE reform. Finally, in some countries the results of Bank interventions remain to be seen, or are clearly unsatisfactory (Angola, Burundi, the Democratic Republic of Congo, Guinea, Madagascar, Mali, and Zambia).

The clear exception in AFR is Côte d'Ivoire, where the Bank played a catalytic role in the government's bold decision, in the mid-1990s, to call in a private operator to take over management of the power sector and expand private sector participation in electric power generation. The Bank facilitated the most important reform in the sector, the creation of the privately owned utility CIE (Compagnie Ivorienne d'Electricité). By mid-1990, when the release of the second tranche of the Energy Sector Adjustment Loan was due, the Bank informed the government that no financial restructuring of the power sector could succeed without a change in management and recommended that EECI (the public utility) be placed under financial trusteeship to implement major reforms. The clear signal from the Bank that there would be no tranche release without convincing measures led to the government's bold decision to call in a private operator to take over management of the power sector. The Bank was kept informed, but not directly involved, in the details of the design of the new institutional and financial arrangements, and did not review the memorandum of understanding before it was signed. The contract with CIE runs until 2005 and effectively narrows the range of PSDE objectives that could be pursued. Nonetheless, the Bank continued an intensive and sustained policy dialogue

Box 3.1 Performance Management Contracts Were Mostly Unsuccessful

In line with the 1993 Electric Power Lending Policy, many Sub-Saharan African countries used Performance Management Contracts with Bank support, but with disappointing results. There have been eight management contracts in the AFR region (Benin, the Democratic Republic of Congo, Ghana, Mali, Rwanda, Sierra Leone, and Zimbabwe). The performance-related components in these contracts were so small that service providers took little risk. The partial management contract for Ghana (billing and collection only) was the only one that produced positive results, but these were not sustainable. The experience in Bolivia shows that the Bank's initial support for performance contracts failed to improve efficiency, as they did not systematically address the structural problems of the enterprises. In the Lao People's Democratic Republic, the performance contract between the Laotian Finance Ministry and Electricité du Laos failed to eliminate receivables from government agencies. The major difficulty with management contracts lies in demarcating responsibilities between owner and manager, and the need for the full support for the arrangement of owners and workers. The main lessons are the need for the operator's financial stake in the operation of the utility, the autonomy of the operator, and the government's commitment to the reforms.

with the government, has supported a major study of the institutional arrangements for the power sector, and has advised heavily on key decisions for a new sector setup (see also Box 4.1).

In MNA, the WBG presence was limited in terms of direct lending during the 1990s, and most countries have initiated power sector reforms only in the last two years. The region still has a long way to go, in particular with respect to creating investment climates conducive to private sector investment. The Bank's role in promoting these changes has been mainly to sponsor or supervise preparatory studies for reforms and private sector participation funded by other donors or trust funds. Further restructuring studies are in various stages of completion or are beginning to be implemented (Morocco, Lebanon, Yemen, and Tunisia). Jordan, Algeria, and Lebanon have adopted new electricity laws that provide for corporatization and the establishment of a regulatory body. Egypt has created a holding company with corporate subsidiaries and has established a regulatory agency. Egypt, Morocco, West Bank Gaza, and Tunisia have IPPs in operation. Jordan, which has had a locally privately owned, integrated distribution company for many years has fully unbundled its generation, transmission, and distribution sectors and is preparing to privatize the remaining entities. In Morocco, about 50 percent of distribution is operated through private concessions.

In ECA, PSDE progress overall has shown mixed results, with about half of ECA countries meeting their reform targets. The remainder have either failed to implement reforms, are initiating them after conflict (Southeast Europe), or are undecided as to what reforms to carry out (Belarus and some Central Asian countries). The Central European and Baltic countries saw profound changes in the structure, regulation, and ownership of their power sectors during the 1990s, often in connection with the larger shift toward competition in the expectation of interconnecting with European electricity markets for wholesale trading. This contrasts with the situation of countries belonging to the post-Soviet Commonwealth of Independent States, where weak institutional capacity has constrained the setting of effective and independent regulation (Von Hirschhausen and Optiz 2001). Some countries additionally have fallen behind as a result of war and civil unrest and the attendant destruction of physical facilities and deterioration of institutional capabilities (Albania, Armenia, Bosnia, Croatia, Georgia, and former Yugoslav Republic of Macedonia). Recent plans for accession to the European Union have provided an impetus for sector reforms in Bulgaria, Cyprus, Estonia, Latvia, Lithuania, Malta, Poland, and Romania, and these countries are showing stronger regulatory performance, improved tariff setting, and openness to market competition.

The Bank has supported the most ambitious PSDE reforms in Armenia, Hungary, Poland, and Romania. These countries have proceeded with unbundling, establishing a functioning arm's-length regulatory system, introducing private sec-

tor participation, and improving sector financial performance. Poland, which received extensive analytical and advisory support from ESMAP, provides a good model for an effective approach to PSDE, first reforming energy prices and establishing an appropriate regulatory framework, then restructuring the industry and finally privatizing. The functioning of a competitive market via a newly created spot market has been hampered in Poland by the dominance of long-term Power Purchase Agreements, however. Contrary to Bank advice, these PPAs were entered into with the transmission company to finance the modernization of power plants. Hungary, in contrast, pursued private investment as the driving force for modernization. With Bank assistance, the country has privatized all of its generation and transmission companies.

(ii) Regions with Bank, IFC, and MIGA involvement (LAC, EAP, SAR)

The LAC, EAP, and SAR regions show a more complex picture of PSDE progress and of WBG involvement throughout the 1990s. Major differences include greater progress toward private sector participation and investment in the power sector; higher volumes of private capital flows (prior to the 1997 financial crisis); and broader involvement of Bank, IFC, and MIGA through a variety of instruments (lending, partial risk guarantees, political risk guarantees, IFC investments, and B loans).

Power sector transformation has been most profound in LAC. While problems remain in many of the region's countries, in large part because of the difficult external environment, the reforms have progressed beyond the point of no return and sustainability is more likely.

In addition to the well-known successes of Argentina (prior to the current political and economic crises),[6] Brazil,[7] and Chile, achievements in most other LAC countries—notably Bolivia, Colombia, El Salvador, Guatemala, Panama, and Peru—are also well advanced. Achievements related to Bank-financed projects include the strengthening of PSDE-related legislation[8] and regulatory regimes,[9] unbundling,[10] private sector participation,[11] and the building of competitive markets.[12] Private participation in power has increased significantly: in Colombia, it rose to 56 percent in generation in 2001, compared to 25 percent in 1996; in Guatemala, 60 percent of installed capacity and 90 percent of distribution is private. As sector reforms deepen, sector performance continues to improve in Bolivia, Panama, and Peru. Consistent increases in electricity tariffs and improvements in billing collection have strengthened the financial performance of the sector. Significant progress has been made in developing competitive power markets. Some countries with small power markets, such as Bolivia, have opted for competition in generation, breaking with the conventional wisdom that its market is too small.

In EAP, PSDE progress is threatened by financial crisis and political risks. EAP has had heavy WBG involvement, particularly by the Bank, which covered the entire range of PSDE objectives and reform steps for most EAP countries. The WBG's support for PSDE in EAP was successful in laying the foundations for power sector restructuring, unbundling power companies, and promoting private ownership, mainly through IPPs. By 1997, EAP had the largest private power investments globally, valued at US$50 billion and concentrated in five countries (China, Indonesia, Malaysia, the Philippines, and Thailand). The Asian financial crisis had a huge impact on the sector, however: the demand for electricity fell below official projections and IPPs were underutilized and dispatched below optimum levels, leading governments to ask the IPPs to share the burden of depressed demand through the reduction of contractually agreed fees. Moving to a multi-buyer market structure remains a major task given that the process is complex and takes time. At this juncture, market structure, particularly regarding the role of competition, remains a major issue in the region, as the reform agenda is highly politicized and has been slowed by continuing strong opposition from entrenched interest groups.

In SAR, innovative and intensive PSDE reforms are at risk of backsliding. All countries (except Bhutan and the Maldives) have moved to encourage all areas of sector reform and private participation, but their achievements up to 1999

fell short of the objectives. The Bank's involvement has been most extensive in India and Pakistan, where it supported eight PSDE-related projects in each country throughout the 1990s. The Bank supported on-lending mechanisms for promoting private power in Bangladesh, Pakistan, and Sri Lanka. In Bangladesh, this has recently been used to finance a private power plant. In Pakistan, the Energy Fund was used to finance one very large transaction, the 1,292MW Hub Power subproject, and other smaller ones.[13] While Pakistan created the institutional capacity to approve IPPs, its public utility (WAPDA) did not develop the institutional capacity to manage its new commercial contracts. With Bank support, the government established the criteria for private participation in generation and readily approved IPP proposals that met the criteria. This resulted in an unbalanced demand and supply situation. Because of poor T&D infrastructure and/or plant location, some IPPs are running below optimal levels. Some parts of the country continue to experience rolling blackouts and less than 50 percent of the population has access to electricity. This imbalance puts a severe financial strain on WAPDA's resources. In SAR (as in EAP), the large role given to IPPs has allowed for increased supply, but deep-seated sectoral problems (such as weak institutional capacity and lagging T&D reforms) continue to be a burden and could dilute the gains achieved by the reforms.

IFC: Supporting Private Investments in Electric Power Generation

IFC's power sector strategy in the 1990s was anchored on four themes: (i) financing financially, economically, and environmentally viable independent power producers (IPPs) and newly privatized and existing generation, transmission, and distribution companies; (ii) providing advisory services for the privatization of generation, transmission, and distribution companies; (iii) developing and implementing financing structures that help increase the opportunities for privatization and private investments; and (iv) on its own and in partnership with the Global Environment Facility (GEF), pursuing renewable energy and energy efficiency initiatives. Over the 1990s, IFC's power sector operations have become an important component of the WBG's PSDE financing. These operations have included:

- 57 electric power projects (of which 29 are mature and were evaluated for this study; these projects are the source of evaluative findings on IFC's PSDE operations);
- 33 advisory operations (13 standalone and 20 Technical Assistance Trust Funds, listed in Annexes F and G); and
- seven IFC-managed GEF operations (listed in Annex H, Attachment H.2).

IFC approvals soared during the 1990s. From inception through FY89, IFC's gross approvals in the power sector amounted to US$176.9 million, accounting for 1.5 percent of IFC's cumulative gross approvals. By FY99, driven by the upbeat market sentiment and the tremendous opportunities for private financing in the power sector, that figure had grown to US$4.54 billion, or 7.5 percent of IFC's total approvals. Figure 3.4 shows that IFC's investment approvals in power jumped in 1993 and stayed high relative to the FY90–92 period, while average investment size remained virtually unchanged. In the 1990s, IFC approved 57 projects with project costs worth US$14.4 billion in 27 countries, compared to seven projects with total project cost of US$903 million in four countries in the previous three decades (see Annex I for a list of IFC approvals in power from FY90). As of FY99, a total of US$2.5 billion of the cumulative approvals was for the accounts of participant banks through the IFC B loan program. As of FY99, every dollar of direct IFC loan financing in power raised an average of US$1.60 financing from B loan participants, compared to the corporate performance of US$1.04 for every dollar. While IFC pursued its strategy of increasing power sector support, annual commitments lagged behind approvals—especially after 1995, due to major projects being dropped and cancelled when reforms hit a snag or negotiations fell through. The situation was further exacerbated by the Asian financial crisis, which dampened power

Figure 3.4a **IFC's Investment Operations in the Electric Power Sector Peaked in the 1990s ...**

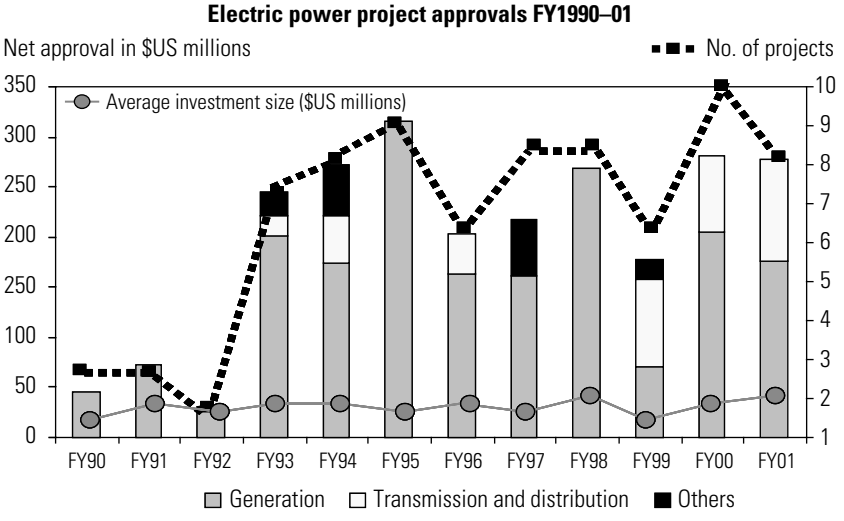
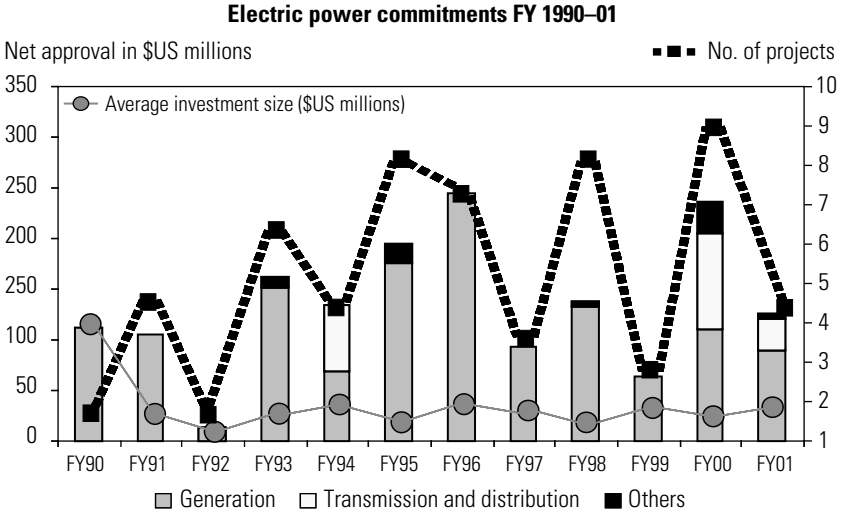


Figure 3.4b **... But Funding Commitments Were Slower**



demand growth and the international financial community's appetite for investments in emerging markets.

Most IFC power projects were in generation. Eighty-two percent of net investment commitments by funding were in power generation, mirroring the share of generation projects of total global foreign direct investment in power in the 1990s. Investments in electric power T&D have been relatively small, largely due to the slower opening of these subsectors to private participation. Other investment commitments were in power sector funds and energy services companies. Early indications of trends beyond the 1990s suggest that IFC efforts in T&D have expanded. Of 18 approved projects, nine are in the T&D subsector. In terms of IFC funding, 40 percent of investment commitments were made in T&D, compared to 12 percent in the 1990s.

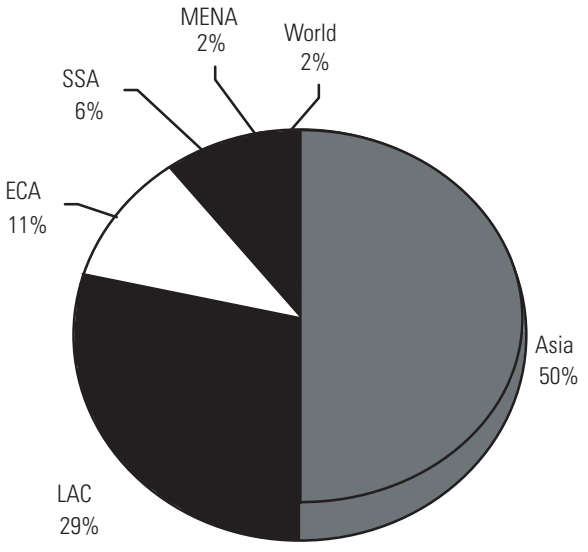
IFC investments have been concentrated in Asia and Latin America. In the 1990s, East and South Asia (43 percent of projects and 50 percent of funding) and Latin America (36 percent of projects and 29 percent of funding) accounted for the bulk of IFC's investment commitments in power (Figure 3.5). In Asia, IFC committed US$524 million of direct investments in 18 projects with a total cost of US$7.7 billion. Greenfield IPPs with pioneering structures (such as build–operate–transfer and build–own–operate) dominated power projects in Asia. Investments in Asia are heavily weighted toward India, Pakistan, and the Philippines in support of their decisions to turn to the private sector to help meet growing power demand. Latin America investments were a mix of IPPs, post-privatization capital expenditure, expansion of distribution, and private equity funds for the power sector. Argentina, one of the more advanced developing country power reformers, was host to 14 percent of IFC funding commitments in Latin America, and second only to Chile (24 percent). Guatemalan projects were also a big recipient of IFC financing, accounting for 13 percent of the regional total.

Nearly two of every five investments went to low-income countries. During FY90– FY99, about 40 percent of investment commitments (in dollar terms) were made in countries classified as low-income at the time of investment approval. This represents a higher concentration of investments in low-income countries than IFC's overall record of about 25 percent. By contrast, only 20 percent of commitments were made in upper-middle-income countries.

After making substantial investment commitments in countries that were experiencing an energy crisis, such as the Philippines and Pakistan, IFC resumed a more regular pace of investment. Commitments were made in countries new to private sector participation in power (Bangladesh, Czech Republic, Nepal, and Russia) and in new structures (regional and global power equity funds) and new subsectors (renewable energy and energy service companies).

IFC pursued transmission and distribution projects. As the generation subsector advanced in pioneering power markets, IFC made a strategic decision in 1997/98 to step up its support for

Figure 3.5 **IFC Investment Commitments in the 1990s Went Mostly to Asia and LAC**



transmission and distribution. The results of these efforts became visible in 1999. In FY00 and FY01, 40 percent of investment commitments were made in T&D, compared to 12 percent in the 1990s. Projects in the generation subsector nonetheless still dominated IFC's approvals and commitments. The private sector proved less enthusiastic toward transmission and distribution, continuing instead its focus on IPPs and taking advantage of the availability of commercial financing for this subsector. Opportunities also were limited because T&D was slow to be opened up to private participation, largely because countries continued to give priority to the generation subsector.

IFC's overall electric power sector portfolio performed better than average. While IFC's overall electric power portfolio performed profitably throughout the review period, there were signs of decline toward the end of the decade. Until FY96, IFC's loan and equity portfolio in the electric power sector was spotless. There had been no write-offs or loss reserves and the loan collection rate was 100 percent. This made it one of the better performing sectoral loan portfolios. By 1997, IFC's loan portfolio started to have its share of poor performers, with the provisioning of seven investments, five of which were provisioned because of the deteriorating financial condition of the state-owned utility. The loan–loss reserve in power in FY97, however, was significantly less than the loss reserve for all of IFC's disbursed portfolio. Loan yield after provisioning stayed generally in line with the performance of IFC's overall portfolio.

Equity investments similarly were more successful than IFC's overall portfolio. The estimated portfolio equity internal rate of return (IRR) had stayed significantly above IFC's all-sector equity IRR, but was less than the all-infrastructure sector return. In FY97, dividend yield was slightly lower than for the overall IFC portfolio, largely due to the relatively young age of the portfolio. By FY99, the dividend yield in IFC's power sector investments was outperforming IFC's overall portfolio, reflecting the cash contribution profile of build–operate–transfer (BOT) projects.

The loan and equity risk ratings[14] at the end of FY99 reflected the negative impacts on IFC's electric power portfolio of stalled sector reforms, increased country risk, and project implementation issues. Loans were provisioned largely because of country and sector issues and not due to poor project performance. Thanks to good deal structuring, the companies that undertook these projects remained current with their loan obligations to IFC. Only one loan, a relatively small project that had serious technical and management problems at implementation, was rated doubtful. By FY01 overall loan and equity performance had slipped further, but it remained better than IFC's all-sector performance.

Development Outcomes

The development outcome of an IFC project is its impact on a country's development, based on a synthesis of the following five performance indicators: (i) project business success, (ii) impact on private sector development, (iii) contribution to economic growth, (iv) impact on living standards, and (v) environmental/social effects. Annex J shows the basis for rating each indicator. The discussion in this section is based on the evaluation findings on all 29 mature projects in the 1990s. Annex K shows the performance ratings for each indicator for these projects; Annex L presents an analysis of the five development outcome indicators. The development outcome of IFC operations is based on project-level results, and all these projects are aimed at the specific WBG reform objective of supporting private sector participation in power.

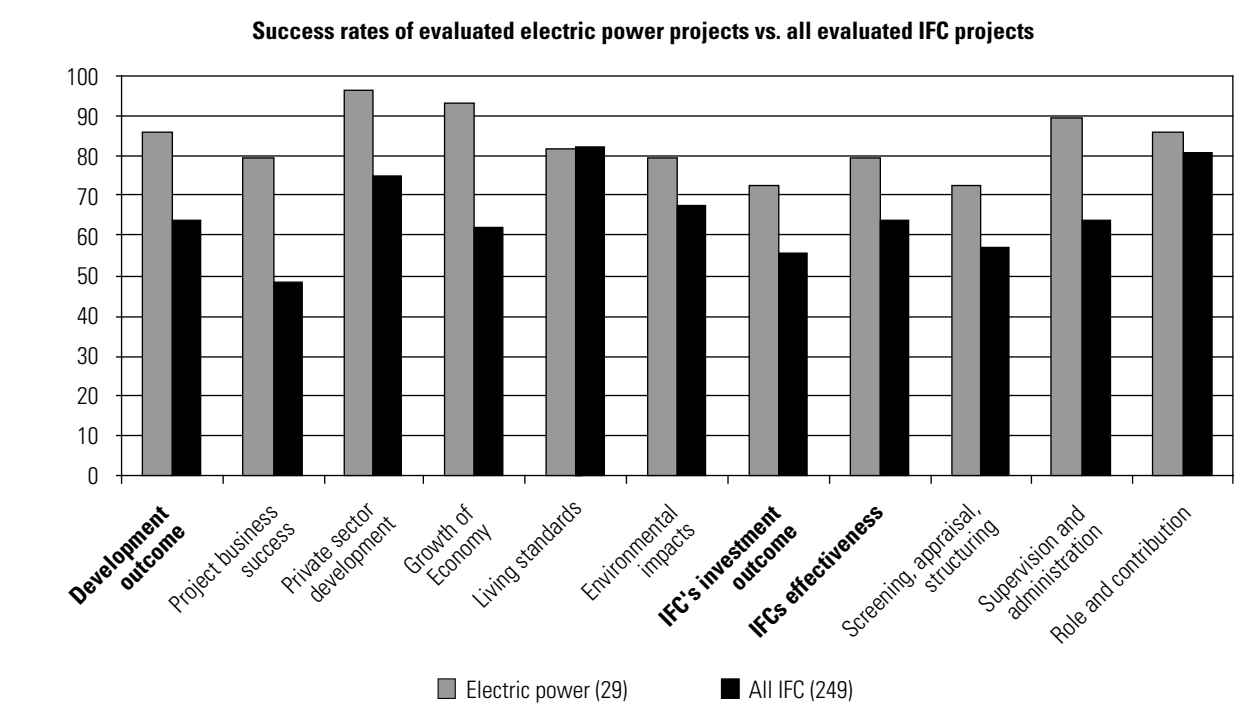
IFC investment operations in electric power have better development and investment outcomes than the rest of IFC's portfolio. The quality of IFC's work in the electric power sector is also better. Twenty-five of the 29 evaluated projects (86 percent) have good development outcomes. This compares with a 64 percent success rate for IFC's all-sector portfolio, based on a random sample of the 1991–95 net approvals population evaluated during the 1996–2000 XPSR cycle. This is consistent with the FY01 Annual Review of IFC's Evaluation Findings (OEG/IFC 2002), which found that operations in infrastructure, including utilities, have better development results than overall IFC operations. Four of the 29 (14 percent) IFC investment op-

erations in power had less than satisfactory development outcomes. Two projects encountered technical problems at implementation that resulted in delays and cost overruns that could not be recovered from the tariff level agreed at entry. One project suffered from poor hydrology conditions, and as a result the offtaker had to pay more for power per kilowatt-hour. One project was poorly structured, giving the owners poor returns despite the relatively successful power plant operations. Figure 3.6 shows the relative performance of the electric power sector in development outcome, investment outcome, and IFC effectiveness.

Appropriately structured electric power projects can succeed in different stages of sector reform. Two-thirds (19) of the evaluated projects are in countries that have taken four or more of the seven steps that the WBG considers important in liberalizing the sector, as identified in the ESMAP Scorecard (ESMAP 1999). Eighteen of these projects had good development outcomes. Six other projects are in countries that have taken three or fewer steps toward sector liberalization. These projects had robust structures to compensate for the riskier regulatory environment. Only one of these six projects had a low development outcome, and this was because of technical and management problems rather than sector issues. Two projects are in countries that were not included in the Scorecard; two others are multi-country operations and therefore could not be categorized as belonging to any specific country.

Private sector participation responds to sector reforms. The generation subsector is often the first and easiest of the electric power sector to open for private participation. All IFC projects in countries in the early stages of reform are in generation; projects in reform-advanced countries are in generation, transmission, and distribution. Three transmission and distribution projects in two countries have good development results largely

Figure 3.6 **IFC's Electric Power Sector Operations Have Better Outcomes than the Rest of its Portfolio**



because they reduced T&D losses, increased access, and improved operating efficiencies. Three generation projects that sell electricity directly to private distribution companies and large industrial users in two other countries have positive development outcomes mainly due to strong demand and the use of appropriate technology. Three other generation projects were implemented by integrated utilities, with mixed results.

IFC electric power projects have good development outcomes for three reasons: First, electric power is a critical basic input for all industries and therefore has wide-reaching impacts on the economy. When electric power is in short supply, industrial production commitments are not met, efficiencies drop, jobs are cut, export markets are lost, and, in extreme cases, companies shut down. The cost of inadequate or inefficient electric power supply can be crippling for an economy. In the Philippines (where IFC supported three IPPs in the 1990s), power shortages led to 400,000 job cuts and annual losses to the economy of about US$1 billion, or 2 percent of gross domestic product (GDP), based on a 1992 World Bank estimate. The economic rate of return (ERR[15]) of all financially successful IFC power projects that have been evaluated is satisfactory or better.[16] The contribution of IFC's power projects to economic growth as measured by ERR is greater than the rest of IFC's portfolio. The median ERR of all evaluated IFC electric power projects is 14.6 percent, compared to 12.0 percent for IFC's nonfinancial sector portfolio, evaluated from 1996 to 2000. Based on the evaluation findings of IFC projects, prior to the addition of the capacity built by the IFC-supported projects, end users paid more during power shortages for electricity or its alternatives and would have likely continued to do so. End users with the means to do so installed their own electric power generators, and those who did not turned to alternative energy sources for their lighting and power needs. In both cases, the cost incurred was higher than that paid for electricity from the grid. In Turkey, industrial customers of an IFC-financed electric power plant value the electricity they buy from the IFC project at about 40 percent more than what they pay.[17] This is based on the cost for generating their own electricity and the cost of business interruption associated with unstable electric power supply.

Second, 21 of the 29 evaluated projects are early entrants, or have innovative structures, and therefore have strong demonstration effects. Eighteen of these 21 projects (86 percent) have positive development outcomes. These have demonstrated to policymakers and potential investors that private sector participation in electric power can be mutually beneficial to the country and to the financier. IFC-supported private sector transactions have provided the public sector with a good learning experience in the dynamics and constraints of private sector power investments. BOT (build–operate–transfer) contracts have evolved over time and established transparent transactions and costs, revealing the full long-run commercial cost of electricity generation to policymakers and regulatory agencies. The early success of pioneering investments attracted multiple proposals and bidders, and this has led to lower costs as developers and equipment suppliers have reduced their prices consistent with their assessment of each project's risk/reward profile. Given the subsequent entry of additional IPPs, 13 out of the 18 IFC-financed pioneering IPPs among the evaluated projects are not the sole source of electric power supply from the private sector. Of these 18 IPPs, 12 have been operating at or above contracted capacity. The others, although designed as base load plants, have been operated as reserve or peaking capacity.

Third, risks were allocated to those parties best equipped to handle them. This was done at two levels: between the public and the private sectors, and among the private sector participants. The risks that the private sector could not control or manage (such as offtake volume, tariff adjustment, and long-term viability of state-owned utilities) under the prevailing regulatory environment remained with the public sector. In generation projects where the single offtaker is state-owned, the private sector carried the risks associated with project development, financial closure, construction and completion, operations and maintenance, and country/political uncertainty. Where feasible, project sponsors allocated these risks contractually among the private sector participants. By and large, market,

offtaker credit, logistical infrastructure, and fuel supply risks remained with the public sector. Absent private participation, the public sector would have been obliged to assume all the risks and the financial burden associated with the projects, or the projects otherwise would not have gone forward.

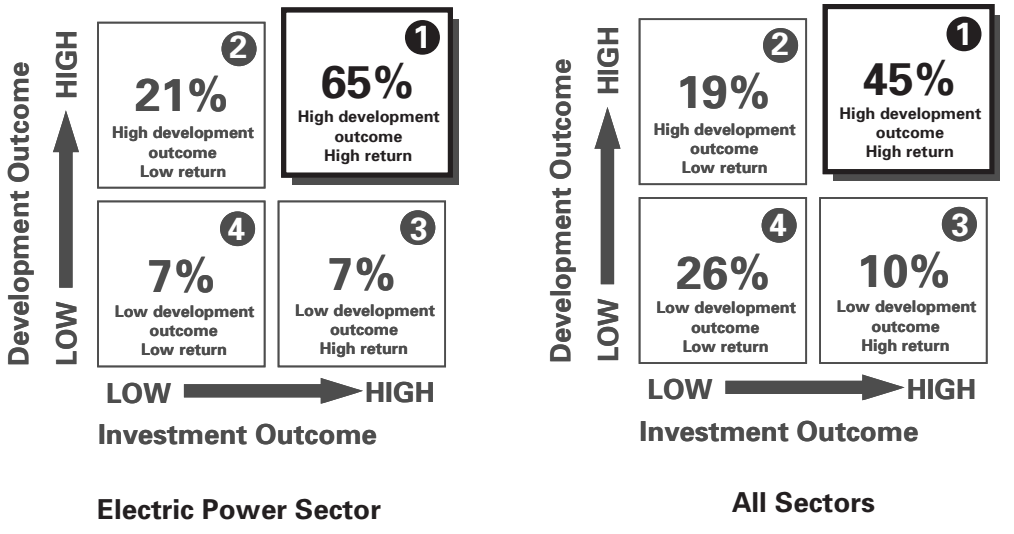
Investment outcomes

The outcome of IFC investments is based on a synthesis rating of two investment instruments: loan (repayment performance and prospects relative to expectations) and equity (dividend performance and exit value relative to cost). Loans in arrears, as well as loan and equity investments with loss reserves, are rated less than satisfactory. When loan and equity have different ratings, investment outcome is based on the weighted average return on the combined investments. Twenty-one (72 percent) of IFC's investments in electric power have good outcomes compared to 55 percent for IFC's all-sector portfolio. Of the 21 investments with a satisfactory or better outcome, 18 were driven by the projects' financial success. Three investments did reasonably well despite poor project business success, due to good loan and equity structuring.[18]

The heavy concentration of electric power sector investments in a few countries adversely affected overall sector performance. Four of the less-than-satisfactory investments are in a single country[19] that is plagued by a foreign exchange shortage, stalled sector reform, an almost insolvent state-owned utility, a slowing economy, and allegations of corruption. In addition, this country's sovereign risk rating dropped, and it is now considered a high risk. Three of the four projects remain reasonably, but not strongly, financially sound. One project has a less-than-satisfactory return to investors relative to their weighted average cost of capital. All four continue to have good development outcomes, albeit marginally. While all these projects were originally structured as base load plants, three have been operated at low dispatch levels, similar to peak load plants. OEG estimates that the economic value of an assured peak load capacity is at least equal to capacity charges under the power purchase contracts.

Good development outcomes in electric power are associated with good investment outcomes (Figure 3.7), consistent with the findings of the OEG Annual Review of Evaluation Findings for FY00 and FY01 (OEG/IFC 2001 and 2002).

Figure 3.7 **Good Development Outcomes in Electric Power Are Associated with Good Investment Outcomes**



The proportion of win-win outcomes—that is, good development and investment outcomes—(box 1 in Figure 3.7) is significantly higher in electric power, where 65 percent of evaluated projects fall in this category compared to 45 percent in IFC's all-sector portfolio, based on a representative sample of FY91–95 approvals. In addition, the proportion of lose-lose outcomes (box 4) is significantly lower in the evaluated electric power projects. This better win-win versus lose-lose profile of electric power projects results from a combination of generally good execution and risk containment through contractual structuring. As a result, the odds are better in electric power that the private sector will generate good development and financial outcomes even in a difficult regulatory environment. Like other infrastructure projects, electric power projects have far-reaching development impacts, are highly capital intensive, and entail huge cost and financing requirements. Good financial structuring and contractual risk allocation enable electric power projects to attract the required large amount of long-term financing from many sources that is needed to complete the financing plan such that the project may proceed successfully and eventually pay its debts—as well as compensate its owners appropriately for their risks.

Society at large has a better chance of realizing positive gains from electric power projects than do the project financiers: 86 percent (the sum of boxes 1 and 2 in Figure 3.7) of electric power projects have good development outcomes compared to 72 percent (sum of boxes 1 and 3) that have good investment outcomes. In other words, there is a 14 percentage point better success rate in development outcomes than investment outcomes in electric power. This pattern is the same in IFC's all-sector portfolio, but to a lesser extent: 64 percent good development outcomes compared to 55 percent good investment outcomes.

Even with the necessary risk mitigation through contractual structuring, electric power projects are not immune to commercial and business risks. The fact that 28 percent of electric power projects (boxes 2 and 4 in Figure 3.7) gave IFC poor investment returns indicates that there is no such thing as guaranteed returns in electric power. It is also important to note that the chances of achieving a high investment outcome with a low development outcome (box 3) are not significantly different in the electric power sector than in all other sectors.

IFC Effectiveness

The quality of IFC's work in the electric power sector is better than IFC's all-sector average. Operational effectiveness is based on a synthesis of three indicators: (i) screening, appraisal, and structuring; (ii) supervision and administration; and (iii) role and contribution. IFC's operational effectiveness in the electric power sector has been satisfactory or better in 79 percent of its investment operations, compared to its all-sector performance of 62 percent. A comparison of the effectiveness of IFC Investment Departments, based on a representative random sample for all-sector FY91–95 approvals, shows that industry departments performed better than their regional counterparts. Like all industry departments, the centralization of knowledge and resources in the IFC Power Department (CPW) facilitated smoother knowledge sharing across electric power subsectors and geographical regions. This specialization proved crucial for learning from experience in structuring BOT-related contractual arrangements, which while broadly similar are significantly different in detailed terms and conditions.

IFC has done well at appraisal in ensuring that the contractual arrangements are structured such that they support the allocation of risks among the parties best equipped to handle them, and also protect the lenders. This was instrumental and an essential condition for getting these capital-intensive projects financed and enabling the realization of their far-reaching positive development impacts. However, appraisal of some of the earlier generation projects placed near total reliance for credit viability on the strength of the contractual arrangements, such as the Power Purchase Agreement, Energy Conservation Agreement, and Fuel Supply Agreement. As a result, this did not sufficiently address the project's long-term dispatch competitiveness, the state utility's timely provision of needed transmission capacity, the utility's long-term financial sustainability, the elec-

tricity supply/demand balance, nor tariff reforms. A number of early projects were not subject to the rigorous market tests[20] that are undertaken today at appraisal. Overall, the contracts were fair and reasonable at appraisal, especially at a time of severe power shortages, unproven contractual integrity, and unclear regulatory environments. However, these contracts run for 15 years or more, and many unforeseen market and political developments could occur over such an extended period. Subsequent generation projects were priced lower and passed more risks to the project companies as developers and equipment suppliers competed against each other for concessions. These new facilities made the pioneering projects appear relatively expensive, especially when dispatched at less-than-planned levels due to lower-than-expected demand. New government administrations often targeted high-profile, foreign-owned projects, such as large BOTs, when looking for corruption due to previous administrations. For these reasons, many public sector offtakers insisted on renegotiating IPP agreements once the financing had been disbursed. In the operation phase, and case by case, some project sponsors and their utility/government ministry counterpart have come up with mutually acceptable solutions, such as lowering the tariff but extending the term of the BOT, to adapt the agreements to evolved realities. Most often, however, the relative bargaining power is reflected in the fact that owners have suffered the consequences of the renegotiations by way of lower-than-expected returns.

IFC did well in the supervision and administration of its electric power portfolio, as well as in performing its role and delivering its contribution. Overall, IFC had closely supervised its electric power portfolio. There were some supervision lapses, such as client responsiveness and poor internal coordination, but these were limited to three of the 29 investment operations, and these have already been addressed with the creation of a supervision oversight function in IFC's Power Department. With respect to IFC role and contribution, IFC provided comfort to other financiers in a relatively new sector that many would have not considered without IFC's participation. IFC had a less than satisfactory role and contribution in four of the 29 investment operations. This is largely because it had overestimated its positive influence/contribution in three of the projects and had not played its role well in exploring other financing alternatives to one non-IPP project.

MIGA: Mitigating the Political Risk to Private Investors

Through FY01, MIGA issued 72 guarantees for investments in 39 electric power projects in 25 countries. The total coverage—US$1.742 billion, representing a total estimated project cost of US$10.2 billion—has accounted for 19 percent of MIGA's cumulative liability and 21 percent of the estimated total foreign direct investment facilitated. MIGA's AAA consisted of electric power sector-related investment analyses and information dissemination activities under IPANet, PrivatizationLink, and PrivatizationLink Russia.

After having issued its first guarantee for an electric power project in FY94, MIGA witnessed a rapid increase of guarantee activities in that sector during the second half of the 1990s. Initially, MIGA guarantees almost exclusively supported projects in electric power generation, a subsector that still accounts for the majority of guarantees (32 out of 39 projects and 77 percent in terms of contingent liability).[21] However, the number of transmission and distribution projects has grown in recent years (see Annex M): during FY01, three out of four guarantee projects were in the transmission subsector.

MIGA's outstanding portfolio in the electric power sector as of June 30, 2001, was US$1,408 million (or 27 percent of total outstanding liabilities). Of the 72 guarantees signed, 13 (18 percent) have been cancelled by the investors, a substantially lower ratio of cancellation than for other sectors. This is because most of MIGA's electric power projects are relatively more recent than other components of the portfolio. One contract ended because MIGA received and paid a claim during FY00.[22]

MIGA guarantees have been heavily concentrated in the LAC region and, to a lesser extent, in EAP (see Table 3.1). LAC accounted for a maximum aggregate liability of US$1,239 million (71 percent of the total), EAP for US$210 million (12

percent), and SAR for US$95 million (5 percent). MIGA's activities in ECA and Africa were small, where it had a share of 5 and 6 percent of the electric power portfolio, respectively.

The regional focus has shifted over time. While there was strong demand for coverage in Asia during the 1990s, no guarantees have been issued there since FY99; since then, projects in LAC have dominated MIGA's portfolio. The low demand for guarantees in Asia is partly because the financial crisis led countries and investors to reassess the need for new power capacity. The regional volatility in guarantee issuance highlights the dependence of MIGA on the availability of private investment opportunities.

On a country level, MIGA has maintained a balanced portfolio. While MIGA supported investments in the 10 developing countries that attracted the most foreign direct investment—China (five projects), Brazil (four), and Argentina (three)—it has also succeeded in supporting investments in low-income countries. Of its 39 projects, 19 were located in 12 IDA-eligible countries.[23]

MIGA's Operations Evaluation Unit (OEU) has evaluated eight relatively mature projects underwritten in FY95–97, all of them greenfield generation projects. This sample was drawn from the earliest electric power projects in MIGA's portfolio, which were considered mature enough to yield meaningful development impacts.[24] The evaluated sample represents 25 percent of all MIGA-supported generation projects (FY94–01), but only 8.7 percent of the total installed capacity. This is due to the small size of the evaluated projects (the average capacity of the eight projects is 84MW, compared to an average of all MIGA-supported generation projects of 233MW). The findings are thus biased toward smaller-scale projects. Four evaluated projects are in LAC (one each in Guatemala and Honduras and two in Jamaica) and four in SAR (one in Nepal and three in Pakistan). Two projects use renewable energies. Six of the eight projects were visited and evaluated by external consultants and the remaining two by MIGA staff.

Development Outcome

The eight evaluated projects have helped alleviate power shortages and have contributed both to improving living standards among the local population and to stimulating downstream economic activities. Methodological limitations make it difficult to fully assess these trickle-down effects, but anecdotal evidence of reduced blackouts and significantly increased national generation capacities (especially in Honduras, Jamaica, and Nepal) point to the generally positive impacts of these projects.

These projects also stood out for their demonstration effects, supporting early entrants in several countries that recently opened their electric power markets to private investment and promoting innovative project designs and finance structures. In most instances these projects were followed by additional private investments in the electric power sector.

There is evidence that these MIGA projects efficiently transferred technology and know-how. State-of-the-art technology was installed and considerable effort was devoted to training and turning over plant management to local employees. OEU observed that the role of expatriate managers declined in importance the longer a project was in operation. Modern technology also contributed to the higher reliability of electricity provided. However, because all projects had exclusive Power Purchase Agreements (PPAs) with state power transmission and distribution companies, spillover effects—which might have made the power sector as a whole more efficient—were often limited and depended on the reform-mindedness of the host country or the state-owned utility.

The financial contributions of the eight projects to government revenues were relatively insignificant, as most projects enjoyed some form of tax holiday during their first years of operation. Long-term PPAs with payment commitments and tariffs indexed to fuel costs or foreign exchange rate movements have a potential for constraining scarce financial resources in the host country.

MIGA has been involved in countries, such as Pakistan and Indonesia (where MIGA paid a US$15 million claim), where licenses for IPPs appear to have been awarded in excess of the actual needs of the country. One project in Pakistan has experienced substantially reduced dispatch rates. In Indonesia, MIGA underwrote a project during 1996 and issued a guarantee in February 1997 (before

the Asian financial crisis) based on the prevailing assumptions on Indonesia's future energy needs. The claim was directly linked to the reassessment of these needs in light of the sharp economic downturn in Indonesia during 1997–98.

The development impact of the project in Indonesia is problematic: the project was clearly a failure in that it did not go forward and the capacity and reliability of power supply consequently did not improve. (As of 2002, there is a severe lack of peaking capacity in East Java.) On the other hand, the cancellation of the project by the government avoided the further buildup of unneeded capacity and payment commitments resulting from the PPA.

Effectiveness

One measure of MIGA's effectiveness is its ability to catalyze investment. Investments of US$4.08 were facilitated for every dollar of insurance coverage issued in the power sector (on a gross basis, before reinsurance). This compares to a MIGA average from a cross-sectoral sample of 52 projects of US$5.45 per dollar insured. The relative lower mobilization of investment in the power sector seems to stem from the pioneer status of most of the sampled projects and the desire by investors for more extensive coverage.

OEU has found evidence that most of the eight evaluated projects depended on political risk insurance, since all the investments represented first or early entrants in their respective host countries. Investors are more likely to require political risk insurance if they are entering a new market or country or are pioneering a new business model (such as IPPs). Furthermore, investments in power plants involve large sunk costs and require close interaction with local authorities for their inputs and outputs, and this raises the risk profile of an investment project. Hence it can be inferred that most of these investments were dependent on obtaining MIGA insurance and that this coverage was effective in reducing perceived risks on the part of the project sponsors.

In a few instances, MIGA collaborated with IFC in support of electric power projects. Jamaica stands out in particular, as it involved close collaboration between IBRD, IFC, and MIGA in promoting the PSDE reform agenda, each institution using its specialized services. This eventually led to the commercialization of Jamaica's public utility and an increase in generating capacity.

Profitability

MIGA has paid one claim in the power sector and has also conducted mediation activities in this sector to resolve disputes and thereby to avoid other potential claims. In the Indonesian claim, the financial loss to MIGA was limited, and was further mitigated by prudent use of reinsurance (covering 70 percent of MIGA's exposure). In the medium term, MIGA expects to fully recoup the claim loss. MIGA also incurred costs because of the high incidence of disputes between power sector investors and local authorities, but the success of mediation activities appears to have justified the use of additional resources.

In conclusion, while the evaluation of only eight projects does not permit robust inferences about MIGA-supported power projects, the early indications of MIGA performance in the sector are positive.

4 Sector-Level PSDE Outcomes

Chapter 3 discussed the project-level results of the WBG's PSDE portfolio. Given the long periods required to reform power sector structures and ownership, however, project achievements are by themselves insufficient drivers of sectoral outcomes. This chapter discusses these sector-level outcomes, focusing on the Bank's performance in fulfilling its mandate to promote PSDE through reforms, with support from IFC and MIGA transactions. During the 1990s, the Bank was present in 68 countries across six regions, pursuing (through diverse instruments, sectors, and advisory work) long-haul reforms and their expected sectorwide benefits. IFC and MIGA were involved in specific private transactions in generation expansion, IFC in 29 countries and MIGA in 25 countries, mainly in LAC and SAR.

Given the lack of systematic, sector-level data collection in an increasing number of borrowing countries (as the sector becomes more fragmented), the OED assessment of sector outcomes relied on a combination of (i) the latest Project Status Reports; (ii) OED's Evaluation Summaries and Project Performance Assessment Reports; (iii) a task manager survey; (iv) a literature review, including recent research reports posted in the Rapid Response Unit website; (v) the 1999 ESMAP paper on the reform scorecard; and (vi) the ECA study on private participation in the power sector (Krishnaswamy and Stuggins 2003). The main findings are presented below. Regional distinctions are first made, followed by a discussion of specific sector outcome indicators.

Evidence presented in this chapter shows that sector-level outcomes have been more disappointing than WBG project-level outcomes, except in those countries that have the most advanced reforms. The Bank, pursuing multiple and complex reform objectives through a range of instruments across all regions, achieved good results where strong political commitment and local champions existed, where the road map to reform was clear, and where there were early wins. Otherwise, where reforms have been weak or slow to take root, the Bank obtained poor or, at best, mixed outcomes. IFC and MIGA, focusing on the single reform objective of supporting private sector participation and responding to market demand, obtained good outcomes. The WBG

underestimated the complexity and time required for reforms to mature and achieve lasting and equitable country and sector outcomes. But while good individual private sector project outcomes contribute to sector reform, they cannot by themselves ensure good sector-level outcomes. From a different perspective, good private sector project outcomes are possible at different stages of reform and are not a sufficient gauge of the WBG's achievement of its overall PSDE objectives.

At the end of the 1990s, overall progress for power sector reforms in developing countries (as encapsulated in the seven reform areas) had clearly fallen short of the expectations that had been set by the WBG's 1993 Electric Power Lending Policy, its 1996 Good Practice statement, and PSDE promotion as it evolved in practice during the 1990s. This resulted from the poor investment climate for attracting private investment in many low- to middle-income countries, reluctance on the part of some governments to tackle the politically difficult decisions involved in eliminating subsidies and other rents accruing to powerful interest groups, and a drying up of interest in emerging markets investment. Today, only a few countries (mainly in LAC and some in ECA) have achieved advanced reform status. Many of the Bank's country clients are either undecided or are considering which reform route to follow; many of those that have moved forward are stalled in their attempts, and some have reversed privatization plans.

With a view to informing the implementation of the Energy Business Renewal Strategy (EBRS), this chapter is organized in line with the main objectives of the strategy: (i) promoting PSD; (ii) macrofiscal balancing; (iii) helping the poor directly; and (iv) protecting the environment. Special emphasis is given to the PSD promotion objective, which is most relevant to this study and is discussed immediately below.

Promoting Private Sector Involvement

PSDE is important and worth pursuing: In committed countries with advanced power reforms, outcomes have been good. OED's portfolio and literature reviews provide evidence of good sector outcomes in many LAC and some ECA countries with long-standing commitment to reforms in the structure and ownership of their power sectors. While much of this evidence is recent (thus indicating the long-haul nature of the reform process and the Bank's role as facilitator rather than primary catalyst for reform, since many of these countries started their reforms in the late 1980s and early 1990s), the strong positive direction of sector improvements points to the importance of pursuing PSDE. OED's review also shows (most clearly in AFR) that where reforms have not progressed, operational documents continue to report the financial bankruptcy of state-owned utilities, poor and deteriorating service, and the inability to build or rehabilitate power infrastructure in pace with burgeoning demand.

Figure 4.1, and the regional discussions below, show that one of PSDE's early gains is increased generation capacity (for comparison, the chart shows the United Kingdom and New Zealand, although in the latter there are concerns about the adequacy of supply). This was especially important in the 1990s, when in the midst of the global financial crisis many developing countries were experiencing severe supply shortages. The WBG provided PSDE support to Argentina and Pakistan. In Argentina, the availability of thermal generation plants has increased substantially since the reform process started (Rudnick and Zolezzi 2001). It is important to note, however, that the addition of generation capacity is a meaningful indicator only when seen in the context of overall electricity supply and demand balancing, and measures to achieve investment efficiency.

In addition to supply expansion, gains in countries that have achieved advanced reform include macrofiscal stability, greater access to electricity supply, and better service quality. Table 4.1 presents the PSDE outcomes reviewed, and their specific indicators. As a result of the WBG's focus on macrofiscal objectives in its PSDE involvement during the 1990s most of the available data are on positive and large macrofiscal outcomes, and are discussed separately following the PSD section.

Perhaps the best illustration, outside LAC countries, of successful PSDE outcomes is Côte d'Ivoire, where substantial improvements have been recorded in several indicators (Box 4.1).

Figure 4.1 **Cumulative Additions of New Power Production Capacity since 1993 in Five Countries with Reforms in the Energy Sector in the 1990s**

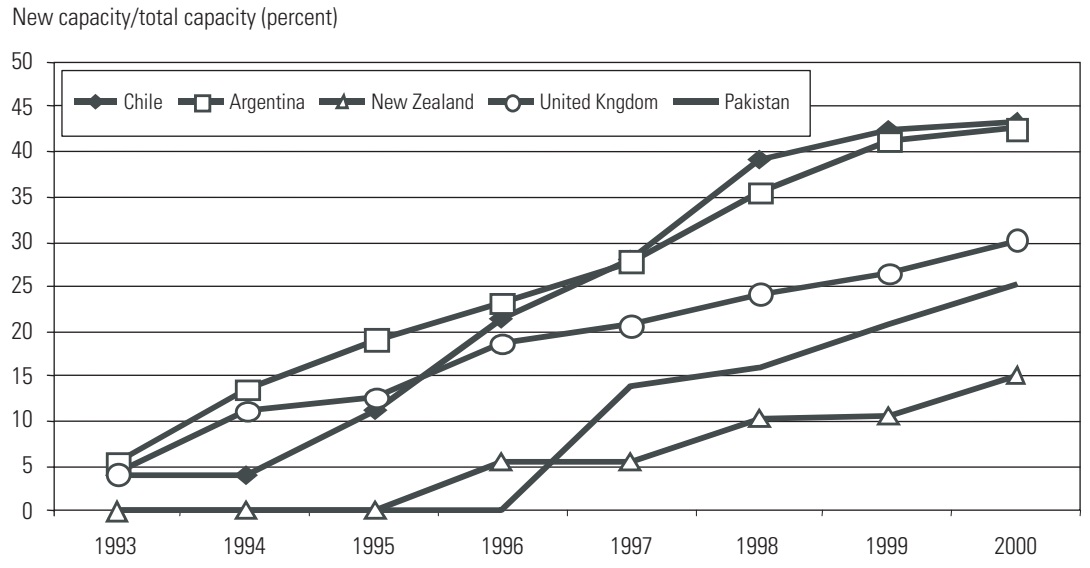


Table 4.1 **Desired PSDE Outcomes Are Numerous and Complex**

Main Categories of PSDE Outcomes	Specific Indicators
Macrofiscal Impacts	Earnings from divestiture of public power assets Additional private investments Income taxes Dividends to government Reduced subsidies
Access to Service	Extension of electricity grids to rural and poor urban communities
Quality of Service	Unscheduled and scheduled service interruptions Voltage fluctuations Choice and responsiveness in service options
Price Impacts and Affordability of Service	Wholesale electricity prices Retail electricity prices
Labor and Employment Impacts	Layoffs and safety nets Number of employees in the power sector

Box 4.1 **Côte d'Ivoire Shows Good Outcomes from PSDE**

Following the bankruptcy of the state-owned power utility, in 1990 Côte d'Ivoire granted a 15-year operating concession for the entire power sector to the privately owned Compagnie Ivorienne d'Electricité (CIE). Service quality improved markedly after CIE took over operations. Outages were reduced from an annual average of about 26 hours per consumer in the mid-1980s to about 14 hours in the late 1990s. Metering, billing, and revenue collection performance improved dramatically. Ninety percent of all private consumers now settle their bills on time, and irrecoverable arrears are less than 1 percent. Nontechnical losses at the low-voltage level in 1999 were only 3 percent of billings. Total energy losses in 2000 were less than 15 percent, much lower than in many other electric utilities. In addition, there was a rapid expansion in access to electricity: the number of low-voltage consumers nearly doubled between 1990 and 2000 to 763,000, with only a modest 7 percent rise in the number of staff.[1]

The increase in productivity has been substantial: the number of consumers per employee rose from 121 in 1990 to 209 today. CIE staff have gained through better remuneration, improved working conditions, and substantial skills upgrading. The development of institutional capabilities in CIE has been impressive, and far beyond what had been achieved in many years of donor-funded technical assistance and training support to other African public utilities. Virtually all senior management are in Ivorian hands. Equally important, CIE's record in cleaning up distribution opened the door to private investment in both power generation and gas production. Both the Bank and IFC participated in the financing of the first two IPPs, Ciprel and Azito. The Azito 297MW gas-fired power plant was the first power project in Sub-Saharan Africa to attract a syndicate of private commercial banks as lenders. In addition, an IDA partial risk guarantee for US$30 million was used for the first time to increase the amount and maturity of private financing for the project. Private companies now produce two-thirds of Côte d'Ivoire's power.

Another good, but less well known, illustration of successful PSDE outcomes is El Salvador, where significant improvements have been shown in several performance indicators (Box 4.2).

PSDE remains a work in progress: Outcomes can also be mixed or efforts can fail. Except for a few LAC countries (notably Chile and Argentina), PSDE reforms beyond commercialization and corporatization started only in the mid-1990s: most countries are still at the early stages of reform (only about 15 to 20 percent of the 80 countries where the WBG supported PSDE have reached or are approaching intermediate to advanced reform status).

There are few positive sector outcomes to report in AFR, EAP, SAR, and some ECA countries, as continued economic crises, political turmoil, and government resistance to reforms have prevented sustainable power reforms from taking hold. Examples from AFR are numerous. Given the importance of some of the countries involved, unsuccessful efforts have tended to dominate the reform dialogue, with highly publicized controversies drowning out cases of early wins. The Bank itself is learning PSDE by doing (see Chapter 5), but outcomes are poor when the country's commitment is weak or absent, as illustrated by the following examples.

In EAP, the Bank's regional strategy highlights the impact of the Asian financial crisis in lowering demand growth and the implications of the low utilization of IPPs that were contracted based on high dispatch assumptions agreed at entry by the government and the private sector. The difficulty in meeting financial obligations under the take-or-pay Power Purchase Agreements (under IPPs) on Asian utilities resulted from an unfortunately timed combination of insufficient sector reforms and the advent of macroeconomic crises, as well as what turned out to be an oversized IPP program relative to T&D capacity. The strategy paper indicates that the financial viability of many utilities has been seriously damaged and their creditworthiness still needs to be restored. It is an open question whether, without the IPPs, governments would have built the same amount of additional power capacity and thus ended up carrying the financial burden of capacity underutilization. This was illustrated in Indonesia, where Bank warnings against uncompetitive, costly, and nontransparent IPPs went unheeded. IFC ex-

pressed the same concern and stayed out of such projects. In any event, IPP overcapacity did not occur due to the post-crisis cancellation of many contracts, and the country is once again facing power shortages. Existing IPPs are dispatched at suboptimal levels due to unfinished transmission lines rather than to depressed demand. While the government succeeded in renegotiating PPA tariffs downward, this furthermore was offset by an increase in the capacity factor used for price-indexation and by the extension of the PPA terms from 30 to 40 years. After the crisis, the Bank decided to maintain a low profile in Indonesia. In the Philippines, Bank efforts were less than satisfactory. The Bank's engagement through reform-intensive projects and sector work in the 1990s was

Box 4.2

El Salvador: WBG Work in a Country Committed to Power Reforms

In El Salvador, the technical assistance project was delayed for two years while the optimal structure of the power sector was defined. There were divergent views in the Bank regarding the extent of privatization and reform to be carried out. In the end, the project succeeded in: (i) developing a legal and regulatory framework for the sector, including restructuring CEL (Comisión Ejecutiva Hidroeléctrica del Río Lempa, the state-owned electricity utility), organizing the Transactions Unit (Unidad de Transacciones), and initiating the design of a wholesale market for electricity; (ii) drafting and enacting a new electricity law and creating the sector regulator; (iii) estimating the marginal costs; (iv) preparing a Sector Environmental Action Plan and implementing an Environmental Impact Assessment (EIA); (v) developing a least-cost expansion plan for the system; and (vi) providing training to CEL and government staff in new operational and technical work. Sector reforms have led to an increase in service coverage, a reduction in system losses, and a decrease in state subsidies. Progress continued even after World Bank assistance ended. The four government-owned distribution companies were privatized in January 1998, and the generation companies were to be privatized in 1999. (With regard to privatization, it is worth noting that the sale at 40 percent over book value of 75 percent of the distribution companies' shares, totaling US$575 million, had a substantial financial impact, equivalent to 5.5 percent of the 1996 national GDP of US$10.5 billion).

In addition, IFC approved a US$120 million investment to expand and rehabilitate the distribution networks. IFC also approved US$15 million in financing for a regional power development company, focusing on renewable and cogeneration projects.

The following lessons can be learned from PSDE in El Salvador.

(i) Where applicable, the strategy for power sector reform in a given country should be designed with due consideration to the potential size of the regional market, which may be several times larger than the national market. Cases in point are El Salvador (already under implementation) and Belize (still in the design stage) in the Central American market, and Bolivia in the Mercosur market. In these cases, it was the relatively small size of the national power sector that shaped an initial preference for restricted market liberalization. Further analysis, however, showed that a more sustainable and liberal strategy should be tailored to cater to and benefit from the larger regional potential market with, as required, suitable transitional stages.

(ii) Sector policy and regulatory reform should be well underway before privatization in the sector, so that bidders feel that they are entering a secure environment and will have a sound basis for calculating their bids. Much of El Salvador's success in privatization is due to the progress that was made beforehand in preparing comprehensive sectoral legislation and rules.

(iii) The government's reform and privatization team should be staffed with qualified top-level staff, with a proven commitment to the reform and a track record of getting things done with extremely tight deadlines.

(iv) It is often best to break up large companies, to make them less risky and more attractive to a range of buyers and to encourage competition.

(v) Close attention must be paid to constituency-building, lest public resistance impede the process or threaten its results.

(vi) High-level political support is critical for the success of the reform and privatization process. When the message from the top is clearly in favor of privatization, the process moves ahead rapidly.

followed by a strategic decision to relinquish the lead role in policy advice to the Asian Development Bank, due to poor portfolio performance and the inability of the government to pass enabling legislation for power sector reforms. A review of this approach seems warranted, given the complex challenges of establishing the power sector's regulatory framework, as well as its market and ownership structure, following the recent passage of the Electricity Industry Reform Act.

In Pakistan, PSDE outcomes are highly mixed. Private power investors responded enthusiastically to the government's policy, but in the absence of real reforms and the persistence of severe T&D bottlenecks, a supply and demand imbalance resulted, severely straining the finances of WAPDA, the state-owned single buyer. Today, more than half of the population still has no access to electricity, and rolling blackouts are common in some areas. Recent restructuring, tariff adjustments, and improved operational efficiency has enhanced WAPDA's financial condition, but its reliance on more expensive (relative to hydro) thermal generation from its own plants and IPPs as a result of a drought, depreciation of the rupee, and the costs associated with the underutilization of IPPs have caused WAPDA to fall out of compliance with financial covenants. In India, despite the promise of early efforts, weakening government commitment has seen sector reform stall in Orissa, and the financial condition of the sector remains precarious. In Andhra Pradesh government commitment is stronger and the state is ready to privatize distribution. Political opposition to large tariff adjustments nonetheless must be overcome to improve the poor financial situation of the sector.

In Ukraine, the Bank's PSDE efforts were unsuccessful. In 1994, the Bank supported a project to develop a competitive electricity market and to establish operating conditions that would encourage electric power companies to seek full cost recovery and ensure the sustainability of operations. Despite a joint effort by international development agencies the necessary regulatory reforms were not achieved, largely due to nonpayment and government interference in issues such as tariff setting. The Bank loan was suspended in July 1997, and in 1999 it ultimately was withdrawn by the Ukrainian government due to the impact of the Russian financial crisis. In Russia, the Bank (primarily through three Structural Adjustment Loans [SALs]) has had an active policy dialogue on reforming the electric power sector. The dialogue has focused on establishing an electricity regulator and a market-based dispatch system; on the unbundling of generation, transmission, and distribution activities; and on privatization of generation and distribution. According to OED's Country Assistance Evaluation (CAE), while considerable progress has been made in achieving the SAL objectives (more rational pricing since 1997; improved cash collections since 2000; a new resolve since mid-2001 to demonopolize the power industry), the outcome of the power sector restructuring program remains an open question, and will depend on how it is implemented at the provincial level. The CAE recommends that the Bank be ready to expand its ongoing technical assistance to restructure the electric power monopoly, and also that it consider guarantees, equity investments, and lending for generation and transmission, but only after restructuring is well under way.

PSDE promotion needs to be anchored to broader reforms. PSD is not the sole objective of power sector reform, rather, it is a tool to achieve sector efficiency, such that power is provided at least-cost and in an environmentally and socially sustainable way. In addition to PSD, other measures are required to facilitate reforms. For example, fuel market liberalization is essential to maximize efficiency gains; in the context of IPPs, where long-term contracts are introduced, pass-through mechanisms need to be put in place between the wholesale and retail tariffs (for power and fuel purchased) to protect the financial viability of the power utility and lessen the drain on fiscal resources. In this regard, positive cash flows are important in enabling private sector participation: hence adequate budgetary provisions need to be made to ensure that the public sector is able to pay its utility bills. Commercialization efforts otherwise will fail, since the public sector frequently represents a high proportion of power

sales. Reserve capacity planning also is an important issue: investment inefficiency directly increases capital and operating costs and can have serious macrofiscal impacts. Major over- or underinvestment (the Philippines and Indonesia, respectively) and inappropriate plant siting (Pakistan) can have major consequences for the capital cost of associated investments, and ultimately can impinge on access to and on the quality, reliability, and affordability of service. Addressing these issues goes beyond PSDE operations and should be tackled early in the reform process. Finally, more attention needs to be given to the development of domestic capital markets. Most developing country power utilities do not earn foreign exchange, and their dependence on foreign direct investment and foreign currency loans has led to high, and unaffordable, electricity prices. While it is not easy to mobilize domestic capital, the WBG should address it as part of the overall effort to improve the investment climate, as many privatization efforts have failed for lack of access to the resources necessary for efficiency improvements and new investments.

Macrofiscal Balancing: Reducing the Power Sector's Burden on Public Resources

Where PSDE has progressed, the promised fiscal gains have been achieved and are very large. OED's portfolio review found that macrofiscal balancing was a key objective in the Bank's PSDE program during the 1990s, as a response to the global financial crises that further aggravated the inability of most developing countries to mobilize resources to meet their power supply shortages (see also Albouy 1999a). Successful PSDE was found eventually to bring many fiscal gains, although the high technical and financial costs of restructuring at the start of the reform process may prevent governments from realizing immediate budget relief. In LAC alone, divestiture of public power assets brought in US$35 billion by 1997, at a time when funds were needed to stabilize country economies and shore up social budgets, notably in Chile in the 1980s, Argentina and Bolivia under the Brady Plan, then Brazil, Colombia, and Peru in the mid-1990s. The substantial fiscal rewards of PSDE in LAC have been reaped through additional private investments in the sector,[2] income taxes,[3] dividends to government, and reduced subsidies, as presented in Table 4.2.[4] In Bolivia, the privatization of state-owned enterprises, increased foreign investment, and an independent regulatory regime have led to improvements in coverage, quality, and productivity. Nontechnical losses have been reduced significantly. In Chile, distribution losses were reduced by half in seven years; in Argentina, the same benefit was realized in just three years.

Access and sales have increased. Where macroeconomic conditions permitted, sales and electricity consumption per capita have increased (after absorbing any initial price shocks): in Chile, consumption per capita grew at 7 percent, and in Bolivia it grew at 2 percent, in contrast to unreformed sectors that are on the verge of bankruptcy. In Panama, electrification coverage has grown significantly and consumer prices have dropped. New connections and the percentage of households with electricity access also have grown: in Chile, access grew from 64 percent to 95 percent in 1990–94; in Bolivia, after dropping to 56 percent before the reform, it bounced back to 70 percent in 1997.

Subsidies have decreased. Private power operators have saved governments heavy operating subsidies; in Peru, the WBG's involvement has helped break down the culture of electricity subsidization. Where private operators have taken over retail supply, they have drastically reduced payment delays, theft, and unpaid bills (from 30 percent to 12 percent in Buenos Aires, and about the same in Côte d'Ivoire, where assets were not sold, but just leased). A lot of the gains have stemmed from asset management: over a five-year period, plant availability typically increased 10 percent to 40 percent, the number of customers per employee increased 50 percent, and outage indicators decreased by more than half. Reforms have also improved the efficiency of capacity expansion, although IPP capacity costs and output prices show wide variations—the lowest ones tending to

Table 4.2 **PSDE Outcomes from Bank Activities in LAC "Advanced Reform" Countries**

Countries/Reform Pursued	Current Status
Argentina Privatization of Edesur and Edenor	*Macrofiscal:* By 1998, energy sales increased by 79 percent and 82 percent, and losses were down by 68 percent and 63 percent, respectively. *Efficiency Impacts:* By 1998, the number of employees was reduced by 60 percent and 63 percent. Customers per employee increased by 180 percent and 215 percent.
Brazil Privatization in the electric power sector	*Quality of Service:* The length of interruptions per consumer fell from 26.4 hours per year in 1993 to 24 hours per year in 1998. Efficiency Impacts: The labor force of the distribution utilities has been reduced from 83,784 in 1993 to 59,348 in 1997.
Bolivia Privatization of SOEs Increased foreign investments	*Macrofiscal:* Private investments reached US$204 million by mid-1998, allowing demand growth of more than 7 percent per year to be met. The Bolivian economy gained new foreign capital. Private investors paid approximately US$1,600 million to gain control of all capitalized public companies. The Bolivian Treasury saw fiscal revenues from the power sector (sales and profit taxes) increase by 247 percent in three years, from US$17 million in 1994 to approximately US$42 million in 1997. In addition, the service of ENDE's debt of approximately US$61 million, guaranteed by the government, was transferred to the private companies. *Affordability of Service:* Electricity consumers have not seen rate increases (except for inflation and fuel price adjustments) and now have the ability to take any grievances directly to the power companies, through newly created consumer offices.
Chile Privatization of Chilectra	*Macrofiscal:* Energy sales increased 26 percent and losses fell 70 percent by 1998. *Efficiency Impacts:* The number of employees was reduced by 9 percent. Customers per employee increased by 37 percent by 1998.
Colombia Private participation	*Macrofiscal:* Private sector investments in the power sector have increased significantly in the last five years. Private participation in power generation increased from 25 percent in 1996 to 56 percent in 2001. Private sector participation in transmission is 10 percent, in distribution 60 percent, and in commercialization 60 percent.
El Salvador Unbundling Privatization of distribution companies	*Macrofiscal:* The sale at 40 percent over the book value of 75 percent of the distribution companies' shares, totaling US$575 million, had a substantial financial impact (equivalent to 5.5 percent of the 1996 national GDP of US$10.5 billion). *Access to Service:* Service coverage improved from 71 percent in 1998 to 74 percent in 2001.
Panama Privatization of power sector companies Restructuring of the power sector	*Macrofiscal:* In FY00, the privatized power sector companies contributed US$70.8 million to the treasury, comprising US$34.5 in income tax (US$9.2 million from the distribution companies and US$25.3 million from the generators) and US$36.3 million in dividends to the shares retained by government (US$6.2 million from distributors and US$30.1 million from generators). *Access to Service:* Installed generation capacity increased 40 percent and the number of customers increased 6 percent between 1998 and 1999; energy sold per employee increased 22 percent between 1999 and 2000.
Peru Privatization of Electrolima	*Macrofiscal:* The sector has shifted from draining the public treasury (a loss of US$300 million in 1990) to being a source of operating profits (US$300 million in 1998). Transmission and distribution losses decreased from 21.8 percent in 1993 to 12.4 percent in 1998. *Access to Service:* Service coverage expanded from 53 percent in 1993 to nearly 70 percent in 1998. *Efficiency Impacts:* The customer/employee ratio increased from 316 to 520 between 1993 and 1998.

be those that were obtained after competitive bidding.

Asset values have grown. Efficiency gains from reforms and PSDE were used first to turn around utility finances and then to fund their growth: the rate of return on assets jumped 7 to 12 percent from values that were low or negative, as in Argentina. The financial market and privatization mutually reinforce each other as reforms mature: in Chile, market capitalization has increased and power companies saw the real value of their shares grow a thousandfold from 1984 to 1994, as they acquired control of a sizeable fraction of the power sectors in neighboring countries.

Real prices have decreased for industrial and commercial consumers. Efficiency gains ultimately are passed on to power purchasers: where competitive pools were set up, most notably in Chile and Argentina, bulk prices dropped 20 to 50 percent.[5] Tariffs have decreased for industry and commerce, but for other customers they often have risen, because tariffs were and often still are below the cost of supply. The U.K. experience with residential utility market liberalization indicates that while the reorganization of gas and electric power industries reduces costs, these cost savings may not be shared equitably with all consumers (Newberry and Pollitt 1997). However, while all consumers have benefited to some extent from lower prices, the greatest benefits have gone to shareholders and to richer consumers (Waddams and Hancock 1998). Detailed evidence that reforms have led to efficiency gains has not been systematically compiled and analyzed, but remains limited to a few countries, including Argentina, Chile, Côte d'Ivoire, and Peru.

Helping the Poor Directly

Little is known about the impact of reform on the poor because data have not been gathered systematically. To achieve the EBRS objective of directly helping the poor, PSDE reformers need to address issues of increasing the access to electricity supply of the poor and of ensuring that access and consumption charges are affordable. Based on a review of 154 projects, OED found that Bank project documents provide very little data to evaluate the impact of power sector reforms on the poor. The data that are available tend to be anecdotal and not based on sound monitoring and evaluation (M&E) systems, or empirical evidence. This presents a major challenge to policymakers, who need data to support any pro-poor policies that they may wish to adopt (to improve the welfare of the poor, or at least do them no harm) while carrying out power reforms (Waddams 2000). The 1990s presented many opportunities that were missed to ensure that rural energy, energy efficiency, and social and environmental benefits are addressed as reforms are put in place. Such opportunities, given the long timeframes for reform, are in most developing countries one-time opportunities (see also Dubash 2002).

The little evidence available indicates that the poor are often the last to benefit from increased access. In most countries, the rural poor tend to be overlooked because private operators are reluctant to serve low-income clients given that these markets are not financially viable on a freestanding basis (Chisari, Estache, and Waddams 2001). In urban areas, residential customers are more exposed than commercial users when connection costs increase due to reforms, and the social impact is especially acute when residential use has been previously subsidized. Where reforms involved adjusting tariffs to cover costs, poor households tend to be adversely affected, at least in the short run. In Poland, energy subsidies have tended to help the rich more than the poor (Freund and Wallich 1995). In Hungary, energy price reforms did not appear to have a regressive impact, suggesting that subsidies prior to reforms were not effectively targeted at the poor (Newberry 1995). According to a pioneering field study in Guatemala (Foster and Araujo 2001), the social tariff that was introduced following privatization of the power distribution companies largely fails to reach poor households, and access to modern utility services remains highly inequitable. The richest 20 percent are twice as likely as the poorest 20 percent to have electricity connections, and while electricity coverage is close to universal in urban areas, it reaches little more than half of rural households.

Globally, about one-third of the world's population (about 2 billion people) are believed to lack electric power, but this may be an underestimation as few cross-country surveys document access (Brook 2000). Based on research findings that growth is good for the poor (Dollar and Kraay 2001), the argument has emerged that addressing the generation supply constraint leads to GDP growth, which in turn benefits the poor. While this may be demonstrable in a macroeconomic context of trade liberalization and transition into a market economy, the argument is less tenable in the sectoral context of scant (and recently, possibly negative) private capital flows into developing country electric power sectors. Evidence from the Organisation for Economic Co-operation and Development (OECD) and others indicates that a small number of large, international private power companies invested in a small number of developing countries during the 1990s. Whatever indirect poverty reduction impacts PSDE may have had were restricted to only about 10 countries, including those in which the access to energy of the poor remains very low, such as Indonesia, Pakistan, and the Philippines. While the WBG's PSDE assistance increasingly has been aimed at small and medium-size low-income countries, many of these countries have failed to attract substantial private power investments in T&D, and the poor will not benefit from the expected growth in access until T&D projects are carried out.

The macrofiscal objectives of power reforms are important, but the access to energy of the poor and environmental mainstreaming ("doing good" in addition to "doing no harm") have been neglected. The WBG's PSDE efforts during the 1990s understandably responded to crises in client countries and therefore were focused on macrofiscal balancing and on the improvement of utility finances. This has resulted in a relative neglect of the issues of ensuring that the poor can get help to afford commercial power tariffs once subsidies on generation plants are removed and of ensuring that regulatory reforms are not so "hard wired" that it is difficult to simultaneously implement social and environmental objectives. Despite publishing best practice papers on energy efficiency and rural energy in 1993 and 1996, respectively, the Bank has made little effort to pursue these areas in its 1990s PSDE portfolio or in its energy portfolio as a whole. According to staff interviews and the task manager survey, this is at least in part due to a lack of country department interest and support. The relatively few projects that did materialize were mainly at the behest of the championing task managers, often buoyed by the availability of Global Environment Facility (GEF) funds. While there is nothing wrong with individual initiative, this reflects the lack of institutional drive and lack of a coherent strategy for rural energy and energy efficiency that persisted for most of the 1990s.

The domestic private sector is not being tapped adequately. From the 154 projects reviewed, there is little evidence of a concerted Bank effort to reform regulatory frameworks such that local private capital and management capabilities can be tapped for investment in decentralized energy systems. Only a handful of completion and supervision reports on participatory mechanisms and stakeholder consultations mention the inclusion of local investors in the design of major reforms. Despite the growing institutional focus on rural energy financing mechanisms, including the local private sector, both formal and informal ESW on rural energy and energy efficiency issues has been insufficient. A positive development, however, has been the absorption of rural energy work within the Private Sector, Markets, Finance, and Rural Infrastructure thematic group, where issues of local private capital and innovative finance schemes (including the promising approach of "output-based aid") can be addressed integrally with the larger challenge of developing rural markets. The Bank-wide Energy and Poverty Thematic Group has also been revived by the Bank's Energy Sector Board.

Protecting the Environment

Adherence to the World Bank/IFC/MIGA Environmental and Social Safeguards policies and the guidelines contained in the 1998 Pollution Prevention and Abatement Handbook (PPAH) is a requirement for all WBG projects. The WBG also follows an environmental strategy for the energy sector as contained in the Fuel for Thought (FFT) strategy paper. The Bank's performance with re-

spect to its environmental safeguard policies is discussed in the OED Review on the World Bank's Performance on the Environment (2001). Since the Board approved FFT in 2000, changes have been made in the institutional context that affect its implementation. These include completion of "Making Sustainable Commitments: An Environment Strategy for the World Bank" (World Bank 2002a) and the Energy Business Renewal Strategy (EBRS), the emergence of the Poverty Reduction Strategy Paper (PRSP), and the Bonn Agreement on the Kyoto Protocol. The ensuing debates have focused on trade-offs between the short-term and long-term needs for poverty reduction and economic growth, relevant to local and global environment issues.

Environmental mainstreaming in the Bank is still weak, but making progress. In its 2001 Environment Review, OED found that environmental mainstreaming has not yet taken full effect in Bank policies, programs, and operations, but some progress is being made. Some 35 percent of Country Assistance Strategies produced in FY01 and half of the final PRSPs produced so far include discussion of energy and environment issues. Demand for full-scale energy and environment reviews is lower than originally expected under the Fuel for Thought strategy, with clients preferring more focused analytical and advisory work. Analytical work is creating results either directly or through lending operations. Analysis of active energy lending operations shows a growing proportion with at least one environment objective, amounting to 69 percent in FY01 compared with 9 percent in FY90 and 10 percent in FY97.

Bank outputs against established short-term FFT indicators have been greater than expected, according to FFT's annual report, in the areas of facilitating more efficient use of traditional fuels and their substitution by modern ones, protecting human health from urban air pollution, and tackling climate change. The Bank is active in all regions, building the capacity of regulators through analytical work, technical assistance, and projects. Although work in the environmentally sustainable development of energy resources is making reasonable short-term progress, the longer-term lending pipeline is still weak.

Renewable energy has high potential for WBG involvement. In the renewable energy field, the Bank and IFC are conducting pioneering work with a clear allocation of responsibilities; the Bank concentrating on policy and institutional strengthening, and IFC providing financing (see Annexes N, O, and P). The active portfolio of World Bank Group–GEF projects consists of 41 projects with a total value of US$3.3 billion, of which US$802 million is Bank and US$396 million is GEF financing. It is too early to evaluate these recent initiatives, the first few of which are being completed this year.

Greenhouse gas (GHG) emissions from IFC-financed power plants are insignificant. OEG found that the total GHG emission of the 22 fossil fuel-fired power plants approved in the 1990s and in IFC's portfolio as of December 31, 2001, is relatively insignificant (see Annex Q). Gas/naphtha-fired power plants, which represent 31 percent of IFC's installed capacity, have the least impact. Greater fuel efficiency has a direct impact on GHG reduction. IFC's portfolio reflects a fuel choice made according to the availability and cost of fuel and the fuel balance in each country. Recent developments in nonhydro renewable energy indicate that commercially viable energy projects are encouraging and could be a growth area for IFC's power operations. Over the 1990s IFC's renewable energy projects were largely in hydro, where IFC financed a total capacity of 1,000MW. Approximately half of the total generating capacity insured by MIGA is in projects with renewable or clean energy sources (3,767MW out of a total of 7,446MW).

OEG found that nearly four of every five IFC power projects meet or exceed WBG environmental, health, and social (EHS) guidelines. This is better than IFC's all-sector performance. IFC monitors environmental performance until the IFC loan is repaid and the equity relationship is completed. OEU found that all eight evaluated MIGA power projects were in compliance with, or exceeded, MIGA EHS policies and guidelines. MIGA has the right to unilaterally terminate a guarantee if a project is found to be in noncompliance with these policies and guidelines. MIGA maintains a relationship with the project sponsor

as long as the insurance policy is in force. The drivers for this good outcome include quality sponsors with strong commitments to the environment and the community; appropriate and feasible technology choices; established plant-level Environmental Management Systems (EMS); and reasonable and enforced national environmental standards.

IFC's and MIGA's power projects in the 1990s provided viable solutions to power shortages, and additional generation capacity improved system reliability. This led to net environmental and social benefits through the dispatch of environmentally cleaner power plants, the minimization of industrial plant shutdowns, and through providing the capacity to expand access to power supply. The more capacity it has, the greater is a system's capability to manage the dispatch of its power plants in a least-cost and environmentally responsible manner. Better environmental management is possible, depending on the technologies, plant alternatives, and contractual constraints involved. Environmental outcomes are inferior when supply is constrained and system dispatch requires that older and more polluting capacity is called into long periods of production.

5 Cross-Cutting Findings

Analysis of project-level results and sector outcomes points to a number of cross-cutting findings and lessons that should inform the implementation of the WBG's 2001 Energy Business Renewal Strategy (EBRS). The findings fall under two categories: those for designing better PSDE interventions, and those for improving WBG processes.

Toward Better-Designed Interventions

More practical operational guidance to staff on WBG support for PSDE is required

The Bank needs to support its advice on reforms with financial help to meet the high costs of power sector transformation, a new market for Bank lending. Ironically, the volume of power lending has declined since the late-1990s. When the 1993 Electric Power Lending Policy was introduced, the Bank did not realize that power sector reform requires enormous technical and financial resources that few developing countries possess. For example, US$50 and US$100 million was spent on technical assistance alone for reforming the power sectors in Orissa and Ukraine, respectively. The costs of restructuring the finances of bankrupt utilities and of undertaking the investments essential to the reforms amount to hundreds of millions of dollars—funds that many client countries do not have.

The Bank's own budgeting process seriously underestimated the effort required to prepare, appraise, and supervise operations that support power sector reform and PSDE. There has been an enormous and rapid growth in the complexity of PSDE project design and implementation aspects because of the need to satisfy multiple and sometimes conflicting objectives and constituencies. These budget constraints (and the staff depletion that has taken place since the mid-1990s) partly explain the Bank's inability to provide more financial support for power reforms in many of its client countries. Sector reform is a long-haul process lasting for well over a decade, and ways must be devised to ensure continuity of personnel and institutional memory.

Promoting PSDE involves high risks. The design of WBG PSDE interventions must be improved by providing operational guidance to staff on how to promote PSDE under the current situation of scant investor interest, and on which reforms and sequencing should be followed, given specific regional, country, and sector situations. This guidance was absent from the generic 1993 policy paper. The large number of PSDE-related "Viewpoints," working papers, and so on issued by the Bank have been valuable and appreciated by staff, but they have not been an adequate sub-

stitute for formal guidance, since such publications typically represent the views of the authors and cannot be construed as being endorsed by Bank management. One important first step is to synthesize the multiple policy and strategy papers that are applicable to PSDE and identify the specific roles that the Bank, IFC, and MIGA are expected to play. The WBG has developed and implemented a series of strategies and policies affecting the PSD aspects of its energy business. Including the 2002 PSD Strategy and the 2001 Energy Business Renewal Strategy, there have been eight policy and strategy statements within the past nine years that are relevant to the WBG's PSDE programs (see also World Bank 1993a, 1996b, 1996a, 1997, 2000a).

With due attention to the trade-off between process controls and agility, within tolerable corporate risk levels, the Bank's Energy Sector Board, IFC, and MIGA should provide WBG staff with better and more country-specific guidance on best, good, and bad practices in PSDE. Drawn from experience, this guidance should assist staff on (i) how to read the country and investor community context, (ii) what criteria to follow in deciding when and how WBG involvement is likely to add value, and (iii) what the warning signs are for potential difficulties and how these can be anticipated and built into the design of the WBG's advice and operations.

Operational guidance is particularly lacking in the following areas: (i) how to reignite private interest in developing country power sectors; (ii) how to do business with regard to balancing public and private investments, particularly in noncompetitive markets where case-by-case decisions are required to assess whether public or private service provision is preferable, depending on how much of the risk for commercial performance can be shifted to the private sector; (iii) what sequence of reforms and PSDE interventions work best in particular country-sector situations, and what is within, and beyond, the WBG's control; (iv) how to incorporate the expansion of energy access to the poor and environmental considerations beyond safeguard compliance (that is, "do good" in addition to "do no harm") into the WBG's PSDE and sector reform agenda; and (v) how to achieve much stronger Bank, IFC, and MIGA coordination and coherence within, and beyond, the Country Assistance Strategy (CAS) framework.

The development of this guidance should be a joint and coordinated effort, and it should define a framework to fully analyze power reform and PSDE alternatives that is responsive to country conditions, needs, and institutional capacities. The guidance should at the same time ensure environmental sustainability and align with the Bank's poverty reduction mission. This synthesis should be updated regularly to reflect new trends and priorities, particularly in a rapidly changing area like PSDE. For example, the WBG could do more in facilitating public–private partnerships and output-based aid through its diverse lending and advisory instruments. This could be enhanced through cross training of Bank, IFC, and MIGA staff involved in PSDE.

PSDE monitoring and evaluation needs to be strengthened considerably

Monitoring and evaluation of sector performance is weak. The assessment of PSDE outcomes—particularly its poverty reduction and environmental mainstreaming aspects—has to be seen in light of the poor data availability, as performance monitoring for the energy sector has been weak (Albouy 1999b). Bank reports tend to focus on inputs and outputs and provide little data on outcomes or impacts. Only the United Nations and the International Energy Agency (of the OECD) systematically update energy data, but these data say very little about sector performance indicators such as access, reliability, and price. Moreover, very few countries have reached advanced reform status, and only a small number of the Bank Group's PSDE interventions have come to full fruition, such that outcomes attributable to PSDE can be measured. The EBRS itself has yet to mainstream PSDE indicators and launch the system for monitoring performance based on the EBRS objectives.

The weak database is being further fragmented. As reforms redefine the role of government and multiply the number of actors through privatization and unbundling, performance data have become

more fragmented and much data have become confidential. Most new regulators are too overwhelmed to collect even the minimum data required to start functioning. In 1999, QAG found distorted performance ratings and significant M&E gaps during project supervision for 40 percent of the Bank's projects, as project teams continue to focus on inputs and neglect outcomes. Project Status Reports fail to signal outcomes, and results are buried in reports that never enter the Bank's formal reporting structure. As early as 1994, OED found that only 20 percent of energy projects in a study sample had effective M&E at approval.

The Bank has a clear priority to support the development of strong country client and internal capacities to monitor and evaluate sector reforms and PSDE interventions, including their impacts on poverty reduction and environmental sustainability. Country client M&E systems have not been well established, however, making it difficult to understand the country factors behind good PSDE performance with respect to the EBRS benchmarks. Learning-by-doing as reforms and PSDE are implemented, the Bank runs the risk of perpetuating poorly designed interventions if the lessons learned are not quickly shared. Internally, the Bank's Energy Sector Board should provide clear guidance to staff on which part of the EBRS strategy should be pursued by which unit and in what subsector. The EBRS is a Bank Group–wide strategy covering the whole array of WBG instruments (including public sector lending) and the entire energy sector. Each of the four strategic priorities of the EBRS has five or six action plans, not all of which are applicable to PSDE. The WBG should identify specific action plans that are relevant to PSDE, develop success indicators, and track performance. A PSDE scorecard agreed by the Bank, IFC, and MIGA should be considered to enhance overall coordination, promote harmonization of internal incentives, and foster the ability to speak in one voice to client countries, including when giving analytical and advisory assistance.

Country factors drive successful reforms and good PSDE performance

In designing PSDE interventions, it is important to build the country's ownership and leadership role. The ESMAP Reform Scorecard Study suggests that "reform is not a uniform process, but rather that it proceeds rapidly when conditions are favorable, and does not even start when conditions are unfavorable." OED's literature and portfolio reviews indicate that different approaches to PSDE reform apply to different countries, and approaches that work well in one country do not always work as well in another. This reinforces the well-established evaluation finding about the importance of adapting to country conditions. For example, in LAC the Bank mainly facilitated and responded to country priorities and did not determine the reform agenda or try to take the lead. In AFR, the poor overall PSDE portfolio performance apparently led to a retrenchment in the regional PSDE strategy toward a closer focus on individual country conditions and readiness for reform. In SAR (India in particular) the focus has been on reforming states, and the support for reform programs is being reoriented toward the distribution subsector. ECA provides the strongest example of country drivers: PSDE success only became possible when country commitment materialized after years of no results and unsatisfactory Bank operations.

Government commitment is of paramount importance. As found in studies by OED and others, important factors in the successful implementation of PSDE programs include focusing on a realistic set of priorities; establishing a clear sequence of steps; working with local champions for reform; and the realization of early successes in the reform process. Energy operations, however, are vulnerable to country risks, given the inherent "reform intensity" of these projects in countries with macroeconomic problems, weak institutions, or poor borrowing records with the Bank.[1] Political commitment to PSDE objectives is fragile, and can be eroded by elections, the lack of immediate results, macroeconomic crises, or a waning sense of urgency after crises have been weathered (often with the receipt of aid money from the WBG and others). The political economy—not only aid money—explains the outcome of adjustment operations.

The lack of constituency-building for reforms can threaten the sustainability of PSDE reforms. The literature review indicates that there is support for reforms if they are transparent and carried out competitively. In LAC, however, despite the reform achievements inadequate civil society participation has sometimes been a problem. In Chile and Peru, the power exchange markets have been criticized by observers for not representing a true market scheme: they claim the pools inhibit the entry of new players and limit competition (Rudnick and Zolezzi 2001). Government ownership of key generation plants furthermore can strongly influence dispatching and price, as in Peru.[2] Some countries may yet backslide as a result of public disillusionment with reform, changes in administration, and opposition by powerful stakeholders. A poll in Peru showed that 72 percent of Lima residents would like to see their public utility in electric power renationalized.[3] This declining popular support for privatization has made that program a target for the government's opponents, as shown by the riots in Arequipa in June 2001. Planned privatizations of distribution companies in Bolivia were cancelled early, partly because of political opposition by unions and local political leaders. Finally, further regulatory challenges will arise as markets integrate and cross-border trading develops. The continuing merger of companies at the regional level, the growing convergence of gas and electricity markets, and the withdrawal of major players have reduced the number of actors in the market, and may well be the biggest concern for the momentum of PSDE in WBG client areas.

ESW/AAA has facilitated PSDE in countries committed to reforms

The Bank's analytical and advisory assistance, including its subset of economic and sector work (ESW/AAA), has since the 1970s been a mainstay in underpinning the Bank's country dialogue and operations. The Bank's ESW/AAA for PSDE shows a tremendous amount and diversity of products and audiences (products include analytical papers by the Energy Sector Board; ESMAP studies; formal ESW and operational advice by the Regions and the networks for energy and private sector development networks; research by the Bank's Development Economics and Chief Economist Vice-Presidency (DEC); Public–Private Infrastructure Advisory Facility (PPIAF) country framework papers; World Bank Institute (WBI) training courses; OED evaluation studies; and technical assistance such as conferences, staff training, and country workshops provided by these groups). The IFC has also provided 33 advisory operations during the study period. In the mid-1990s the production of Bank ESW/AAA underwent structural changes with the emergence of quick turnaround studies that provide more timely response to client requests for analysis and advice. ESW/AAA for PSDE reflected these Bank-wide structural changes with products that were more diversified in scope and scale, ranging from traditional, Bank-driven core diagnostics work to informal, "just-in-time" policy notes, capacity building, and experts meetings that are country-driven.

The Bank's ESW/AAA has facilitated the reform process in PSDE, but its contribution at the country level varies widely. Findings based on selected country case studies suggest that substantial ESW/AAA does not necessarily lead to better sector outcomes. Rather, it is a combination of "just-in-time" advice, leveraged by commitment from government and support from a broad spectrum of civil society that has facilitated PSDE reforms, as noted above. OED's Performance Assessment Report (PAR) indicates that limited, but strategic, advice given to Mauritius under GEF financing has substantially contributed to the emergence of private investments in *bagasse* cogeneration (see Box 5.1), despite cancellation of the associated Bank loan. In Poland, OED's PAR indicates that the Bank's early ESW/AAA laid the groundwork for sector reforms and a competitive market and that subsequent loans and sectoral policy advice provided support for preparing and passing legislation to establish the Energy Regulatory Authority (ERA) and to restructure the energy enterprises.

In the Philippines, by way of contrast, a significant amount of ESW/AAA in PSDE has been produced, yet the advice offered largely has gone unheeded. While Bank support for the privatization of the national power company facilitated, after a drawn-out process, the passage of a power reform bill, lack of buy-in from a broad-based

Box 5.1

Mauritius: The Bank's Advice Contributed to the Success of Private Power Generation from Bagasse

The Mauritius Sugar Energy Development Project supported private power generation based on bagasse as a substitute for imported fuels, with funding from the Global Environment Facility (GEF). There was a strong general consensus among both private and public evaluation respondents that, although the Bank's contribution solely in financing terms was small and its involvement by completion minimal, its advisory and "honest broker" role was critical in facilitating the launch and implementation of the country's Bagasse Energy Development Program. The Bank's nonfinancial AAA during supervision missions related to PSDE, as well as the ESW on the theory and best practices for energy pricing based on the avoided-cost principle, were often cited by stakeholders as specific examples of the Bank's high value-added.

constituency put on hold reforms in PSDE (this situation since has progressed, with the government approval of the National Power Corporation privatization plan in October 2002). In Indonesia, Bank staff were actively involved in drafting the power restructuring policy that was adopted by the post-Suharto government and that later paved the way for ADB's program loan and formed the basis for the new electric power policy. The reform process, however, lost momentum with the departure of the Minister of Energy who had championed the restructuring policy, and with the political instability that characterized the Wahid presidency. The Bank's influence in Indonesia's power sector reforms soon diminished. A recent OED review concluded that the Bank should not have closely associated itself with the restructuring policy, and that the policy paper would have benefited from more deliberation and from broad-based consultation from various stakeholders (OED/World Bank 2003).

A system of M&E is needed to better measure the impact of ESW/AAA for PSDE. Such a system would enable better coordination and selectivity in ESW/AAA to meet EBRS objectives, and thus promote greater effectiveness in PSDE outcomes and impacts. Lessons learned through M&E furthermore could help build the Bank's PSDE knowledge base, thus better informing future ESW/AAA design and the reform sequencing and choice of instruments appropriate to specific country conditions. There currently is no Bank-wide codification of ESW/AAA that would allow for systematic monitoring within and across sectors and networks. This difficulty is heightened since ESW/AAA products for PSDE are becoming more diverse and decentralized and thus more intractable, not only in volume and cost but also in quality. There furthermore is no Bank-wide evaluative framework for measuring impact: while OED, OPCS, and QAG have recently assessed ESW there has been no agreement yet on Bank-wide criteria for evaluating impact.

IFC's advisory operations likewise have played an important role in promoting PSDE, especially in the distribution and transmission subsectors. In the 1990s IFC's advisory operations in power were conducted largely through standalone advisory engagements (13 operations) and donor-funded technical assistance (20 operations). The focus of the 13 standalone operations has been mainly on structuring and executing a privatization strategy. LAC was the dominant region, hosting seven out of 13 advisory operations. From the 13 standalone advisory operations, seven privatization advisory assignments were successfully completed, resulting in the mobilization of about US$2 billion in private sector investments that in turn led to expansion and efficiency improvements of privatized facilities. Through its bilateral and multilateral donor-funded technical assistance (TATF) operations, IFC has since 1988 successfully expanded the reach of its advisory operations in power. Assistance provided under this program includes feasibility and project identification studies, studies of enabling environment for PSD, training and capacity-building for private businesses and government agencies, privatization advice, post-privatization support, and reforms of government regulations and policies

affecting the private sector. Four out of 20 TATF operations are in transition economies in ECA (Russia, Romania, Hungary, and Tajikistan) that started opening their power sectors to private participation.

PSDE policy and operations are country-specific works in progress

There is no one-size-fits-all model for power reforms and PSDE. Country specificity is important because the Bank itself was, and still is, learning by doing (or "experimenting," based on the task manager's survey). Based on OED's literature and portfolio reviews, the Bank does not seem to have followed a consistent PSDE reform strategy from the outset of the 1990s. The Bank was reactive to the unanticipated large private capital flows that preceded its 1993 Electric Power Lending Policy: while some regions were already supporting PSDE before the enunciation of the policy, others were slower to respond to the policy's reform and "commitment lending" agenda. For IFC, the new international environment provided substantial investment opportunities in LAC, SAR, and EAP, where it was among the pioneers. Despite its lack of prior experience, the Bank supported all seven reform areas in a large number of countries (68) by the mid-1990s, frequently using the experience of the United Kingdom (which was itself a work in progress) as a model for its advice. Learning by doing worked in a few cases, as in El Salvador, but in many others, such as Ukraine, it did not work. There additionally is always the threat of backsliding following initial success, as in the Bank's support for distribution sector reforms in Orissa, India.

Ukraine is an example of how PSDE can fail when it is imposed from the outside as a one-time solution rather than a work in progress (Box 5.2). ***IPPs have an important role to play in PSDE.*** An example of the importance of country-sector conditions is the WBG's experience with independent

Box 5.2 **Ukraine: Pushing for Unbundling in the Wrong Environment**

The Electricity Market Development Loan to Ukraine, approved in 1997, was designed to support improvements in the power sector, including development of a competitive power pool based on the British model of unbundling. The project's reform objectives—improved collection levels, access to working capital, metering facilities, and financial management—were to increase the quality and reduce the cost of electricity supply by developing a competitive electric power market and operating conditions that would encourage electric power companies to seek full cost recovery.

Delays in ratification slowed project implementation, and in the meantime political interference prevented any improvement in payment collections—collection levels in fact declined. This prevented full cost recovery for the generating companies, which were also burdened with the requirement of maintaining minimum fuel stocks throughout the year. Subsidies to power plants and nonpayments by distributors exacerbated the problem.

The loan was suspended in July 1997 due both to the unsatisfactory financial performance of the entire power sector and to a new government prohibition on the increase in electricity tariffs for household consumers. Only US$76.4 million was disbursed, which paid for fuel stocks. The loan was cancelled at government request in 1999 due to the impact of the Russian financial crisis on the Ukrainian economy.

Based on the ICR, a key lesson from the project is that there is little merit in pursuing comprehensive power sector reform policies (legislation, regulation, unbundling, competition, privatization, regulation) in a country suffering a major economic crisis. The project shows that in an economy that was barter-based, with salaries and pensions in arrears and where the government condoned the culture of nonpayment, there was no way to make consumers pay for electricity in cash. In such an environment, the introduction of an advanced model of a competitive power market was bound to be a losing proposition. Project objectives should have been more modest and targeted to improving well-delineated technical, institutional, and financial problems.

power producers (IPPs) in countries where reforms have not taken root. Appropriately structured IPPs have provided timely and cost-effective solutions to chronic supply shortages. They have relieved the public sector of many of the project risks, subsidies, and financial obligations that it would have assumed had it built and operated new capacity as it had done in the past. They have mobilized financing and enabled capacity to be added to meet demand beyond what governments could have done on their own. They also have served as an interim step in developing fully competitive power exchange markets. However, in a few countries (such as Pakistan and the Philippines), the success of IPPs in resolving power crises had the effect of relieving pressure on leadership and policymakers for needed reforms and for the provision of capacity downstream of generation, particularly in T&D. In Pakistan, the failure to address downstream reform and capacity provision, coupled with weak system planning, resulted in underutilization of the IPP capacity even as demand remained unmet.

While early-entrant IPPs are lower-cost, compared to the full cost of power generation in the public sector, they are largely higher-cost relative to subsequent IPPs. This pattern is typical in most new product markets. Early-entrant IPPs assume higher risks, and in most cases where they have acted the government could not attract viable alternative proposals. The pricing of these IPPs reflects the high-risk associated with pioneering investments in sectors new to private capital where the business climate and regulatory environments are at best uncertain. In practice, average output prices subsequently have fallen as developers and equipment suppliers have competed for business following the initial success of the early entrants. Countries that engaged in transparent and competitive bidding processes, on the whole, got lower prices and better terms.

The private sector has underestimated the risks associated with IPPs, however. Contracts run for 15 years or so, and many unforeseen economic, political, and market developments can occur over such an extended period. By 1998, economic crisis had undermined the sustainability of long-term Power Purchase Agreements (PPAs) in East Asia (Thailand and Indonesia), in South Asia (India and Pakistan), and a few LAC countries. First, IPPs were underutilized when actual demand growth fell below government projections. Official demand and supply projections that attracted private sector participation and served as the government's basis for determining the required IPP capacity proved unrealistic when country crisis struck, in particular where there were no accompanying T&D reforms and when the government refused to shut down old, inefficient, subsidized plants. Second, in markets where dispatch is under the unilateral control of a state agency, dispatch rules appear to have been biased in favor of state-owned, subsidized generation plants, with little regard to plant efficiency. Third, in countries where T&D reforms have not yet taken root, IPPs were underutilized due to bottlenecks in T&D. At entry, IPP financiers had assumed that host governments would address the T&D bottleneck by pursuing the necessary reforms. Fourth, IPPs in some countries also became highly politicized and were easy targets of accusations of corruption and high costs (relative to subsidized and/or older state sector units)—especially where the IPP had been implemented under a previous political regime. In addition, consumers resisted the elimination of subsidies on electricity and incorrectly attributed the resulting tariff increase to IPPs.

In the context of severe power shortages at entry, IPPs were seen as a "win-win" solution for the government, consumers, and private financiers. This was evident in IFC evaluation findings, particularly in power-crisis relief situations and/or where conditions allowed their productive capacity to be realized. In a depressed demand situation, however, the contractual terms of the early IPPs were perceived in hindsight to unfairly favor investors and lenders over offtakers. While accusations of corruption have not been proven, many IPP contracts have been renegotiated under pressure, and IPPs have accepted terms that would not have been viable at entry. A loss-sharing solution of lowering tariffs in exchange for an extension of the PPA term has been the most common approach, and has been successfully used in Pakistan, Thailand, and Guatemala. The IPP shareholders in these situations have real-

ized returns below what they expected or would have found acceptable at entry. In a few cases, such as in Indonesia and India, PPAs have been cancelled or remain in dispute.

The WBG supported IPPs in the 1990s—indeed, IFC was a pioneer in financing IPPs, which currently constitute the majority of its power portfolio. At the beginning of the IPP era, in the late-1980s, the Bank had reservations about the compatibility of private sector profit objectives and the public sector's objective of providing reliable low-cost power supply. The Bank subsequently embraced the trend and in a few cases, such as Pakistan and Côte d'Ivoire, provided financial support to IPPs through on-lending instruments and guarantees. Because of the lack of developing country models and experience, the WBG learned how to implement IPPs by actually doing them, and derived lessons over the years. A few of the first WBG-supported IPPs were among those that have encountered allegations of less than arm's-length contractual arrangements. The WBG had become more selective in its support for IPPs, turning down proposals (in India, Indonesia, and in the Philippines) that it considered uncompetitive, too risky, not transparently awarded, or disadvantageous to the country.

Recent problems with IPPs in several countries have led many developers to conclude that the rates of return in power generation in developing countries have become too low relative to the risks that have emerged and to the more advantageous risk–reward profiles available in industrial countries. This has coincided with a general withdrawal of international financiers from developing countries since 1998, partly in reaction to unpredictable, but recurring country crises. Unsustainable long-term PPAs with state-owned offtakers are appearing to be riskier than transparently and competitively chosen merchant plants in fully functioning power markets. This realization has caused a reversal of the positive sentiments of international financiers and sponsors toward private power generation in developing countries. To counter this trend, the WBG needs to work with developers, lenders, policymakers, and ratepayer stakeholders to determine the necessary country and sector reforms to make IPPs in developing countries attractive and sustainable. This should minimize the risk of going through hostile renegotiations. The WBG should emphasize the need for: (i) accompanying reforms in T&D and dispatch rules; (ii) more realistic demand and supply projections that include reserve capacity and that are prepared by both government planners and the private sector; (iii) a balancing of investments across generation, transmission, and distribution to meet demand growth, extend service to the poor, and minimize the risk of imbalance system capacity; (iv) a reasonable action plan and time-based program to build an enabling environment for competitive and fully functioning power exchange markets that are efficient and able to remunerate capital appropriately within a risk-sharing framework that can attract appropriate financing; and (v) a reform framework that recognizes that market forces alone cannot ensure timely capacity build-up—in other words, a combination of regulation and private sector promotion initiatives is essential for long-term demand/supply equilibrium.

Reform steps are means, not ends

Evidence from the literature and portfolio reviews indicates that a purely public sector ownership and monopoly structure should not be a permanent goal, but it is important to sequence reform steps such that they serve as tools and do not become ends in themselves. The Bank's approach to sector reform, as it evolved in the 1990s, went beyond what was mandated by the 1993 Electric Power Lending Policy. The policy promoted commercialization and corporatization before privatization, as a means to introduce competition and innovation. It was based mainly on the reforms in Chile, England, and Wales, which were the only experiences available at that time. Most power sectors of Bank client countries, however, showed little prospect for reaching commercial standards because of the inefficiencies from state ownership and poor governance. Subsequent to the 1993 policy, and without enunciating it as a major strategic change, the Bank thus mostly advocated privatization (as well as private participation through management contracts) as a means to achieving commercialization.

The evidence on the timing and sequencing of reforms and PSDE is ambiguous. There are country lessons where leapfrogging to privatization as a means to achieve commercialization has led to positive sector change (Kazakhstan and Central European countries). Even where this approach was not wholly successful, service quality and coverage are still typically better than they would have been otherwise, as evidenced by comparing adjacent utilities in the same country that were not privatized (Georgia, and Orissa in India). There are also clear examples of negative consequences (Ukraine), however, and the alternative reform approach has also shown both successful and unsuccessful results. Substantial efficiency gains were achieved in some countries where good public governance and the right tariff structures were first put in place (some ECA countries), but there are also many situations when decades of Bank support for the reform of public monopolies had little or no success (many AFR and some SAR countries). Two examples are provided below on issues that arise when reform steps—regulatory improvements and unbundling—become ends in themselves. The WBG should not dogmatically prescribe a checklist of minimum preconditions for PSD and privatization, but neither is it feasible to simply let markets and investor appetite decide alone. In cases where intermediate steps to reform the public sector are required, PSDE must be a clear long-term goal. The WBG's clients are too diverse to follow a single blueprint for reform sequencing, thus underlining the importance of country specificity.

Regulatory improvements are essential means toward achieving PSDE reforms. Bank lending operations have provided assistance for the establishment of regulatory bodies, but this has proved to be a slow and lengthy capacity-building exercise, with establishment of a regulatory body becoming an end in itself. Based on the portfolio review, there are few successful examples of this, most of them recently in Latin America. In most countries there have been long delays in setting up adequate regulatory mechanisms, even where there was entry of private operators or IPPs (the absence of effective retail-level regulation was one factor that in several countries precipitated PPA renegotiations with IPPs). Furthermore, there are many instances of ineffective regulators due to poor legislation, lack of autonomy, weak technical skills, and politicization of decisions.

Lack of regulatory skills, which affects both the regulatory agencies and the regulated entities, is particularly acute in small countries and in all of Sub-Saharan Africa (except South Africa), based on OED's literature and portfolio reviews. Outside Latin America, where electricity and gas often have the same regulator, as in Colombia, Chile, and Mexico, local empire building and the existence of too many regulators (such as separate electric power, gas, telecommunications, and water regulators) often have exacerbated the dispersion of scarce regulatory expertise.[4] While there has been considerable debate within the Bank about the appropriateness of multisectoral regulation, interviewees suggest that the Bank may have contributed to this situation through lack of cross-sectoral coordination among project staff. Even with "umbrella" (multisectoral) regulators, effective and credible regulation will be difficult in many of the Bank's borrowers for many years to come. This will have important implications for the near-term viability of PSDE and WBG activities in these environments. One concrete step to strengthen a multisectoral approach to regulation within the Bank would be to organize the network side of power supply with the network side of other infrastructure services to capture pooled knowledge about regulation, industry structure, market structure and trading arrangements, and privatization experiences, with a view to adapting this knowledge to individual country situations.

Ideally, regulators should be financed from a levy on consumers that is paid directly to the regulator and should have separate employer status from the public service, but experience shows a widespread reluctance to give regulators such autonomy. Most regulators are financially dependent on the government budget, and this limits their autonomy as well as their financial resources to hire expert staff or consultants. Few regulatory bodies can pay good salaries[5] and attract the right talent. Most are underfunded and reliant

on donor support for initial startup costs, staff training, and consultants. Ministers and technocrats are rarely willing to cede authority,[6] so pronouncements of support to independent regulation can be less than genuine commitment. Many regulated power sector entities are still publicly owned, so the regulator lacks clout to enforce decisions. Tariffs furthermore remain a politically sensitive matter virtually everywhere, making it unrealistic that decisions on tariffs can be made on a technocratic basis. Ultimately, for most of the Bank's borrowers rate hikes need to be endorsed at the ministerial or cabinet level.[7] Politically motivated decisions in some countries have reduced the effectiveness of even technically capable regulatory agencies.[8] This is very hard to change, but doing so is crucial to the long-term viability of independent regulation.

The Bank's experience with unbundling reinforces the lesson of keeping reforms as the means to an end. Sector unbundling of generation, transmission, and distribution has been considered a linchpin of the reform process, as it is the gateway to establishing competitive markets in generation and distribution. Despite widespread adoption of the many variants of this concept in a wide range of industrial and developing countries, it remains a work in progress. International experience to date indicates that a variety of approaches are being tried, with highly mixed results. To achieve the potential benefits of unbundling requires a willingness and ability to move to the next step in promoting private, competitive markets in generation and distribution, and this in turn requires an understanding of property rights, an adequate legal framework and dispute resolution mechanisms, smoothly functioning capital markets, freedom of entry and exit for investments, and highly developed political and economic institutions.[9] Lessons of experience (as discussed in the draft ECA study discussed below) include the need to assess the readiness of the sector to move on to the next step, and to assess market size as a potential limitation to unbundling.

In the late-1990s and until recently, key donors (including the WBG) were perceived to profess that unbundling, privatization, and the establishment of a competitive power pool was the best way to achieve power sector reforms, almost regardless of the size of a country and its utilities, level of development, and the extent of disarray in the sector. A recent internal review in the ECA region of experience with power sector reform and private sector participation in the 1990s draws some important conclusions that also appear to be valid elsewhere, particularly in AFR. Both these regions are characterized by weak commercial performance by their utilities, macroeconomic instability, low and/or declining incomes, poor governance, and unattractive private investor environments. In ECA, Bank operations have emphasized the need to unbundle the sector, to privatize distribution and generation, and to introduce competition and consumer choice. These operations have the objectives of bringing in foreign private resources for sector rehabilitation and possible expansion, improving managerial competence, and upgrading sector efficiency.

The ECA review reveals that the application of a standard, sophisticated model in all situations did not produce the desired results. It concludes that the push for unbundling and privatization was premature in ECA and that the attempt to leap from a totally noncommercial state-owned entity, run like a government department, to private commercial utilities did not work. In the Caucasus and Central Asia regions, experience to date with unbundling and privatization has either resulted in a lack of investor interest, low offer prices for assets, disinvestments by the private sector, political opposition, and stalled reforms. In many countries investor fatigue has set in. The response to invitations for privatization has become so small as to negate the concept of competition, and there are examples of investors withdrawing from investments already made. Sector unbundling in countries of the former Soviet Union (including Armenia, Georgia, Kazakhstan, and Ukraine) actually exacerbated payment problems because the distribution utilities retained whatever cash they collected and starved the upstream suppliers. The negative impacts of pushing prematurely can be far-reaching, as in Ukraine (see Box 5.2). In many of the poorest, but not necessarily small countries (Kyrgyzstan), unbundling of distribution along geographical lines is rendered more difficult by the existence of unviable isolated grids serving small urban centers or large

numbers of rural consumers with very low average electricity usage.

In retrospect, based on the ECA experience it was unrealistic to believe that restructuring and privatization could somehow overcome legal, political, attitudinal, and payment obstacles and be immune to destabilizing macroeconomic factors. The key lesson is that to improve commercial performance, good corporate and sectoral governance are essential, regardless of sector structures and ownership. Whether privatization is the best immediate option to achieve these goals depends on country circumstances.

Unbundling regardless of market size and country factors is questionable. The literature suggests that in most of the Bank's smallest borrowers, particularly in Africa, unbundling is unlikely to facilitate the entry of private investors, particularly foreign ones. Such firms generally have minimum size requirements for them to consider entering new markets. In addition, there are economies of scale in management and in commercial practices, such as billing and collection. No African utility has yet been both unbundled and the resulting "segments" privatized, although a few have been unbundled (Uganda and Kenya) and a handful privatized. Viable distribution systems need economies of scale and excessive fragmentation does not work (Armenia, Georgia, Moldova). Reconcentration into larger entities has become necessary in several ECA countries.

Notwithstanding the foregoing findings from ECA, there is also evidence from other regions that sector performance in countries that actually unbundled and privatized did improve, at times to a point of sound commercial performance. Private participation has led to better pricing, lower losses, higher collections, and greater access, and private participation also had a role in the cases where state-owned monopolies have been turned around from high losses and low collection rates. Unbundling in small countries can occasionally succeed, as the Bank's experience in El Salvador has shown. That said, unbundling has not always been recommended by the WBG. EdM (Mali), a combined power and water utility with about 80,000 consumers, has recently been successfully privatized in its existing form. SONEL of Cameroon, though a much larger utility with more than 400,000 customers, was recently privatized as an integrated company on IFC advice, reflecting investor and government preference and the wish to avoid "orphaning" some or all of the distribution system in the event of unbundling.

Reforms in transmission and distribution are as important as reforms in generation

Improvements in the distribution subsector—better cash collections, loss reduction, good governance, better targeting of subsidies, and distribution privatization—deserve more intensive reform efforts and investment support by governments and the WBG alike. The factors responsible for increasing private participation in the power sector of developing countries (power shortages, technological change, and search for markets by equipment makers) have emphasized generation over transmission and distribution. Swept by the market wave, the WBG's attention to PSDE also concentrated originally in the generation subsector. However, it has become clear that private investments in generation are vulnerable to financial problems in the distribution end of the industry and local vested interests defending the status quo.

The importance of distribution reforms has been highlighted in the section on IPPs (see *Reform steps are means, not ends*). Liberalizing the generation subsector, without implementing a corresponding reform package to improve distribution, can impair the effectiveness of the overall reform program. It is now widely recognized that achieving positive sector outcomes will depend on devising workable solutions to the complex business of retailing electricity. As the EBRD puts it, "If cash collection is a problem, distribution should be privatized before generation" (EBRD 2001). Promoting PSDE in noncommercial distribution entities has been difficult. To attract investors and sustain private sector involvement in distribution, experience shows that: (i) the government should clearly state its reform policy and back it up by passing the enabling legislation; (ii) the government should demonstrate its commitment to improved governance, notably through support for law and order, antitheft and bill collection measures, and restraints from interference in regulatory processes; (iii) the reg-

ulatory agency should have clear functional independence, regulatory rules that provide a degree of certainty on tariff adjustments, and processes that are perceived as fair and transparent; and (iv) power suppliers should have independent boards and financial management.

South Asia offers a powerful illustration of the importance of addressing the commercial weaknesses in power distribution as early as possible. The sustainability of private investment in generation depends crucially on collecting the cash from the final consumer. Realization of the overwhelming importance of well-run distribution systems was slow to emerge but is now widespread, following the virtual bankruptcy of WAPDA in Pakistan[10] and the SEB in Maharashtra (India),[11] triggered by their difficulty in meeting payments to IPPs. In Bangladesh, the main utility, BPDB, also suffers from high energy losses of about 20 percent,[12] has weak revenue collections, and lost US$55 million each year on average during the second half of the 1990s. Payments to IPPs have been kept up only by accumulating arrears to state-owned gas suppliers and by nonpayment of debt service to the government.

There are no simple recipes for the reform of power distribution because of the large scale of the sector and the labor intensity, political opposition, vested interests, and corruption that characterize it. New ways are being developed to increase private participation in distribution, such as the allocation of risks that are beyond the investors' control for the transition period, the design of the transaction strategy, management of policy risk, and the phasing-in of privatization. The results of these initiatives need to be monitored, but success stories so far are few, and most of them are in Latin America (see Table 5.1). No comparable progress has occurred in any of the other regions. The exception, noted earlier, is Côte d'Ivoire, where (CIE) achieved major improvements in coverage, service, and collections.

Toward Improving WBG Processes

The sins of commission—as well as omission—discussed in the preceding sections highlight the need for the senior management of the Bank Group to encourage operational innovations that would help the WBG achieve greater consistency between its PSDE goals and its business directions. In addition to designing better interventions, the WBG needs to adapt its processes to the rapidly changing environment in the electric power sector. This study has identified areas where more could be done regarding the degree of coordination among the Bank Group institutions and, in some respects, the degree of coordination within those institutions. For example, during the 1990s IFC's electric power investment accelerated, by way of financing projects in power sectors open to private capital in different stages of the country's power reforms. IFC's power investments in the 1990s showed above average performance ratings. For the Bank, however, sec-

Table 5.1 **Performance Improvement of South American Electricity Distribution Companies**

Country (distribution company)	Peru (Luz del Sur)	Argentina (Edesur)	Argentina (Edenor)	Chile (Chilectra)
Year privatized	1994	1992	1992	1987
Energy sales (GWh/year)	+19%	+79%	+82%	+26%
Energy losses (%)	–50%	–68%	–63%	–70%
Number of employees	–43%	–60%	–63%	–9%
Customers per employee	+135%	+180%	+215%	+37%
Net receivables (days)	–27%	–38%	n.a.	–68%
Provisions for bad debts (% sales)	–65%	–35%	n.a.	–88%

Note: Performance improvement measured from date of privatization until 1998 in terms of performance relative to the year of privatization.

Source: Bacon and Besant-Jones (2001).

tor reform achievements were low (except in LAC and some ECA countries), and the quality of reform efforts was unsatisfactory. In a few cases where there was no internal discussion among task managers the WBG sent conflicting signals to client countries and sponsors, and the nonalignment of incentive structures led to competition among WBG instruments (discussed below). These contrasting Bank and IFC assessments reflect underlying differences between the Bank and IFC that need to be better coordinated within the context of the Country Assistance Strategy (CAS) process, and through cross-training to promote a better understanding between the Bank and IFC. At the same time, proactivity and flexibility are also required to respond to the rapidly evolving country-sector conditions and opportunities for PSDE that are not always foreseeable in the CAS.

Country Assistance Strategies treat PSDE only briefly, if at all

The WBG needs to improve the integration of its PSDE objectives within the CAS framework, based on a review of CAS Retrospectives and background papers for the energy sector strategy paper. Each CAS should discuss whether Bank financial or analytical support to PSDE is needed, and how the contributions of the Bank, IFC, and MIGA can be best combined—even in cases where the principle of selectivity may lead the WBG to conclude that no intervention is desirable. Most CASs treat PSD in general, and PSDE in particular, very briefly. The 2000 CAS Retrospective notes that only 60 percent of CASs have a separate section on the role of the private sector, and the rest only make passing references to privatization and competition. Only about one-fourth of CASs contain a detailed discussion of private sector issues.

CASs prepared jointly by the Bank and IFC are generally more thorough in their treatment of PSDE than Bank-only CASs. For example, the 2002 CAS Retrospective finds that 100 percent of Bank–IFC joint CASs had a PSD rating of satisfactory or better, while only 61 percent of the nonjoint CASs were rated satisfactory. In other words, all of the CASs that rated less than fully satisfactory for their treatment of PSD issues were nonjoint CASs.

The CAS framework is the most logical context within which to address Bank Group-wide issues related to reform sequencing, IPPs, and the overall regulatory framework. In the joint 1999 Philippine CAS, for example, PSDE issues were discussed in detail in two separate sections. IFC's roles and strategies for PSD in the Philippines, with a focus on the electric power sector, were also highlighted. The same is true for the joint 2001 India CAS, which emphasized the need for support of the PSDE agenda; IFC's PSDE priorities in India were likewise discussed. In contrast, the Bank-only CAS for Russia (1999), while it had a section on PSD, did not address PSDE issues, despite the critical importance of the energy sector in Russia's fiscal balances.

Bank Group instruments sometimes compete with each other

Competition among alternative financing mechanisms offered by the Bank (loans, credit lines such as Private Sector Energy Development Funds, credits, partial risk guarantees) and IFC (equity investments, loans) have emerged in a few countries (Bangladesh and Sri Lanka). This is the logical consequence of private sponsors searching for the most appropriate project financing package. The WBG's PSD intervention should be along the lines of the PSD Strategy of April 2002, which states: "The broad division of labor in the WBG with regard to PSD is as follows: IBRD/IDA focus on investment climate and related institution building, improvements of governance, legal and regulatory systems, financial sector policies, and public financing. IFC pursues demonstration projects that promote the credibility of government policies, provides additional service in local markets and provides political risk protection to cofinanciers. … MIGA provides focused political risk guarantees, institution building, and investment promotion assistance …" (World Bank 2002c). Financing for PSDE projects should adhere to the principle of market first, IFC/MIGA instruments second, and World Bank (through guarantee and on-lending instruments) third. With respect to PSDE advisory, the joint World Bank/IFC Private Sector Advisory Department, established

in 2000, should facilitate a smooth coordination with the World Bank, focusing at the sector level (while being informed by IFC), and IFC at the transaction level.

Competition could also arise within the Bank, between lending and partial risk guarantee instruments and between the advisory and technical assistance of the Bank and IFC. While such conflicts would partly be the result of bureaucratic tussles between regional and central departments, the right venue for instrument selection and deciding WBG interventions is clearly the CAS. The WBG could also develop a mechanism for such conflicts that could go beyond the CAS.

Possible conflicts of interest should be avoided

Warning signals have emerged of the potential for conflicts of interest to arise, not only between the Bank and the IFC but also within each member of the WBG. Not many cases of actual conflict have been found, but it is important to flag this potential, which arises mostly because of the institutions' involvement in both the legal and regulatory environment and the financing of specific private sector projects whose financial returns are affected by that environment.

Within the Bank, projects and analytical work in several countries have focused on improving the legal and regulatory framework while also providing financing for private sector power projects through credit lines and/or partial risk guarantees (Pakistan and Côte d'Ivoire). While sovereign guarantee means that the Bank has no financial interest (or risk) in the specific subprojects it has financed, it does have a reputational risk related to their performance. For example, critics may argue that the Bank's advice and support on the legal and regulatory framework is biased supporting favor of subprojects indirectly financed by the Bank. When a partial risk guarantee is involved, the Bank's financial involvement (and risk) is even more directly linked to the subproject's performance—even given the government's counter-guarantee.

A specific example of the appearance of conflict of interest is the advice regarding IPPs: while the Bank is fully justified in arguing for a countrywide approach to new capacity generation through IPPs, considering the macroeconomic impact of these projects, the advice regarding a limit on the approval of new IPPs could be construed by the sponsors as an attempt by the Bank to limit the market to protect the profitability of the IPPs it has already financed.

Another example is the WBG's inability to act as an honest broker in disputes involving claims affecting some IPPs with Bank and IFC financing and others without; or more generally, in all disputes between governments and IPPs, including those in which the private projects have Bank (sub)loans or partial risk guarantees. One possible way to address this dilemma would be to require a more strict specialization of the Bank and the IFC in their strategic involvement in PSDE (with the Bank limited to assisting in matters regarding the legal and regulatory framework, but not on specific subprojects), but such an approach would not be consistent with the rationale for Bank partial risk guarantees.

Between the Bank and IFC, the potential for conflict of interest emerges from a parallel set of circumstances, the Bank's support for legal and regulatory framework reforms affecting the financial and overall performance of IFC-supported private sector projects. With a clear division of labor and clear strategic specialization, together with the continued enforcement of the "firewall" between the respective units in the Bank and IFC, the potential for conflict of interest can be minimized, although it will continue to require vigilance and risk management. Within IFC there additionally is the potential for conflict of interest between the advisory and investment functions. IFC mitigates this by locating these operations in different departments.

Recommendations

The Approach Paper for this study indicates that its objective is to inform the implementation of the Bank Group's Energy Business Renewal Strategy (EBRS). Where properly implemented, PSDE has delivered results, and the WBG should continue to support such interventions. The WBG can play a facilitating role in rekindling private sector interest in the electric power sector by filling the financing gaps with advice and by lending support, but it needs to do so selectively; that is, only in countries that are genuinely committed to a long-term reform agenda. Based on the evaluation evidence and findings, the study recommends the following:

a) On an urgent basis, the WBG should provide operational guidance to WBG staff on when and how to promote PSDE in the current environment of heightened macroeconomic and political risks and scant investor interest. Such guidance should be grounded on the Bank's recently enacted PSD strategy.

- The Bank's Energy and Mining Sector Board, in close consultation with the Private Sector Development Board, should provide WBG staff with updated and practical operational guidance for pursuing PSDE, based on what works best, in terms of reform packages and their sequencing, given particular country-sector situations, needs, and institutional capacities. Best practices can be developed for a range of most frequently observed country attributes.
- The development of this guidance should be undertaken jointly and coordinated across the Bank, IFC, and MIGA, and it should define a framework to fully analyze the PSDE alternatives that ensure environmental sustainability and align with the WBG's poverty reduction mission.
- WBG senior management should clarify the roles of the Bank, IFC, and MIGA in promoting PSDE, particularly in terms of committing greater financial and advisory support.

b) In its future PSDE interventions, the WBG should give greater emphasis to the mainstreaming of the poverty reduction and environmental objectives (in addition to its traditional macrofiscal and sector efficiency objectives) that are at the core of the WBG's overall energy strategy.

- The WBG should focus on reforming and facilitating private investments in the distribution

subsector. This will require actions to improve cash collections, reduce losses, address corruption, achieve better targeting of subsidies, and, where circumstances permit, to privatize distribution.

- The WBG should maximize the involvement of the local private sector in small-scale and/or decentralized projects. This will require innovative approaches and much better cross-sectoral integration within the Bank and between the Bank, IFC, and MIGA.

c) The WBG should encourage operational innovations to ensure greater consistency between its practices and instruments and its PSDE goals as they evolve.

- The WBG needs to improve the coordination of the various units active in PSDE. To this end, it should pursue better integration of its PSDE objectives within the CAS framework (including in nonjoint CASs) and Poverty Reduction Strategy Papers (PRSPs).
- The Bank, IFC, and MIGA management should support flexibility and the exercise of initiative in PSDE operations and AAA, to enable better response to rapidly changing country-sector conditions and opportunities that are not always foreseeable in the CAS. Through its diverse lending and advisory instruments, the WBG should promote more public–private partnerships and promising innovations, such as the pro-poor design of reforms and output-based aid schemes, for which robust monitoring and evaluation systems are essential.
- The WBG should develop performance indicators and related internal systems and should help in strengthening borrower capacities, including project funding, to monitor and evaluate the achievements and impacts of its PSDE interventions. These M&E efforts should be keyed to the EBRS and other relevant strategy and policy objectives, especially in the relatively neglected areas of helping the poor and mainstreaming environmental sustainability.

ANNEXES

ANNEX A: METHODOLOGY AND INSTRUMENTS

Scope and Limitations

The study evaluates the performance of WBG activities in PSDE against policy commitments it has made since (i) the 1993 Policy Paper ("The World Bank's Role in the Electric Power Sector: Policies for Effective Institutional, Regulatory and Financial Reform"); (ii) the Policy Paper's 1996 Best Practice statement; and (iii) the May 2001 Energy Business Renewal Strategy (EBRS). The study does not review the broader, underlying rationale for promoting PSD. The original scope of the study, as envisioned in the Approach Paper, also included coal, oil, and gas, which will now be covered by a separate Extractive Industries Review conceived after the decision to undertake this study.

The study focuses on the activities of IBRD/IDA (or "the Bank"), IFC, and MIGA in the electric power sector, including renewables. Since very few countries have gone through the full set of reforms, this study evaluates mainly the PSDE promotion process. It assesses outcomes and impacts within the limits of the available literature, including existing evaluations and five country studies (Côte d'Ivoire, Pakistan, the Philippines, Poland, and Turkey). This is a joint study of the Operation Evaluation Department (OED) of the Bank, the Operations Evaluation Group (OEG) of the IFC, and the Operations Evaluation Unit (OEU) of MIGA. Project performance and outcome ratings in this study are based on the respective evaluation criteria of the Bank, IFC, and MIGA. The study period focuses on FY90–99, but the study also provides observations on the PSDE activities of the WBG in FY00–01.

For the Bank, input and available output indicators were collected during Phase 1 for the entire Bank PSDE portfolio, which includes PSDE-related projects in the electric power, economic policy, public sector management, private sector development, and finance sectors. Further data on project outputs and information on outcomes were collected during Phase 2 through a review of Project Status Reports (for active projects) and Implementation Completion Reports, Evaluation Summaries, and Project Performance Assessment Reports (for closed projects), as well as a Task Manager (TM) Survey. The purpose of the TM survey was to obtain data on sector-level outcomes, because of lack of data from the aforementioned project documentation, which generally focus on project-specific results. This may have its limitations, as some bias may have been introduced by having TMs assess the contribution to overall sector reforms made by projects for which they were responsible. A blank copy of the TM Survey form is attached. Some results of the survey were useful for providing technical and other specific information, as the response rate was relatively low. The PSDE-related AAA was studied in depth for the country case studies, based on generally accepted AAA criteria. Comments were also received from a group of external reviewers and taken into account in the final drafting of the study.[1]

For IFC, this study covers, to the extent data permit, power sector operations approved from FY90 to FY99, comprising 57 investment operations. This study does not include nonpower projects with power components, except for power sector-focused financial markets projects.

Methodology

Phase 1

The overall methodology for this study is summarized in the design matrix in the table below. Phase 1 is based on a desk review. The literature

review assessed recent evaluations as well as global PSDE issues and trends based mainly on internal reports and summaries of global experience. The portfolio review analyzed the energy, public sector reform, adjustment, and other sectoral lending data, leading to the identification of 154 Bank projects that support PSDE exclusively (16) or have PSDE components (138).

To achieve depth and representativeness of the overall PSDE portfolio, the OED review concentrated on 15 countries that together account for 55 percent of the projects in the Bank's portfolio (Argentina, Bolivia, China, Côte d'Ivoire, Ghana, India, Indonesia, Pakistan, Panama, the Philippines, Poland, Russia, Thailand, Turkey, and Ukraine). A Project Evaluation Brief (PEB) was prepared for each of the PSDE-related projects in these countries. The PEBs include PSDE-specific project data, such as PSDE reform areas addressed, agreed actions, and instruments proposed to achieve the PSDE objectives; project ratings were taken from OED's Evaluation Summary for closed projects and from the latest Project Status Report (PSR) for active projects. The PEBs were updated during Phase 2 to include results from the Task Manager survey, described in Phase 2 below.

The IFC portfolio review covered 100 percent of the investments and advisory operations approved and committed in the 1990s. OEG reviewed the objectives, design, and structure of 57 power projects; examined the portfolio performance of the investment operations approved and committed in the 1990s relative to the entire IFC portfolio; and looked into existing self-evaluations of power projects. It drew from the Power Sector Strategy and Business Plan Papers, Project Supervision Reports, Board Reports, Background Papers for the EBRS, Annual Review of Portfolio Performance, and corporate portfolio data maintained by IFC's Portfolio Management Unit.

OEU's review of MIGA political risk guarantees also covered 100 percent of the portfolio. OEU reviewed data on 72 guarantees for 39 electric power projects in 25 countries.

Phase 2

Phase 2 consisted of a metasynthesis of evaluation findings, based on desk studies and selected field visits to study countries and on evaluation findings at the project level. It focused on evaluating the results and lessons learned from the WBG's PSDE interventions, including their performance with respect to EBRS objectives; namely, promoting PSD, macrofiscal balancing, helping the poor directly, and protecting the environment. The specific indicators for these objectives are as follows:

- ***Promote good governance and PSD*** by creating transparent, nondiscriminatory regulatory mechanisms; introducing and expanding competition and cross-border trade; divesting assets to socially responsible and corruption-free strategic investors; catalyzing private investments; and strengthening the voice of consumers and communities.
- ***Improve macrofiscal balances*** by replacing public with private investments; rationalizing taxes, managing risks associated with contingent public liabilities; financing public restructuring costs; eliminating operating subsidies to public enterprises; and boosting budget revenues through commercialization and privatization.
- ***Help the poor directly*** by facilitating access to modern, cleaner fuels and electricity; reducing costs and improving quality for low-income households; ensuring that subsidies target and reach the poor; and promoting energy-efficient and less-polluting end-use technologies.
- ***Protect the environment*** by strengthening environmental management capacity; removing market barriers to renewables and energy efficiency; and facilitating carbon trading and joint investments to reduce greenhouse gases.

OED conducted a task manager survey to obtain data on the outcomes of PSDE components (see paragraph 3 on its limitations). Most of the

Table A.1 Summary of Portfolio Review Methodology

	Key Evaluation Question	Data Needed to Answer the Question	Documentation and Sources of Evidence	Instruments to Record Data and Evaluation Findings (involving both statistical and content analysis)
PHASE 1	1. How have private participation and the WBG's role in the energy sector changed during the 1990s?	• IFC investment and advisory operations • Bank, IFC, and MIGA strategies • Bank projects (freestanding PSDE projects and projects with PSDE components in energy and non-energy sectors) • PSDE objectives and actions in Bank lending portfolio • Bank ESW/AAA for PSDE	• WBG Policy Statements • Bank's Regional Sector Strategy Papers • SARs • PADs • Legal documents (loan and project agreements) • IFC strategy papers and business plans	• Bank Project Evaluation Briefs • CAS-PSDE program matrices • Synthesis of existing self-evaluations • Literature review
	2. To what extent has the WBG's energy assistance supported its strategic direction to promote PSDE?	• Bank ratings at closing of 16 freestanding projects, performance data from PSRs, ICRs, and PPARs for 138 projects with PSDE components • Desk review of PSDE content of CASs • Objective, design, and structure of IFC projects and advisory operations	• OED ratings database • QAG quality-at-entry assessments • PSRs • ICRs • Evaluation summaries • PPARs • Existing self-evaluation reports • IFC project documents • IFC project teams	• tCAS-PSDE program matrices • Short summary evaluations of Bank PSDE programs for the 15 core countries • IFC and MIGA portfolio review • Literature review
PHASES 1 & 2	3. What have been the results of the WBG's interventions?	• Financial flows • Economic results • Social and poverty reduction effects • Environmental indicators • Portfolio performance indicators • Development and investment outcome of mature IFC projects	• Survey of Bank task managers (focusing on PSDE components) • Bank supervision back-to-office reports, mid-term reviews, and action letters • Field missions • IFC project appraisal and supervision documents • IFC project teams • Bank and IFC portfolio reviews	• Project Evaluation Briefs update • Country Case Studies • Mini-evaluation of IFC and MIGA projects • Literature review update
	4. What are the lessons for accelerating progress in achieving the WBG's PSDE objectives?	• EBRS performance indicators • Factors of internal and external effectiveness • Success drivers and obstacles	• Survey • Bank staff and client interviews • Advisory panel • Field workshops • IFC project teams • Existing self-evaluation	• Summary evaluations of Bank PSDE programs • Synthesis of IFC and MIGA evaluation findings

Bank's PSDE interventions are components of larger projects, and information on components has not been reported adequately. The survey was followed up using in-depth interviews with selected Bank sector managers and staff. In preparation for Phase 2, a CAS-PSDE Program Matrix was prepared for each of the 15 focus countries. These matrices trace the 1990s evolution of the PSDE focus (if any) in the Country Assistance Strategy, the level of policy support, and the AAA and lending program. The CAS framework is relevant because an evaluation based on individual projects would not capture the evolution of power sector reforms since the early 1990s. Moreover, many of the Bank Group-level coordination and strategic issues raised in the evaluation can only be addressed at the CAS level. Each matrix has a draft country-level PSDE performance evaluation summary to assess, on a preliminary basis, the overall relevance, outcome, and effectiveness of the PSDE program in each country, thus providing the evaluators with a set of working hypotheses for Phase 2. Many of these hypotheses were guided by the literature review. Both the matrices and the evaluation summaries provide an interim aggregation of Phase 1 data, which will be corroborated or revised from the Phase 2 findings.

In the derivation of evaluative findings, the main unit of account is the country-level PSDE program of lending and ESW/AAA (economic and sector work/analytical advisory assistance) during the 1990s and up to the present. The Bank's project-level results are also presented in different aggregations but are mostly used as building blocks to assess country progress against PSDE objectives.

OEG presented existing evaluation findings for all mature IFC projects (15) and evaluated all mature and active projects (14) that have not undergone self-evaluation. OEG conducted a mini-evaluation of each of these projects using an abbreviated version of the Expanded Project Supervision Report (XPSR) evaluation framework. These mini-evaluations were drawn from interviews with IFC investment teams and from field visits to projects in case study countries. Each investment operation is rated based on three distinct outcomes:

- *Development outcome* – the project's impact on a country's development
- *Investment outcome* – the operation's gross contribution to IFC's income
- *Effectiveness* – IFC's contribution to the operation's outcome.

OEG synthesized the findings from all existing and pending evaluations with a view to deriving global IFC sector-level conclusions. The IFC evaluation draws from OEG's Annual Review Findings to the extent appropriate. It is not simply an electric power sector slice of the Annual Review, but builds on the findings of the Annual Review as relevant to the electric power sector.

In addition to reviewing *ex ante* data from all guarantees in the electric power sector, OEU provided synthesized findings of the impacts of evaluated operations in that sector.

OED/ OEG Study
on
Private Sector Development
in the Electric Power Sector (PSDE)
Sector Managers and Task Team Leaders Survey

We would be especially grateful if you would fill in the "Comments" boxes. Thank you very much for your time and effort!

Please enter your name:

Please enter the country for which you are evaluating the PSDE program:

Q1. To what extent is PSDE a priority in the current CAS?

Q2. What ESW/AAA did the Bank support to promote PSDE?

Q2a. What role did the ESW/AAA play in achieving the PSDE objectives of your lending program?

Q3. How did your PSDE program of lending and ESW/AAA support the four priority areas of the May 2001 Energy Business Renewal Strategy? (circle all that apply)

a) Promoted good governance and PSD
b) Helped the poor directly
c) Improved macro/fiscal balances
d) Protected the environment

Q4. Please rate the overall outcome, institutional development impact, sustainability, Bank performance and borrower performance of your PSDE program:

Outcome

O Highly Satisfactory
O Satisfactory
O Moderately Satisfactory
O Moderately Unsatisfactory
O Unsatisfactory
Comments:

Institutional Development Impact

O High
O Substantial
O Modest
O Negligible
Comments:

Sustainability

O Highly Likely
O Likely
O Unlikely
O Highly Unlikely
O Not Evaluable
Comments:

Bank performance

O Highly Satisfactory
O Satisfactory
O Unsatisfactory
O Highly Unsatisfactory
Comments:

Borrower performance

O Highly Satisfactory
O Satisfactory
O Unsatisfactory
O Highly Unsatisfactory
Comments:

Q5. How well did the Bank coordinate with IFC and MIGA in implementing the PSDE program?

Q6. How well did the Bank coordinate with its partners (including the private sector, regional banks, and bilateral donors)?

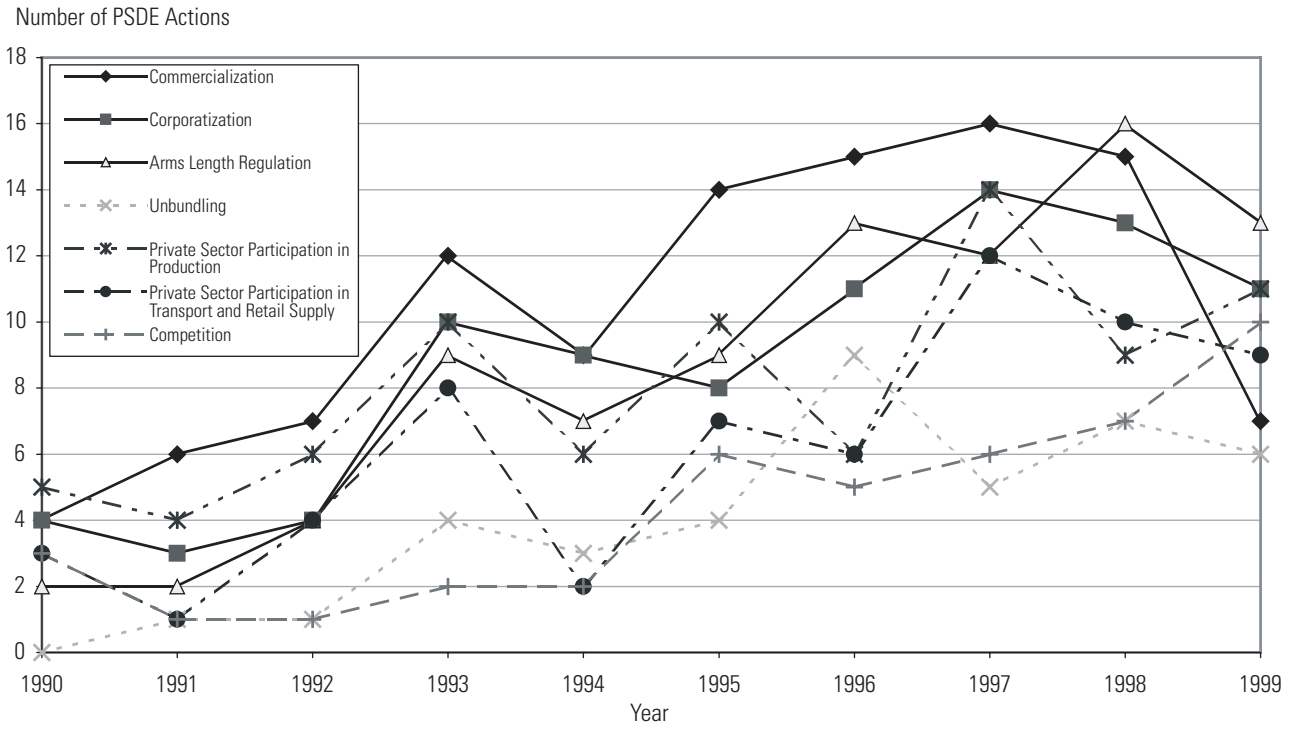
Q7. What lessons learned from your PSDE program should be reflected in the OED/OEG study on the World Bank Group's performance in promoting PSDE? (For example, this could include lessons on what the Bank did right and what it could have done differently)

THANK YOU FOR ANSWERING THIS SURVEY!

ANNEX B: WORLD BANK GROUP PSDE PORTFOLIO-AT-A-GLANCE

	Bank	IFC	MIGA	Total
Total number of projects	***154***	***64***	***43***	***261***
Freestanding vs. components				
PSDE components	138			138
Freestanding PSDE projects	16	64	39	123
By status				
Active	58			
Closed	96			
By region				
EAP	35	6	9	50
ECA	39	7	2	48
AFR	30	3	2	35
LAC	25	22	20	70
SAR	20	16	6	43
MNA	5	2	0	7
By sector group				
Electric Power and Other Energy	108	64	39	215
Economic Policy	23			23
Private Sector Development	9			9
Public Sector Management	8			8
Oil and Gas	3			3
Finance	2			2
Environment	1			1
By instrument type				
Specific Investment Loans (SILs)	81			81
Structural Adjustment Loans (SALs)	27			27
Sector Investment and Maintenance Loans (SIMs)	11			11
Technical Assistance Loans (TALs)	15			15
Sectoral Adjustment Loans (SECALs)	8			8
SIL/ Partial Credit Guarantee	5			5
Partial Credit Guarantee	1			1
Partial Risk Guarantee	3			3
SIL/ Partial Risk Guarantee	1			1
Adaptable Program Loan (APL)	1			1
Rehabilitation Loan (RIL)	1			1
By ratings (closed projects)				
Highly Satisfactory	5			5
Satisfactory	44			44
Marginally Satisfactory	17			17
Marginally Unsatisfactory	4			4
Unsatisfactory	25			25
Highly Unsatisfactory	1			1
By ratings (active projects)				
Highly Satisfactory	3			5
Satisfactory	38			45
Unsatisfactory	12			14
Highly Unsatisfactory	0			0
Not Rated	5			5

ANNEX C: TRENDS IN PSDE OBJECTIVES IN THE BANK'S PORTFOLIO



ANNEX D: RATINGS OF FREESTANDING PROJECTS AND PROJECTS WITH PSDE COMPONENTS

Table D.1 16 Freestanding PSDE Projects

Project Name	Region	Country	FY of Approval	Year of Closing	Ratings: Active projects Latest PSR date	Development Objective	Implementation Progress	Environmental Plan	Financial Mgt	M & E	Ratings: Closed projects ES/ ICR/ or PAR	Outcome	Sustainability	Institutional Development	Bank Performance	Borrower Performance
ENERGY SECTOR ADJUSTMENT OPERATION	Africa	SENEGAL	1998		12/3/2001	S	S	NR	NA	S						
POWER SECTOR REFORM TECHNICAL ASSISTANCE	Latin America and Caribbean	BOLIVIA	1996	1999							ES	MS	L	M	U	U
ENERGY SECTOR TA	Latin America and Caribbean	COLOMBIA	1995	2001							ICR	S	HL	H	S	S
POWER MARKET DEVELOPMENT	Latin America and Caribbean	COLOMBIA	1996	2002							ICR	S	HL	H	S	S
POWER SECTOR TA	Latin America and Caribbean	EL SALVADOR	1992	1998							ES	S	L	S	S	S
ENERGY SECTOR ADJUSTMENT PROGRAM	Latin America and Caribbean	HONDURAS	1992	1996							EVM	MS	NE	M	S	?
ELECTRICITY PRIVATIZATION ADJUSTMENT	Latin America and Caribbean	PERU	1995	1999							ES	S	L	S	S	S
ENERGY SECTOR ADJUSTMENT LOAN	Middle East and N. Africa	JORDAN	1994	1998							ES	S	L	S	S	S
JORF LASFAR POWER PROJECT	Middle East and N. Africa	MOROCCO	1997													
PRIVATE POWER HS	South Asia	INDIA	1990	1996							ICR	S	L	S	S	
UTIL (TEC)																
PRIVATE POWER UTIL I	South Asia	INDIA	1991	1997							PAR	MS	L	S	S	S
PRIVATE POWER DEVT TA	South Asia	INDIA	1993	1997							PAR	U	U	M	U	U
HUB POWER GUARANTEE	South Asia	PAKISTAN	1994													
PRVT SEC EGY DEV I	South Asia	PAKISTAN	1994	1998							ES	U	U	N	U	U
PVT SEC EGY DEV II	South Asia	PAKISTAN	1995	2000							ES	U	U	N	U	U
UCH POWER PROJECT PARTIAL RISK GUARANTEE	South Asia	PAKISTAN	1996													

Table D.2 138 Projects with PSDE Components

Project Name	Region	Country	FY of Approval	Year of Closing	Ratings: Active projects Latest PSR date	Development Objective	Implementation Progress	Environmental Plan	Financial Mgt	M & E	Ratings: Closed projects ES/ ICR/ or PAR	Outcome	Sustainability	Institutional Development	Bank Performance	Borrower Performance
Power Sector Rehabilitation	AFR	Angola	1992	2000							ES	U	NE	N	U	U
Power Rehabilitation and Extension	AFR	Benin	1991	2000							ES	U	NE	N	U	U
Energy Sector Rehabilitation	AFR	Burundi	1991	1999							ES	U	U	N	U	U
Energy and Water Sector Reform	AFR	Cape Verde	1999		2/25/2002	S	S	NA	NA	S						
SNEL TA	AFR	Congo, Democ	1992	1995							ICR	U	U	M	U	U
Private Sector Energy	AFR	Côte d'Ivoire	1995		2/21/2002	HS	S	S	U	S						
Energy Sector Adjustment Loan	AFR	Côte d'Ivoire	1990	1991							PAR	MS	NE	M	MS	MS
Azito Power	AFR	Côte d'Ivoire	1999		6/29/2001-Project dropped											
Energy II	AFR	Ethiopia	1998		12/28/2001	S	S	HS	S	S						
Fifth Power Project	AFR	Ghana	1990	1997							PAR	MU	U	M	U	U
Nat'l Electrification	AFR	Ghana	1993	2000							ES	S	U	M	U	S
Thermal Power	AFR	Ghana	1995	2001	12/28/2001	S	S	S	U	S						
Economic Reform Support Operation	AFR	Ghana	1998	1999							ES	S	L	N	S	S
Second Economic Reform Support Operation	AFR	Ghana	1999	2001	12/27/2001	S	S	NA	NA	NA						
Power II	AFR	Guinea	1993	1999							PAR	U	U	N	U	U
Energy Sector Reform and Power Development	AFR	Kenya	1997		12/28/2001	S	S	S	U	S						
Energy Sector Development	AFR	Madagascar	1996		12/27/2001	S	S	NA	HU	S						
Power V	AFR	Malawi	1992	2001							ICR	U	U	M	S	U
Power II	AFR	Mali	1989	1998							ES	MS	U	M	S	U
Regional Hydropower Development	AFR	Mali	1997		12/21/2001	U	U	U	S	U						
Regional Hydropower Development	AFR	Mauritania	1997		12/21/2001	U	U	U	S	U						
Power System Maintenance and Rehabilitation	AFR	Nigeria	1990	1996							ES	U	U	M	U	U
Energy Sector Rehabilitation	AFR	Rwanda	1993		12/28/2001	S	S	S	S	S						
Regional Hydropower Development	AFR	Senegal	1997		12/21/2001	U	U	U	S	U						
Power Sector Rehabilitation	AFR	Sierra Leone	1992		12/28/2001	S	S	NA	S	S						
Power VI	AFR	Tanzania	1993		6/26/2001	S	S	S	U	S						

Table D.2 (continued)

Project Name	Region	Country	FY of Approval	Year of Closing	Ratings: Active projects Latest PSR date	Development Objective	Implementation Progress	Environmental Plan	Financial Mgt	M & E	Ratings: Closed projects ES/ ICR/ or PAR	Outcome	Sustainability	Institutional Development	Bank Performance	Borrower Performance
Togo/Benin Engineering and TA	AFR	Togo/Benin	1992	1999							ICR	U	L	M	S	S
Power Rehabilitation	AFR	Zambia	1998		12/3/2001	S	S	S	U	S						
Power III	AFR	Zimbabwe	1994	1999							ICR	S	L	S	S	HS
Phnom Penh Power Reh	EAP	Cambodia	1996	2000							ICR	S	L	SU	HS	S
Tianhuangping Hydro	EAP	China	1993	2002	12/27/2001	S	HS	NR	S	HS						
Yangzhou Thermal Power	EAP	China	1994	2002	12/21/2001	S	S	S	S	S						
Zhejiang Power Devt	EAP	China	1995	2003	12/27/2001	HS	HS	S	HS	HS						
Sichuan Transmission	EAP	China	1995	2002	12/27/2001	S	S	S	U	S						
Ertan Hydro II	EAP	China	1996	2001							ICR	S	L	SU	S	S
Waigaoqiao Thermal Power	EAP	China	1997	2007	12/25/2001	S	S	S	S	NR						
Inner Mongolia (Tuoketuo) Thermal Power	EAP	China	1997	2005	12/17/2001	S	S	S	NR	NR						
Hunan Power Develop.	EAP	China	1998	2005	12/21/2001	S	S	S	S	NA						
Technical Assistance for Public and Private Provision of Infrastructure	EAP	Indonesia	1991	1997							PAR	S	L	S	S	S
Sumatra and Kaliman P	EAP	Indonesia	1994	2001							ICR	U	U	M	S	S
Rural Elect II	EAP	Indonesia	1995	2000							ES	S	U	M	S	S
Pow. Trans and Dist II	EAP	Indonesia	1996	2002	12/27/2001	S	S	NR	HU	S						
Solar Homes Systems	EAP	Indonesia	1997	2001							ES	U	NE	S	HS	S
Renw. Ener Small Pw P	EAP	Indonesia	1997	2001	7/23/1998	U	U	NR	S	S						
Provincial Grid Integration	EAP	Lao, P.D.R.	1993	2000							ES	S	NE	S	S	S
Southern Provinces Rural Electrification	EAP	Lao, P.D.R.	1998		10/17/2001	U	S	S	U	S						
Leyte Cebu Geothermal	EAP	Philippines	1990	1996							ES	U	NE	M	U	Blank
Energy Sector Project	EAP	Philippines	1990	1996							PAR	MU	NE		U	U
Rural Elect	EAP	Philippines	1992	1998							PAR	U	NE	M	U	U
Power Sector Transmission and Rehabilitation	EAP	Philippines	1993	1997							ES	U	NE	M	U	U
Leyte-Luzon Geother.	EAP	Philippines	1994	2000							ES	U	U	M	U	U
Distribution System and Energy Efficiency	EAP	Thailand	1993	2000							ES	S	L	M	S	S

Table D.2 (continued)

Project Name	Region	Country	FY of Approval	Year of Closing	Ratings: Active projects Latest PSR date	Development Objective	Implementation Progress	Environmental Plan	Financial Mgt	M & E	Ratings: Closed projects ES/ ICR/ or PAR	Outcome	Sustainability	Institutional Development	Bank Performance	Borrower Performance
Second Power System Development	EAP	Thailand	1993	1995							ES	S	L	S	S	HS
Lam Takhong Pump Storage	EAP	Thailand	1995	2001							ICR	S	L	H	S	HS
Metropolitan Distribution Reinforcement	EAP	Thailand	1995	1999							ES	S	L	M	S	S
Distribution System Reinforcement	EAP	Thailand	1997	1999							ES	S	L	M	S	S
Distribution Automation and Reliability Improvement	EAP	Thailand	1997		12/27/2001	S	S	NA	S	S						
Economic Management Assistance	EAP	Thailand	1998		12/13/2002	S	S	NA	S	S						
Egat Investment Program Support	EAP	Thailand	1999		No PSRs in SAP											
Economic and Financial Adjustment Loan	EAP	Thailand	1999	2000							ES	S	L	S	S	S
Second Economic and Financial Adjustment	EAP	Thailand	1999	2000							ES	MS	L	M	S	S
Power Sector Rehabilitation and Expansion	EAP	Vietnam	1995	2000							ES	S	L	S	S	S
Power Development	EAP	Vietnam	1996	2000							ES	S	L	S	HS	S
Transmission, Distribution, and Disaster Reconstruction	EAP	Vietnam	1998		12/27/2001	U	S	S	U	S						
Power Transmission and Distribution	ECA	Albania	1996		10/29/2001	U	S	S	U	Blank						
Power Maintenance	ECA	Armenia	1995	1999							ES	S	HL	M	S	S
SAC I	ECA	Armenia	1996	1998							ES	S	L	M	S	S
SAC II	ECA	Armenia	1997	1999							ES	MS	Uncertain	M	S	S
SAC III	ECA	Armenia	1998	2001							ES	MS	L	M	S	S
Enterprise and Banking Privatization Adjustment Loan	ECA	Bosnia-Herzegovina	1999		12/18/2001	S	S	NA	NA	S						
Energy	ECA	Bulgaria	1993	2000							ES	S	L	H	S	S
District Heating Rehabilitation	ECA	Estonia	1994	2000							ES	S	L	H	S	S

Table D.2 (continued)

Project Name	Region	Country	FY of Approval	Year of Closing	Ratings: Active projects Latest PSR date	Development Objective	Implementation Progress	Environmental Plan	Financial Mgt	M & E	Ratings: Closed projects ES/ ICR/ or PAR	Outcome	Sustainability	Institutional Development	Bank Performance	Borrower Performance
Structural Adj TA Credit I	ECA	Georgia	1995	1999							ES	S	L	S	S	S
Structural Adj Credit I	ECA	Georgia	1996	1998							ES	S	L	M	S	S
Power Rehabilitation	ECA	Georgia	1997	2001							ES	MS	NE	S	S	U
Structural Adj TA Credit II	ECA	Georgia	1998	2000							ES	S	L	S	S	S
Structural Adj Credit II	ECA	Georgia	1998	1999							ES	MS	L	M	S	S
Energy Sector Adjustment Credit	ECA	Georgia	1999	2002							ICR	S	L	M	HS	S
Structural Adj Credit III	ECA	Georgia	2000		11/21/2001	S	S	NA	NA	NA						
Enterprise Reform Loan	ECA	Hungary	1992	1994							ES	S	L	S		
Energy and Environment	ECA	Hungary	1994	2001												
Enterprise and Financial Sctr Adj	ECA	Hungary	1997	1999							ES	HS	L	S	HS	HS
Public Sector Resource Mgmt Adj Loan	ECA	Kazakhstan	1998	2000							ICR	S	L	S	S	S
Power and District Heating Rehabilitation	ECA	Kyrgyz Republic	1996		12/21/2001	S	S	S	S	Blank						
Power Rehabilitation	ECA	Lithuania	1994		1/16/2002	HS	S	S	S	NR						
Structural Adjustment Loan	ECA	Lithuania	1997	1999							ES	S	L	S	HS	S
Power System Improvement	ECA	Macedonia	1998		12/21/2001	S	S	S	S	S						
Energy	ECA	Moldova	1996	2001							ICR	S	L	M	S	S
Second Structural Adjustment Credit/Loan (SAL II)	ECA	Moldova	1998	2001							ES	MS	NE	M	S	U
Energy Resource Development	ECA	Poland	1990	1998							ES	MU	L	M	S	S
Heat Supply Restruct	ECA	Poland	1991	2000							ES	HS	HL	H	S	HS
Structural Adjustment Loan	ECA	Poland	1991	1992							PAR	S	L	M	NR	NR
Power Transmission	ECA	Poland	1996	2002	12/18/2001	S	S	Blank	S	Blank						
Power Sector Rehabilitation and Modernization	ECA	Romania	1996		12/21/2001	U	S	S	U	S						
Electr. Sector Reform Support	ECA	Russia	1997	2002	12/26/2001	S	S	NA	NR	S						
SAL I	ECA	Russia	1997	1998							ES	U	L	M	U	U
SAL II	ECA	Russia	1998	1999							ES	U	L	M	U	U
SAL III	ECA	Russia	1999	2001							ES	U	L	M	S	U
TEK Restruct.	ECA	Turkey	1991	2000							ES	MS	L	S	S	U

Table D.2 (continued)

Project Name	Region	Country	FY of Approval	Year of Closing	Ratings: Active projects Latest PSR date	Development Objective	Implementation Progress	Environmental Plan	Financial Mgt	M & E	Ratings: Closed projects ES/ ICR/ or PAR	Outcome	Sustainability	Institutional Development	Bank Performance	Borrower Performance
Privatization Implementation and Social Safety Net	ECA	Turkey	1994	1999							ES	U	U	Blank	S	U
Nat'l. Trnsm. Grid	ECA	Turkey	1998	2004	12/20/2001	S	S	S	U	Blank						
Rehabilitation Loan	ECA	Ukraine	1995	1996							PAR	MS	NE	M	S	NR
Electricity Market Development	ECA	Ukraine	1997	2000							ES	U	U	N	U	U
Yacyreta II	LAC	Argentina	1993	2000							ICR	U	U	M	U	U
Provincial Reform Loan	LAC	Argentina	1995	1998							ES	HS	L	H	HS	HS
Renewable Energy in the Rural Market	LAC	Argentina	1999		2/1/2001	S	S	NR	S	S						
Special Structural Adjustment Loan	LAC	Argentina	1999		7/14/2000	S	S	NR	NR	S						
Second Power Development	LAC	Belize	1995	1999							ES	S	L	S	S	S
Structural Adjustment Program	LAC	Bolivia	1992	1996							PAR	MS	L	S	U	S
Reg. Reform and Cap. TA	LAC	Bolivia	1995	1999							ES	S	L	S	S	S
Capitalization Program Adj. Cre	LAC	Bolivia	1995	1999							ES	HS	L	S	HS	HS
Regulatory Reform and Priv. TA	LAC	Bolivia	1998	2003	11/27/2001	S	S	NR	S	S						
Reg. Reform Sector Adj. Credit	LAC	Bolivia	1999	2001	10/15/2001	U	U	NR	NR	NR						
Rio Grande Do Sul State Reform	LAC	Brazil	1997	1998							ES	MS	U	M	S	U
Rio De Janeiro State Reform Priv	LAC	Brazil	1998	1999							ES	S	L	S	HS	S
Energy Sector Modernization	LAC	El Salvador	1996		12/21/2001	S	S	S	S	S						
Priv Participation in Infrastructure TA	LAC	Guatemala	1997	2002	11/19/2001	S	S	NR	S	S						
Energy Sector Deregulation and Privatization	LAC	Jamaica	1993	2000							ES	U	U	M	S	U
Infrastucture Privatization TA	LAC	Mexico	1996	2000							ES	S	L	S	S	S
Utilities Restructuring TA	LAC		1998	2002	10/11/2001	S	S	S	S	S						
Privatization TA	LAC	Peru	1993	1998							ES	S	L	S	S	HS
Power Transmission and Distribution	LAC	Uruguay	1996		11/30/2001	S	S	NA	U	S						
Power Sector Efficiency Improvement	MNA	Iran	1993	2001							ES	S	L	S	HS	S

Table D.2 (continued)

Project Name	Region	Country	FY of Approval	Year of Closing	Ratings: Active projects Latest PSR date	Development Objective	Implementation Progress	Environmental Plan	Financial Mgt	M & E	Ratings: Closed projects ES/ ICR/ or PAR	Outcome	Sustainability	Institutional Development	Bank Performance	Borrower Performance
Power Sector Restructuring and Transmission Expansion	MNA	Lebanon	1997	2002							ICR	HU	HU	N	U	HU
Sana'a Emergency Power	MNA	Yemen	1999		1/25/2002	U	S	S	U	S						
Energy Sector Adjustment Credit	South Asia	Bangladesh	1989	1990							PAR	S	U	N	S	U
Private Sector Infrastructure Development	South Asia	Bangladesh	1998		3/4/2002	S	S	S	S	S						
Maharashtra Power II	South Asia	India	1992	1998							ES	U	NE	M	S	U
Renewable Resources Dev/ Alternate Energy	South Asia	India	1993	1995							ES	HS	L	M	HS	HS
Orissa Power Sector	South Asia	India	1996	2003	12/28/2001	U	U	S	U	S						
Haryana Power APL-I	South Asia	India	1998	2001							ES	MU	NE	S	S	U
AP Power Restructuring Project	South Asia	India	1999	2004	2/14/2002	S	S	S	U	S						
Public Sector Adjustment Loan/ Credit	South Asia	Pakistan	1994	1996							ES	MS	U	N	S	S
Power Sect. Dev. Pro.	South Asia	Pakistan	1994	2001							ICR	S	L	M	S	S
Ghazi Barotha Hydrop	South Asia	Pakistan	1996	2002	11/29/2001	S	U	S	U	S						
Structural Adjustment Loan	South Asia	Pakistan	1999	1999							ES	MS	L	N	S	S
Private Sector Infrastructure Development	South Asia	Sri Lanka	1996		1/15/2002	U	U	S	S	S						
Energy Services Delivery	South Asia	Sri Lanka	1997		10/4/2001	S	S	NR	S	S						

ANNEX E: ANALYSIS OF THE PERFORMANCE OF FREESTANDING PSDE PROJECTS AND PROJECTS WITH PSDE COMPONENTS

Evidence suggests that satisfactory outcomes in both freestanding and PSDE component projects are primarily due to country factors and to timely and relevant Bank assistance. In Jordan, the Energy Adjustment Loan (ESAL), a freestanding project and the only PSDE project in the country, was rated as satisfactory by OED and the Region because it achieved the following: (i) corporatization and commercialization of sector institutions; (ii) the restructuring of the institutional framework of the sector; and (iii) rationalized energy prices and financially stronger power sector institutions. The follow-through on energy price adjustments, however, has been patchy and the sector's institutional strengthening is incomplete, according to OED's 2001 PPAR. Close collaboration between the government and the Bank at various stages of project preparation and implementation, open and constructive dialogue between the Bank and the government, and timely use of ESW/AAA by the Bank to advise the government in policy-related issues were critical to the satisfactory outcome of the project.

In Pakistan, the freestanding Private Sector Energy Development Project (PSDEP I) and its follow-on project, PSDEP II, were both rated unsatisfactory by OED and the Region. Although the projects achieved their physical targets and established incentives to encourage private sector participation, the related economic, financial, institutional, and technical aspects were achieved only partially and unsustainably. The lack of commitment and poor performance of the government were demonstrated in three ways. First, the government agencies created to implement PSDE were subject to significant political interference and suffered high staff turnover. Second, excessive obligations to IPPs in the face of reduced demand and unreformed tariff structure resulted in an oversupply in generation that eventually undermined the financial viability of WAPDA and the macroeconomic stability of the country. Third, highly politicized dealing with IPPs contributed to the overall decline in foreign investor confidence in the country. The Bank's focus on specific transactions relating to IPPs rather to the reform itself contributed to the unsatisfactory outcome of the projects.

Thailand's Lam Takhong Pumped Storage project, which had a PSDE component, was rated highly satisfactory by OED because the project fully achieved its objectives. The Bank assisted the Electricity Generating Authority of Thailand (EGAT) in optimizing its investment program. EGAT adopted sound policies and strategies for environmental and social management and defined a framework and guidelines for the environmental assessment of power development plans. It implemented the recommendations of a study on economic regulation, tariffs, and development of bulk supply. The Bank acted as facilitator, and played an informal role in advising the government on the reform of the power sector. The government's proactive role in the reform process was instrumental to the overall success of the project: through its National Energy Policy, the government conducted several important studies associated with restructuring the Power Sector Industry, drafted the Energy Act, finalized the regulatory regime for the energy sector, formulated the power pool model, and secured cabinet approval for its proposals.

In contrast, Lebanon's Power Restructuring and Transmission Project, also a project with a PSDE component, was rated highly unsatisfactory by OED because the institutional reforms had not been implemented and the physical components of the project (transmission system and overhead transmission lines) were not completed, and contracts for the two substations not awarded.

Electricité du Liban (EdL) remains financially and institutionally weak, and progress at involving the private sector has been negligible. The government's inaction on agreed covenants and actions on institutional reforms contributed to the overall unsatisfactory performance of the project.

ANNEX F: IFC ADVISORY OPERATIONS IN POWER: STANDALONE ADVISORY OPERATIONS

I. Operations undertaken by the Private Sector Advisory Services Privatization Policy and Transaction (PSAPT, formerly IFC's Corporate Financial Services or CFS)

Fiscal Year	Country	Project Name	Description
FY94	Peru	Electrolima	Privatization of Edegel, the Lima power generation company and Chancay, a small power company
FY94	Trinidad and Tobago	T & TEC	Sale of Trinidad and Tobago's electricity generation company
FY94	Colombia	Central Hidroeléctrica de Betania	Privatization of a hydroelectric power plant
FY94	Venezuela	FIV- Privatization of electricity sector (I & II)	Two general advisory mandates for devising a strategy for the Fondo de Inversiones de Venezuela (FIV) on restructuring and privatizing state-owned electricity companies
FY96	Pakistan	F.A.E.B.	Privatization of the Faisalabad Area Electricity Board (FAEB), one of the eight power distribution companies in Pakistan
FY96	Gabon	SEEG	Privatization of Société d'Energie et d'Eau du Gabon (SEEG), the national water and electricity utility
FY98	Panama	IRHE	Advisory for the marketing and sale of shares in the electric generation and distribution companies that will result from the restructuring of the power sector in accordance with recent legislation
FY98	India	Goa Power	Review of the State of Goa's power sector and assistance in the selection of an appropriate privatization model
FY98	Brazil	COELCE (Ceara)	Privatization of Coelce, the Ceará State electric distribution utility, and establishment of a multisector state regulatory agency
FY98	Brazil	COELCE IPP	Structuring an IPP, advising Coelce on the drafting of main contractual documents, assisting in the bid process, negotiations, and closing of the transaction
FY98	Cameroon	SONEL	Privatization of SONEL (Société Nationale d'Electricité), the electric utility company responsible for generation, transmission, and distribution

II. Operations undertaken by PSAPT after FY99

Fiscal Year	Country	Project Name	Description
FY01	Georgia	Georgia Power	Privatization of Georgia Power including distribution outside Tbilisi and generation of five HPPs with combined installed capacity of 346MW
FY01	Armenia	Power Distribution	Privatization of Armenia's electricity distribution sector

III. Operations undertaken by IFC investment departments

Fiscal Year	Country	Project Name	Description
FY98	Romania	RENEL	Assessment of two projects to be developed as independent power producers (IPPs) and assistance in implementing the privatization transaction phase
FY99	Russia	UES	Advise United Energy System, the nationwide holding company for government assets in electricity generation, transmission, and distribution, on its reorganization and the development of a sector restructuring plan

Total = 15 Advisory Assignments

ANNEX G: IFC ADVISORY OPERATIONS IN POWER: DONOR-ASSISTED TECHNICAL ASSISTANCE TRUST FUNDS (TATF) OPERATIONS

FY	Country	Advisory Operations	Advisory Assignments	Total (US$)
FY92	Chile	Empresa Pangue	Hydropower environmental audit	$220,000
FY96	Chile		Environmental capability assessment	$100,000
FY92	Costa Rica	Aguas Zarcas hydroelectric project	Feasibility study update	$30,000
FY93	Central America Region	BAS power generation project	Sector study	$73,200
FY93	Guatemala	Rio Bobos hydroelectric	Project preparation	$30,000
FY93	Nepal	Himal hydro project	Environmental and geological technical assessments	$150,000
FY94	India	St. lignite power plant	Modernization options	$77,000
FY95	Selected Countries	Renewable energy and energy efficiency fund	Project preparation	$85,050
FY96	Gabon	SEEG	Privatization and restructuring of water and electricity services (Phase 1)	$263,000
FY97	Gabon		Privatization and restructuring of water and electricity services (Phases 2 and 3)	$126,800
FY96	Hungary	Pumped storage power plant	Feasibility study	$120,000
FY96	Pakistan	F.A.E.B. privatization	Review of legal and economic factors (Part 1)	$500,000
FY96	Pakistan		Review of legal and economic factors (Part 2)	$170,000
FY96	Russia	Tomskenergo Energy	Development of an independent private power project in Siberia	$400,000
FY97	Russia		Development of an independent private power project in Siberia	$22,400
FY97	Brazil	COELCE (Ceara)	Development of a multisectoral regulatory entity	$500,000
FY97	Russia	UES	Power sector restructuring	$350,000
FY98	Russia		Facilitating the corporate power sector restructuring	$500,000
FY98	Russia		Facilitating corporate restructuring of UES	$645,000
FY98	Brazil	COELCE IPP	Private power generation in Ceara	$120,000
FY98	Romania	RENEL	Independent power producer	$250,000
FY98	Romania		Power privatization accounting work	$225,000
FY98	Romania		Two independent power producers advisory effort	$250,000
FY98	Uganda	UGN-8610	Assessment of hydroelectric generation alternatives (Part 1)	$100,000
FY99	Uganda		Assessment of hydroelectric generation alternatives (Part 2)	$110,000
FY99	Global	Power conference	Workshop on Orimulsion, an alternative fuel of power generation	$20,000
FY99	Philippines	Philippine Cooperative Finance Corp (PCFC)	Establishing PCFC to help finance extensive capital requirements of electric cooperatives throughout the country	$125,300

(continued on next page)

(Annex G continued)

FY	Country	Advisory Operations	Advisory Assignments	Total (US$)
FY99	Romania	GCP-CPW-Romania	Development of combined heat and power projects	$350,000
FY99	Tajikistan	GCP-CPW-Tajikistan	Conducting an action assignment to structure, establish, and finance an (Phase I) independent and autonomous energy supply company in the region of Gorno-Badakhshan	$135,000
Total FY90-99		**20 TA operations**	**29 TA assignments**	**$6,047,750**
FY00	China	Establishment of the first private energy services company (ESCO)	Develop acomprehensive business plan required for a privately run energy services company (ESCO)	$111,000
FY00	China	Private participation in infrastructure sector	Assess the legal and regulatory framework for infrastructure, including the power sector	$280,000
FY00	Nicaragua	Assessment of hydroelectric generation alternative	Review potential hydropower sites in the private sector	$203,500
FY00	Poland	Private financing of renewable energy projects	Review private financing for and promotion of renewable energy and energy efficiency projects	$50,000
FY00	Romania	Carbon-funded municipal cogeneration projects for the cities of Cluj-Napoca and Targoviste	Phase II to establish two municipal cogeneration plants	$240,000
FY00	Philippines & Romania	Private financing of renewable energy	Review private financing for and promotion of renewable energy and energy efficiency projects	$50,000
FY00	Russia	UES (started in FY97)	Privatization workshop in Moscow (1 assignment)	$26,000
FY00	Tajikistan	GCP-CPW-Tajikistan Phase II: assignment A (started in FY99)	Structure, establish, and finance an independent and autonomous energy supply company (Part 1)	$150,000
FY00	Tajikistan	GCP-CPW-Tajikistan Phase II: assignment B (started in FY99)	Structure, establish, and finance an independent and autonomous energy supply company (Part 2)	$150,000
FY00	Uganda	UGN-8610 Bujagali Hydropower Projects (started in FY98)	Financial support for Uganda-based NGO representatives and interested parties to attend an international consultation to discuss project impacts and issues	$25,000
FY01	Hungary	TA to support energy efficiency financing	Promote and support commercial financing of EE equipment and EE projects	$100,000
FY01	Senegal	Study on the demand for a supply of power and the associated investments requirement	Develop a system expansion plan for the electricity sector, and assess the role of international and local IPPs	$250,000
FY01	Uganda	URED	Develop a private-sector-led pilot rural electrification project	$70,000
FY01	Uganda		Develop greenfield rural electrification projects	$200,553
Total FY00-01		**9 TA operations**	**14 TA assignments**	**$1,906,053**
TOTAL FY90-01		**29 TA OPERATIONS**	**43 TA ASSIGNMENTS**	**$7,953,803**

ANNEX H: IFC'S OPERATIONS IN RENEWABLE ENERGY AND ENERGY EFFICIENCY IN THE 1990s

What are Renewable Energy and Energy Efficiency Operations?

IFC has increasingly financed energy projects that use renewable energy resources and promote efficient use of energy. This subset of projects is generally referred to in IFC as Renewable Energy and Energy Efficiency (RE and EE) projects. IFC undertakes RE and EE operations directly, in partnership with the Global Environment Facility (GEF) and through financial intermediaries. This work is supported by IFC's Environmental Markets Group (CESEM, formerly Environmental Projects Unit) in the Environment and Social Development Department, the Power Department, and to some extent the regional and specialist investment departments. Renewable Energy projects include technologies such as run-of-the-river and conventional hydro, geothermal, biomass, wind, and solar (photovoltaic and solar thermal). Investment operations in Energy Efficiency target energy service companies (ESCO), efficiency improvements for distribution and generation companies, industrial projects with EE components, and investment funds focused on energy efficiency projects.

What are IFC's mainstream RE and EE operations?

The investment operations approved in the 1990s and reviewed in this study include 13 RE/EE projects, with a total cost of US$2 billion. IFC made a total net investment commitment of US$225 million for 10 of these projects, representing 20 percent of IFC's total investment commitments in the power sector in the 1990s. Attachment A lists these 13 mainstream IFC RE and EE operations.

Nine of the 13 RE/EE investment operations are in RE. Of these nine, eight are hydropower plants and five are in LAC. Excluding one 450MW plant, the average size of these hydro plants is 67MW. IFC also has one investment operation in a geothermal IPP that has a generating capacity of 24MW. IFC additionally has invested in projects with RE components, such as a sugar mill in LAC that generates power using *bagasse*. While it is outside the scope of this study, it is important to note that IFC is showing a lot of interest in this project, with a view to replicating it in other investment operations.

There are four IFC investment operations in EE: two in energy services companies and two in focused investment funds. Apart from these four, IFC's 1990s investment operations include projects that have energy efficiency improvement components. Projects in this category include two electricity distribution projects in LAC and several industrial projects for which energy is a significant operating cost, for example, cement, steel, sheet and float glass, and automotive tires. Many expansion/ rehabilitation projects in these industries have energy efficiency components that are necessary if they are to become competitive with newer and more energy efficient plants; they are, however, outside the scope of this study.

Three projects approved in the 1990s were committed in 2000; that is, outside the review period. IFC's investment commitments for these three projects (two investment funds and one ESCO project) amounted to US$38 million. The two investment funds are: (i) US$15 million for a multiproject financing facility to support RE projects focusing primarily on Central America, among the beneficiaries of which are two hydropower

plants of 16MW and 18MW and a wind farm (20MW) in Costa Rica; and (ii) US$15 million for a US$65–100 million RE/EE global private equity investment fund that will invest in companies using renewable energy technologies and energy efficiency techniques in developing countries. The ESCO project is a multiproject facility for new ESCOs to serve Central and Eastern Europe and Asia. The first two investments made under this facility are in Hungary and Poland.

What are IFC's energy operations with GEF?

What is GEF? GEF is a financial mechanism established in 1991 by a resolution of the World Bank Executive Directors as a program that provides grants and concessional funds to developing countries for projects and activities designed to protect the global environment. GEF resources address four focal areas considered to be critical threats to the global environment: biological diversity loss, climate change, depletion of the ozone layer, and degradation of international waters. Activities concerning land degradation (primarily desertification and deforestation) as they relate to the focal areas are also eligible for GEF funding. There are 166 participant countries.

What is the World Bank Group's Role? The WBG plays two important roles in the GEF: (i) with its long experience in funds management, the WBG was selected trustee of the GEF Trust Fund, and (ii) as a GEF Implementing Agency, the WBG plays the primary role in ensuring the development, management of GEF investment projects, and mobilizing of resources from the private sector. About two-thirds of all project-related GEF resources are allocated to the WBG's GEF portfolio.

What is IFC's role? IFC's Environmental Markets Group (CESEM) is responsible for IFC's operations with GEF. CESEM draws on concessional funding from sources such as the GEF, in addition to IFC's own investment resources, toward two main objectives: (i) identifying and developing innovative private sector projects with environmental benefits, and mainstreaming those investments within the private sector and IFC; and (ii) integrating active consideration of environmental opportunities into each stage of IFC's project processing cycle, thereby improving the sustainability resource use (ecoefficiency) in IFC's investments.

What are IFC's GEF projects? Over the 1990s, IFC has committed about US$100 million of GEF funds to seven energy projects in RE and EE. These projects deal with the promotion of efficient lighting, application of photovoltaic technology, and establishment of global funds to support smaller-scale initiatives in RE/EE. The projects have been estimated to have a total cost of between US$500 million and US$1.1 billion. Most have global coverage. For one project (the Renewable Energy and Energy Efficiency Fund, or REEF), IFC approved a direct investment of US$35 million to supplement GEF funding of US$30 million. Another IFC/GEF jointly funded project (the Solar Development Group) was approved by IFC in FY99 and by GEF in 2001. IFC committed US$6 million to this project and GEF committed US$10 million. (A list of IFC-managed GEF projects approved by GEF in the 1990s is provided in Attachment B.) The salient features of these IFC-supported GEF projects are:

1. *Energy Efficiency: Promotion of efficient lighting* – Demand management projects to promote awareness, technology, production, and distribution improvements and the use of efficient lighting products such as compact fluorescent bulbs.
2. *Renewable Energy: Photovoltaic (PV) technology* – Projects that support photovoltaic-based off-grid power generation and that aim to demonstrate viable financial structures and business models as a basis for the long-term sustainability and replicability of off-grid PV power generation.
3. *Renewable Energy and Energy Efficiency: Investment funds* – Investments in global funds focused on renewable energy and energy efficiency projects.

Attachment H.1. IFC's Mainstream Renewable Energy and Efficient Energy Projects, FY90–99

Approval FY	Commit-ment FY	Country	Project Name	Total Project Cost (US$ m)	IFC Gross Approval (US$ m)	IFC Net Approval (US$ m)	IFC Loans (US$ m)	IFC Equity/ Quasi Equity (US$ m)	IFC Net Commitment (US$ m)
FY90	FY91	Turkey	Kepez Electric	67.6	25.0	25.0	25.0	-	20.3
FY91	FY92	Chile	Aconcagua	96.0	39.1	22.1	14.0	8.1	14.5
FY93	FY93	Belize	Becol	59.4	26.0	15.0	15.0	-	15.0
FY93	FY94	Chile	Pangue	515.0	174.9	74.9	70.0	4.9	64.7
FY94	FY94	Costa Rica	Hidrozarcas	15.0	10.5	4.4	4.4	-	4.0
FY94	FY96	Nepal	Khimti Khola/Himal	125.7	36.0	31.0	31.0	-	32.3
FY96	FY98	Nepal	Bhoti Koshi	101.2	78.0	27.0	24.0	3.0	24.0
FY97	FY98	Brazil	Guilman-Amorim	148.0	121.0	30.0	30.0	-	30.0
FY97	FY98	Guatemala	Orzunil	69.0	32.8	17.8	15.5	2.3	14.4
FY97	FY98	India	Asian Electronics Ltd	86.0	21.6	21.6	16.0	5.6	5.6
FY97	FY00	World	REEF	410.0	115.0	35.0	20.0	15.0	15.0
FY98	FY00	World	Honeywell ESCO-MPF	240.0	60.0	60.0	35.0	25.0	8.0
FY99	FY00	Central America	Energia Global International	15.0	15.0	15.0	10.0	5.0	15.0
Total RE/EE projects = 13				$1,948	$755	$379	$310	$69	$225a

a. Includes only net commitments made during the study period (FY90-99). If projects approved in the 1990s but committed outside that period were included, total net commitments would be US$263 million.

Attachment H.2. IFC-Managed GEF Projects in Power, FY90–99

Fiscal Year	Country	Project Name	GEF Funding (US$ m)	Description
FY94	Argentina	Argentina Street Lighting	0.7	To promote innovative commercial financing and delivery mechanisms for energy-efficient street lighting projects at the municipal level; preparing model transactions for financing on commercial terms by local financial institutions
FY95	Poland	Poland Efficient Lighting Project (PELP)	5.0	Climate mitigation project designed to reduce electricity consumption
FY96	World	SME I Program and SME II Replenishment	10.4	To on-lend GEF grant funds to intermediaries toward GEF-eligible small and medium-scale enterprise projects, either with debt or equity investments at long-term low interest rates
FY97	Hungary	Hungary Energy Efficiency Cofinancing Program (HEECP)	5.0	To build energy efficiency financing capability of Hungarian financial intermediaries
FY98	World	Photovoltaic Market Transformation Initiative (PVMTI)	30.0	Strategic intervention to strengthen private sector investment in power generation from photovoltaic sources
FY98	World	Renewable Energy Efficiency Fund (REEF)	30.0	The fund will make debt and equity investments in private sector projects in RE/EE sectors
FY99	World	Efficient Lighting Initiative (ELI)	15.0	Programmatic elements such as consumer education, financing mechanisms, quality standards and product labeling, market aggregation, transaction support, and regulatory reform assistance
Total GEF projects = 7			**US$96.1**	
FY00	Philippi nes	CEPALCO-PV	4.03	A 1MW distributed-generation PV power plant to be built and integrated into the 80MW distribution network of CEPALCO, a private utility operation in Mindanao, Philippines. The PV system will be operated with an existing 7MW hydroelectric plant with dynamic load control, thereby enabling the joint PV/hydro resource to reduce both distribution-level and system-level demand, effectively providing firm generation capacity. This plant will provide the first full-scale demonstration of the environmental and economic benefits of the conjunctive use of hydro and PV-based power, and the first significant use of the grid-connected PV in a developing country.
FY01	Global	Solar Development Group	6.0	Investment in private companies involved in rural, commercially sustainable PV activities, including the distribution, sale, lease-hire, or financing of PV solar home systems and other productive use of PV systems for electricity generation, and to provide financing to local financial intermediaries that will service such companies.
Total GEF projects, FY90-FY01= 9			**US$106.13**	

ANNEX I: IFC PORTFOLIO OF APPROVALS IN POWER, FY90–01

Approval FY	Commit-ment FY	Country	Project Name	Total Project Cost (US$ m)	IFC Gross Approval (US$ m)	IFC Net Approval (US$ m)	IFC Loans (US$ m)	IFC Equity/ Quasi Equity (US$ m)	IFC Net Commitment (US$ m)
1990	1991	India	CESC I	92.2	20.1	20.1	20.1	-	24.8
1990	1991	Turkey	Kepez Electric	67.6	25.0	25.0	25.0	-	20.3
1991	1991	India	BSES	653.3	68.0	50.0	50.0	-	50.0
1991	1992	Chile	Aconcagua	96.0	39.1	22.1	14.0	8.1	14.5
1992	1993	India	CESC II	584.7	97.0	30.0	30.0	-	30.0
1993	1993	Philippines	Mindanao Power	126.4	39.0	20.0	15.5	4.5	16.7
1993	1993	Philippines	Pagbilao	888.0	110.0	70.0	60.0	10.0	70.0
1993	1993	Guatemala	Puerto Quetzal	92.7	71.9	20.7	20.7	-	20.0
1993	1993	Latin America	Scudder (SLAP I)	200.0	25.0	25.0	-	25.0	10.1
1993	1993	Belize	Becol	59.4	26.0	15.0	15.0	-	15.0
1993	1994	Argentina	Yacylec	135.0	65.0	20.0	20.0	-	20.0
1993	1994	Chile	Pangue	515.0	174.9	74.9	70.0	4.9	64.7
1994	dropped	India	Neyveli Power	450.0	198.0	48.0	30.0	18.0	-
1994	1994	Argentina	Edenor	413.9	176.5	48.5	48.5	-	45.0
1994	1994	Costa Rica	Hidrozarcas	15.0	10.5	4.4	4.4	-	4.0
1994	1995	Guatemala	Fabrigas	17.1	7.0	7.0	7.0	-	7.0
1994	1995	World	Global Power	1,000.0	50.0	50.0	-	50.0	19.3
1994	1995	Oman	United (Manah) Power	288.1	77.5	32.5	27.0	5.5	20.5
1994	1996	Nepal	Khimti Khola/Himal	125.7	36.0	31.0	31.0	-	32.3
1994	1996	India	GVK Power	293.2	120.8	50.8	42.5	8.3	37.5
1995	dropped	India	IB Valley Power	720.6	150.0	70.0	50.0	20.0	-
1995	1995	Pakistan	AES Lal Pir Ltd	343.7	49.5	49.5	40.0	9.5	49.5
1995	1995	Pakistan	Kohinoor	138.6	67.9	31.3	25.0	6.3	31.3
1995	1995	Côte d'Ivoire	Ciprel Power	70.0	17.8	17.8	16.9	.9	19.1
1995	1995	Dominican Republic	Smith-Enron	205.8	133.8	33.8	33.8	-	32.3
1995	1995	Honduras	Elcosa/Elpacsa	71.4	53.7	17.1	14.5	2.6	16.6
1995	1996	Turkey	TDD-KOC/ Entek	136.3	82.0	27.0	27.0	-	27.0
1995	1996	Philippines	Sual Thermal Power	1,400.0	247.5	47.5	30.0	17.5	47.5
1995	1997	Jamaica	JAM/Old Harbour Diesel	148.0	70.0	22.0	22.0	-	23.9
1996	dropped	Argentina	Edesur	327.6	228.0	40.0	40.0	-	-
1996	1996	Pakistan	AES Pak Gen	349.0	79.5	29.5	20.0	9.5	29.5
1996	1996	Pakistan	Gul Ahmed Energy	138.0	69.1	34.1	30.0	4.1	31.1
1996	1996	Pakistan	Uch Power	630.0	131.0	56.0	56.0	-	40.0
1996	1997	Sri Lanka	Asia Power (APPL)	64.0	37.0	17.0	14.5	2.5	11.0
1996	1998	Nepal	Bhote Khoshi	101.2	78.0	27.0	24.0	3.0	24.0
1997	dropped	Mexico	Altamira	75.3	56.8	18.8	18.8	-	-
1997	1997	Czech Republic	Kladno/ECKG RMF	401.0	135.0	70.0	70.0	-	58.3
1997	1998	India	AEL Asian Electronics	86.0	21.6	21.6	16.0	5.6	5.6
1997	1998	Guatemala	Orzunil	69.0	32.8	17.8	15.5	2.3	14.4
1997	1998	Latin America	Scudder Fund (SLAP II)	250.0	-	-	-	-	-

(continued on next page)

(Annex I continued)

Approval FY	Commit-ment FY	Country	Project Name	Total Project Cost (US$ m)	IFC Gross Approval (US$ m)	IFC Net Approval (US$ m)	IFC Loans (US$ m)	IFC Equity/ Quasi Equity (US$ m)	IFC Net Commitment (US$ m)
1997	1998	Brazil	Guilman-Amorim	148.0	121.0	30.0	30.0	-	30.0
1997	1998	Senegal	GTI Dakar	71.1	35.9	24.0	22.1	1.9	14.3
1997	2000	World	REEF—Renewable Energy	410.0	115.0	35.0	20.0	15.0	15.0
1998	2000	World	Honeywell ESCO MPF	240.0	60.0	60.0	35.0	25.0	8.0
1998	1998	Mexico	Merida III	250.0	120.0	30.0	30.0	-	30.0
1998	1998	Russia	Mosenegro	180.0	32.0	32.0	32.0	-	20.0
1998	closed	Cambodia	CPP	86.0	66.5	21.3	21.3	-	-
1998	dropped	Russia	Severstal Power	102.0	92.0	25.0	25.0	-	-
1998	dropped	Vietnam	Ba Ria	112.6	77.2	28.2	24.2	4.0	-
1998	1999	Côte d'Ivoire	Azito	172.6	80.1	45.1	45.1	-	40.5
1998	1999	Bangladesh	Khulna	104.5	56.5	27.1	23.8	3.3	22.5
1999	2000	Bolivia	Electropaz	40.0	25.0	25.0	25.0	-	25.0
1999	2000	Central America	Energia Global International	15.0	15.0	15.0	10.0	5.0	15.0
1999	2000	Venezuela	EDC I	100.0	75.0	40.0	40.0	-	40.0
1999	2001	World	Solar Development Group	50.0	6.0	6.0	-	6.0	5.5
1999	dropped	Philippines	Cepalco	44.5	22.0	22.0	16.0	6.0	-
1999	pending	Egypt	Sidi Krir	449.0	192.0	70.0	70.0	-	
Total Investment Operations, FY90–99: 57				**$14,414**	**$4,370**	**$1,849**	**$1,564**	**$284**	**$1,140**[a]
2000	FY00	Kenya	Kipevu II	89.2	41.1	21.1	20.0	1.1	17.6
2000	FY00	Mexico	Rio Bravo	234.5	115.0	50.0	50.0	-	50.0
2000	FY00	Mexico	Saltillo SA	160.0	80.0	35.0	35.0	-	35.0
2000	FY00	Georgia	Telasi	146.9	30.0	30.0	30.0	-	30.0
2000	dropped	Bangladesh	Haripur	183.0	59.9	45.8	45.8	-	-
2000	FY01	Venezuela	EDC II	30.0	30.0	30.0	30.0	-	30.0
2000	pending	Panama	AES Panama	335.9	215.0	45.0	45.0	-	
2000	pending	India	Astha Power	25.8	9.0	9.0	7.1	1.9	
2000	pending	India	Orissa NESCO	56.0	28.0	28.0	28.0	-	
2000	pending	India	Orissa WESCO	43.0	11.0	11.0	11.0	-	
2000	pending	Bangladesh	USPCL	18.5	7.0	7.0	4.0	3.0	
2001	FY01	Moldova	UF Moldova	136.0	25.0	25.0	25.0	-	25.0
2001	FY01	China	Peak Pacific	100.0	25.0	25.0	25.0	-	25.0
2001	FY01	Egypt	Port Said	347.2	200.5	48.0	48.0	-	45.0
2001	FY01	Egypt	Suez Gulf	339.2	200.5	48.0	48.0	-	45.0
2001	FY02	El Salvador	CAESS/EEO	120.0	120.0	45.0	45.0	-	45.0
2001	pending	Brazil	Cataguazes	120.0	85.0	45.0	45.0	-	
2001	pending	India	GI Wind Farms	29.9	10.8	10.8	9.8	1.0	
Total investment operations, FY00–01 = 18				**$2,515**	**$1,293**	**$559**	**$552**	**$7**	**$348**
Total investment operations, FY90–01 = 75				**$16,929**	**$5,662**	**$2,407**	**$2,116**	**$291**	**$1,596**

a. Net commitment total includes projects approved and committed in FY90–99. If commitments made beyond FY99 were to be included for projects that were approved between the study period of FY90–99, total net commitments would be $1,226 million (as of July 2002 data in MPD).

ANNEX J: OEG'S MINI-XPSR EVALUATION FRAMEWORK FOR IFC'S ELECTRIC POWER SECTOR INVESTMENT OPERATIONS

In the mini-evaluation framework,[1] each investment operation is rated based on three distinct outcomes:

- *Development outcome* – the project's impact on a country's development
- *IFC's investment outcome* – the operation's gross contribution to IFC's income
- *IFC's effectiveness* – IFC's contribution to the operation's outcome

Each operation is rated on a two-point rating scale: (i) satisfactory or better, and (ii) less than satisfactory.

Development outcome

The development outcome rating is a bottom-line, synthesis assessment of the operation's results, based on the five development indicators described below. It is drawn from an analysis of project impacts considered in scenarios of "with" and "without" the project. For example, if without the project the country would have continued to have power shortages, then the restoration of a stable power supply and its impact on industry and on people's lives can be attributed to the project.

1. *Project business success.* This rating considers the narrow objectives supported by IFC's financing. The best measure of a project's business success is its financial rate of return (FRR). Lacking sufficient data to prepare an updated projection and calculate an FRR, we based this rating on assessments of historical performance and likely future trends, giving particular emphasis to the inputs to the FRR calculation, as available (project cost, capacity utilization, tariffs, O&M expenses, taxes, and so on), relative to the expectations at appraisal.

- An operation rates satisfactory when historical net cash flow is strong and likely to continue, and when actual inputs to an FRR calculation approximate the satisfactory expectations at appraisal.

2. *Growth of the economy.* This rating considers the project's net economic benefits to all members of society, and is best measured by an economic rate of return (ERR). Lacking sufficient data to calculate an ERR, we based this rating on assessments of the inputs to an ERR: the social benefits and costs including consumer surplus, taxes paid, benefits to suppliers, and effects on input and output markets.

- An operation rates satisfactory when actual inputs to an ERR approximate the inputs to the net positive economic benefits IFC expected at appraisal.

3. *Living standards*. This rating is based on a project's benefits and costs to those who are neither owners nor financiers, such as customers, employees, suppliers, local residents, and government. It includes contributions to widely held social objectives such as employment generated, employee living standards, nonwage benefits, training, community services, health and safety, expropriation procedures and resettlement, gender equity, and child labor.

- An operation rates satisfactory when there are positive net benefits to those who are neither owners nor financiers of the project.

4. *Environmental effects.* This rating is based on the project's success or otherwise in meeting WBG environmental requirements. These requirements include compliance with WBG policies and guidelines and with controls and mitigation determined as part of a project-specific environmental assessment.

- An operation rates satisfactory if the project is—and was over its lifetime—in material compliance with either IFC's current or at-approval requirements.

5. *Private sector development.* This rating considers the upstream and downstream linkages to private firms, new technology, management skills and training, the degree of local entrepreneurship and competition, demonstration effects, enhanced private ownership, capital markets development; and business practices as a positive corporate role model. Included also are regulatory improvements such as changes in government policy and the legal, tax, and accounting frameworks.

- An operation rates satisfactory when the project provides distinctly positive net contributions.

IFC investment outcome

This is a synthesis of the ratings of the two investment instruments: loan and equity. When the individual ratings are different, the investment outcome rates satisfactory based on the weighted average return on the combined investment. In operations featuring only one investment instrument, the instrument's rating is also the investment outcome rating.

- *Loan.* An operation rates satisfactory or better when no loss reserves exist; when it is not in arrears; when any loan rescheduling still provides the full margin originally expected; and when any loan prepayment provides greater than 65 percent of the originally expected loan income.
- *Equity.* An operation rates satisfactory or better when the investment's realized return, book, or market value exceeds cost and gives a return greater than the interest for a fixed rate loan.

IFC's effectiveness

- *IFC's effectiveness (synthesis)* rates satisfactory if IFC's performance on at least two of the three Effectiveness indicators below is satisfactory.
- *Screening, appraisal, and structuring* rates satisfactory if it met IFC's good practice standards (for example, IFC's Credit Notes).
- *Supervision and administration* rates satisfactory if IFC identified and adequately responded in a timely manner to emerging issues and any material change in the project's or company's performance.
- *IFC's role and contribution* rates satisfactory if IFC's role and contribution were in line with its operating principles.

ANNEX K: PERFORMANCE RATINGS OF 29 IFC MATURE POWER SECTOR INVESTMENT OPERATIONS IN THE 1990S

Project	DEVELOPMENT OUTCOME	Project business success	Private sector development	Growth of the economy	Living standards	Environmental impacts	IFC'S INVESTMENT OUTCOME	IFC'S EFFECTIVENESS	Screening, appraisal, and supervision	Supervision and administration	Role and contribution
Project 1	S	S	S	S	S	S	S	S	S	S	S
Project 2	S	S	S	S	S	L	S	S	S	S	S
Project 3	S	S	S	S	S	S	S	S	S	S	S
Project 4	S	L	S	S	S	S	S	S	S	S	L
Project 5	S	S	S	S	S	S	S	S	S	S	S
Project 6	S	S	S	S	L	S	S	S	L	S	S
Project 7	S	S	S	NOP	NOP	S	S	S	S	S	S
Project 8	S	S	S	S	S	S	S	S	S	S	S
Project 9	S	S	S	S	S	S	S	S	S	S	S
Project 10	S	S	S	S	S	S	S	S	S	S	S
Project 11	S	S	S	S	S	S	S	S	S	S	S
Project 12	S	S	S	S	S	S	S	S	S	S	S
Project 13	S	S	S	S	S	S	S	S	S	S	S
Project 14	S	S	S	S	S	S	S	S	S	S	S
Project 15	S	S	S	S	S	S	S	S	S	S	S
Project 16	S	S	S	S	S	S	S	S	S	S	S
Project 17	S	S	S	S	L	L	S	L	L	L	L
Project 18	S	S	S	S	S	S	S	L	L	L	S
Project 19	S	S	S	S	S	S	S	L	L	L	S
Project 20	S	S	S	S	S	S	L	S	S	S	S
Project 21	S	L	S	S	S	S	L	S	S	S	S
Project 22	S	S	S	S	S	S	L	S	S	S	S
Project 23	S	S	S	S	S	S	L	S	S	S	S
Project 24	S	S	S	S	S	S	L	S	S	S	S
Project 25	S	S	S	S	L	L	L	L	L	S	L
Project 26	L	L	S	S	S	S	S	S	L	S	S

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(Annex K continued)

Project	DEVELOPMENT OUTCOME	Project business success	Private sector development	Growth of the economy	Living standards	Environmental impacts	IFC'S INVESTMENT OUTCOME	IFC'S EFFECTIVENESS	Screening, appraisal, and supervision	Supervision and administration	Role and contribution
Project 27	L	L	L	L	L	L	S	L	L	S	L
Project 28	L	L	S	S	S	L	L	S	S	S	S
Project 29	L	L	S	L	L	L	L	L	L	S	S
Satisfactory or better (S)	25	23	28	26	23	23	21	23	21	26	25
Less than satisfactory (L)	4	6	1	2	5	6	8	6	8	3	4
No opinion possible (NOP)	0	0	0	0	0	0	0	0	0	0	0
Total projects	29	29	29	29	29	29	29	29	29	29	29
Satisfactory or better (S)	86%	79%	97%	93%	82%	79%	72%	79%	72%	90%	86%
Less than satisfactory (L)	14%	21%	3%	7%	18%	21%	28%	21%	28%	10%	14%

ANNEX L: ANALYSIS OF DEVELOPMENT OUTCOME INDICATORS OF THE 29 EVALUATED IFC ELECTRIC POWER INVESTMENT OPERATIONS

The development outcome of IFC investment operations is a synthesis of the following five performance indicators:

Project business success

Project business success is an indication of the extent to which projects have been a financial success to their lenders and owners. IFC electric power projects generally have better business success performance than IFC's all-sector portfolio. Of the 29 evaluated IFC electric power projects, 23 (79 percent) are financially successful, compared to the all-sector success rate of 45 percent.[1] Overall, IPPs did not perform any better than other projects in the electric power sector. Of the six poor business performers, four (67 percent) are IPPs (18 of the 29 evaluated projects [62 percent] are IPPs). Good deal structuring and risk allocation enable IPPs to shield themselves from regulatory and other risks that they are not best equipped to handle, but they are not immune to business and commercial risks. The four IPPs that failed financially suffered from low dispatch, technical difficulties, and poor hydrology conditions. Capacity fees were not paid in full to one IPP that did not perform all of its obligations under the PPA; the three others performed their PPA obligations and received capacity fee payments but did not get a return commensurate to their weighted average cost of capital. They were dispatched significantly below optimum levels due to low demand or inadequate grid capacity. Two IPPs outside the four that performed poorly had marginally satisfactory business success, largely because they were dispatched virtually as peaking plants despite being originally designed as base load plants.

Project business success, along with environmental effects, is the lowest rated development outcome indicator in the electric power sector. As is true for other sectors generally, this suggests that electric power projects that do not give their financiers satisfactory returns could still have positive development impacts. This also reflects the fact that investors are last in line in reaping the benefits of these projects.

Private sector development

Private sector development addresses the extent to which the project has encouraged the growth of the country's private sector beyond the project company.

Twenty-eight of the 29 projects (97 percent) have made significant positive contributions to private sector development, compared with the all-sector rating of 75 percent. IFC electric power projects bring important physical infrastructure development that can support the growth of the private sector, and notably have provided a fast and cost-effective solution to electric power shortages. The evidence is especially strong in countries such as Côte d'Ivoire, Guatemala, and the Philippines, where companies were losing markets and in extreme cases shutting down because of inadequate electric power supply.

IFC electric power projects also have broad demonstration effects. The early success of pioneering electric power projects attracted international developers and equipment suppliers to developing countries. These projects have also contributed to enhancing the enabling environment for private participation in electric power. They have given the public sector first-hand experience of the dynamics and constraints of private sector entities in electric power, and have helped reveal the unsubsidized cost of electric power generation to policymakers and regulators. This experience has helped governments

establish a framework to attract more competitive private sector proposals in power as well as in other infrastructure subsectors.

Growth of the economy

This performance indicator measures the quality of a project's contribution to a country's economic growth, as reflected in the economic rate of return (ERR).

Twenty-six of the 28 (93 percent)[2] IFC electric power projects that were rated for their contribution to growth of the economy had a satisfactory or better performance, comparing favorably with the all-sector rating of 62 percent. This reflects an economic rate of return of at least 10 percent for these projects. End-users paid more for electricity or its alternatives during power shortages and they would have continued to do so without the capacity built by the IFC-supported projects. Previously, those end-users who could afford to, installed their own power generators; those who could not turned to other energy sources for their lighting and power needs. In both cases the cost to the user was greater than would have been charged for electricity from the grid. Industrial consumers in one market valued electricity from an IFC project at 40 percent above the actual tariff.[3] This premium reflects the value to these consumers of a reliable and stable source of electric power supply.

The economic value of electric power produced by IPPs operating at optimum plant load factor is generally considered to be higher than the price at which IPPs sell to offtakers. In the absence of market-specific consumer surplus estimates, the economic price of electricity has been conservatively estimated in XPSRs to equal the average end-user tariffs. Projects evaluated through XPSRs showed that this estimate was sufficient to yield an ERR of at least 10 percent based on actual output and after allowing for transmission costs, including losses. The economic value of electric power generated by projects operating as peaking plants has been based on the average of the highest tariffs during peak hours. Absent these peaking plants, industrial and commercial consumers would have either lost production or would have had to install their own generation facility to ensure an uninterrupted supply of electricity during peak hours.

The two projects that rated less than satisfactory for their contribution to the growth of the economy failed financially. Four other projects that have shown poor financial performance in contrast rated satisfactory for their contributions to economic growth, suggesting that the economy can benefit from electric power projects even in situations where the financiers are not successful.

Impact on living standards

This indicator measures a project's net contribution to members of society other than its owners or financiers, such as customers, suppliers, employees, and governments or taxpayers.

Twenty-three of the 28 projects (82 percent) with living standards ratings did well, mirroring IFC's all-sector performance. IFC electric power projects affect living standards at two levels: immediate, or local community level; and widespread, or the entire customer base:

(a) The local community. Job creation is perhaps the most important impact on living standards in the local communities where IFC electric power projects are located. The impact is most visible in rural areas, where IFC projects can easily become the biggest employer. In most IFC-financed projects, priority in hiring is given to suitably qualified local people. At the suggestion of some IFC project companies, some villagers have formed cooperatives that serve as subcontractors for noncritical support functions, such as ground maintenance, security, janitorial services, and cafeteria operations. Salaries and benefits are typically better than alternative local employment opportunities. One IFC-financed 700MW power plant in a remote rural location has about 450 direct and another 400 indirect employees. In addition to direct and indirect employment at the plant, additional employment is generated at local industrial power consumers.

Other demonstrated impacts on local communities include the following examples:

- One project required the development of a road and bridge infrastructure that is accessi-

ble to villagers. This has given local farmers access to new markets and has enabled children to attend schools outside their village.

- Many project companies in rural areas provide free healthcare services, giving villagers access to clinics constructed within the power plant.
- Some companies support community development programs by sponsoring village school activities, sports events, livelihood projects, reading programs, and skills development. An IFC-financed IPP in Asia built a community center, equipped it with sewing machines, trained the village women, and helped them market their output.
- Some IPPs have provided power line connections in neighboring villages, enabling the local distribution company to extend service to these villages.

(b) Widespread impact. The most important impact observed in IFC-financed generation projects is the provision of a reliable, stable, and reasonably priced electric power supply to industrial/commercial and residential customers. For industrial/commercial customers, this translates into the resumption of normal operations or even the expansion of operations, leading to additional employment opportunities, especially at the shopfloor level where many low-wage earners work. Residential customers at all income levels benefit from a stable electric power supply. Without these IPPs and unable to afford their own power generators, the poor would have no electricity.

IFC-financed projects have helped increase access to electric power. In LAC, IFC financed a distribution company's post-privatization expansion that enabled the company to extend access to the urban poor, who previously had obtained electric power through illegal and unsafe connections that typically were costly and also wasteful. Another IFC-financed IPP project in Sub-Saharan Africa has given the privately managed utility company the generation capacity to enable expansion of the national grid to some 1.8 million people in 1,100 rural districts, out of a total of 8,000 districts connected to the grid.

Environmental, social, health, and safety (ESHS) effects

This indicator measures a project's impacts on its physical environment and on other social, cultural, worker health and safety, and resettlement issues, as addressed in IFC's safeguard policies.

IFC requires all of its projects to comply with IFC's internationally accepted environmental and social guidelines. Out of 29 evaluated projects, 23 (79 percent) are rated as satisfactory or better, compared with 66 percent of the total evaluated portfolio of IFC investments. (See Annex Q for a detailed discussion of the environmental impacts of IFC projects.)

ANNEX M: MIGA GUARANTEES IN POWER, FY99–01

Issuance of MIGA Guarantees for Electric Power Projects, FY99—01

as of 6/30/2001

Investor	*Project Enterprise*	*FY*	*Host Country*	*MAL (US$)*	*FDI (US$)*	*Status of Guarantee*
The National Grid Co. PLC	Compania Inversora en Transmision Electrica Citelec S.A.	94	Argentina	15,000,000	80,956,000	Cancelled
Wartsila NSD Power Development, Inc.	Electricidad de Cortes S.de R.L.de C.V.	95	Honduras	1,958,823	71,235,292	Active
Wartsila Diesel Development Corp. Inc.				27,000,000		Cancelled
Illinova Generating Co.				4,025,000		Active
Scudder Latin American Trust				5,975,000		Active
Internationale Nederlanden Bank N.V.				9,000,000		Active
Mees Pierson N.V.				9,000,000		Active
Hydra-Co Enterprises Inc.	Jamaica Private Power Co. Ltd	95	Jamaica	25,508,032	144,200,000	Active
Energy Investors Funds II L.P.				8,147,861		Active
International Energy Partners L.P.				2,583,704		Active
Rockfort Power Associates Inc.				12,473,389		Active
USEC-Precursor Inc.				1,287,014		Active
Magma Netherlands B.V.	California Energy Corporation, Inc./ Visayas Geothermal Power Co.	95	Philippines	30,000,000	280,000,000	Cancelled
Wartsila Diesel Development Corp. Inc.	Jamaica Energy Partners L.P.	96	Jamaica	5,171,035	98,994,000	Active
Wartsila Power Development Inc.				12,647,536		Cancelled
Barge Energy L.L.C.				3,045,357		Active
Illinova Generating Co.				3,045,357		Active
Scudder Latin American Power I-C L.D.C.				60,908		Active

Issuance of MIGA Guarantees for Electric Power Projects, FY99–01						
as of 6/30/2001						
Investor	***Project Enterprise***	***FY***	***Host Country***	***MAL (US$)***	***FDI (US$)***	***Status of Guarantee***
Scudder Latin American Power I-P L.D.C.				6,029,807		Active
Boeing Capital Corp.		97		14,365,636		Active
New World Power Corp.	New World Power Investment S.A.	96	Argentina	2,250,000	9,100,000	Cancelled
Atlantic Commercial Finance B.V.	Hainan Meinan Power Company CJV	96	China	16,700,000	147,500,000	Active
Capital Indonesia Power I C.V.	P.T. Paiton Energy Co.	96	Indonesia	50,000,000	2,496,308,000	Active
Statkraft SF	Himal Power Ltd	96	Nepal	29,227,063	122,400,000	Active
ABB Kraft				1,800,000		Active
Kvaerner Energy A.S.				1,800,000		Active
Ormat Holding Corp.	Orzunil I de Electricidad Limitada	97	Guatemala	4,484,838	65,601,102	Active
				8,453,894		Active
Ormat Holding Corp.		99		1,575,000		Active
ING Bank, N.V.		2000		11,800,000		Active
OPIC/Houston Industries Energy Cayman Inc.	Light Servicos de Electricidade S.A.	97	Brazil	7,500,000	1,158,000,000	Cancelled
OPIC/AES Coral Reef L.L.C.				7,500,000		Active
Wartsila Power Development Inc.	Tapal Energy Ltd	97	Pakistan	2,000,000	119,892,000	Active
Sithe International Inc.		98		8,000,000		Active
Enron Corp.	Enron Java Power Corp.	97	Indonesia	15,000,000	437,625,000	Cancelled

Issuance of MIGA Guarantees for Electric Power Projects, FY99–01						
as of 6/30/2001						
Investor	***Project Enterprise***	***FY***	***Host Country***	***MAL (US$)***	***FDI (US$)***	***Status of Guarantee***
El Paso Energy International Co.	Fauji Kabirwala Power Co. Ltd	97	Pakistan	16,110,000	150,700,000	Active
Cogen Technologies Saba Power LP	Cogen Technologies Saba Capital Co., L.L.C./Saba Power Co.	97	Pakistan	5,000,000	138,341,500	Active
Coastal Wuxi Power Ltd	Wuxi Huada Gas Turbine Electric Power Co.	97	China	4,212,000 9,342,000	15,600,000	Active Active
Coastal Suzhou Power Ltd	Suzhou Coastal Cogeneration Power Plant	98	China	17,655,300	19,617,000	Active
ERI Holdings II Scotia Mercantile Bank	Compania Hidroelectrica Dona Julia S.R.L.	98	Costa Rica	2,203,200 9,225,000	28,946,000	Active Active
Nordic Power Invest AB	Compañía Boliviana de Energía Eléctrica S.A.-Bolivian Power Co. Ltd (COBEE-BPC)	98	Bolivia	62,500,000	200,000,000	Cancelled
El Paso Energy International Co.	Companias Asociadas Petroleras S.A. (CAPSA) and its subsidiary CAPSA Exploradora S.A. (CAPEX)	98	Argentina	22,580,000 17,617,500	538,000,000	Active Cancelled
Nissho Iwai Corp.	Asia Power Private Ltd	98	Sri Lanka	1,686,204	61,145,080	Active
El Paso Energy International Co.	Energy Center Kladno Generating s.r.o.	98	Czech Republic	24,808,455 5,581,485	278,416,000	Active Active
Wartsila Vietnam Power Investments Ltd	Vung Tau Energy Co. Ltd (Vietnam)	99	Vietnam	36,000,000	113,000,000	Active
Coastal Nanjing Power Ltd	Nanjing Coastal Xingang Power Plant	99	China	20,693,638	26,846,000	Active
Coastal Gusu Heat and Power Ltd	Suzhou Suda Cogeneration Power Co. Ltd	99	China	10,759,500	11,955,000	Active
Coastal Power Khulna Ltd	Khulna Power Co. Ltd	99	Bangladesh	29,340,000	95,000,000	Active
Dunriding Co. N.V.	Termotasajero S.A. E.S.P.	99	Colombia	62,415,000	69,350,000	Active

Issuance of MIGA Guarantees for Electric Power Projects, FY99–01

as of 6/30/2001

Investor	*Project Enterprise*	*FY*	*Host Country*	*MAL (US$)*	*FDI (US$)*	*Status of Guarantee*
Banco Santander Central Hispano S.A.	Companhia de Interconexao Energetica (CIEN)	2000	Brazil	37,000,000	258,000,000	Cancelled
Endesa International S.A.				28,000,000		Cancelled
Banco Santander Central Hispano, Credit Agricole Indosuez				50,000,000		Active
VBC International Corp.	VBC Energia S.A.	2000	Brazil	100,000,000	200,000,000	Active
Ormat Holding Corp.	OrPower 4, Inc.	2000	Kenya	37,490,000	30,956,000	Active
Ormat International Ltd	Ormat Momotombo Power Company (Campo Momotombo)	2000	Nicaragua	81,409,400	64,749,000	Active
Bank Hapoalim B.M.		2001		63,311,250		Active
Coastal Power Dominicana Generation Ltd	Empresa Generadora de Electricidad Itabo S.A.	2000	Dominican Republic	90,000,000	177,780,000	Active
BCH International Puerto Rico Inc.	Consorcio Energetico Punta Cana—Macao S.A.	2000	Dominican Republic	11,100,000	14,627,143	Active
Hydro-Quebec International Inc.	Consorcio Transmantaro S.A.	2000	Peru	61,150,000	151,600,000	Cancelled
				20,187,500		Cancelled
				16,150,000		Cancelled
				24,225,000		Active
Eskom	Motraco-Mozambique Transmission Co. S.A.R.L.	2000	Mozambique/ Swaziland	32,000,000	84,400,000	Active
				37,400,000		Active
Citibank N.A.	Light Servicos de Eletricidade S.A.	2001	Brazil	23,000,000	200,000,000	Active

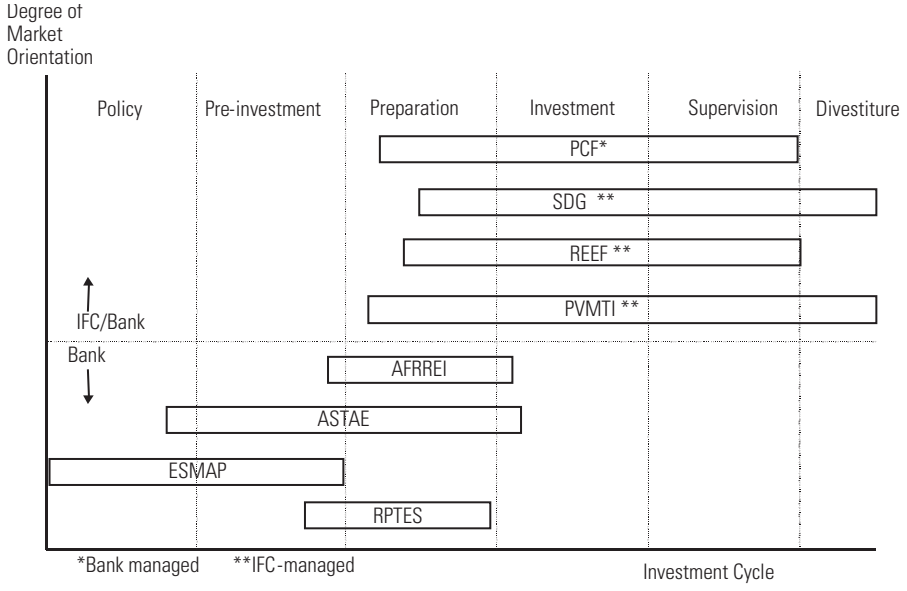
Issuance of MIGA Guarantees for Electric Power Projects, FY99–01						
as of 6/30/2001						
Investor	***Project Enterprise***	***FY***	***Host Country***	***MAL (US$)***	***FDI (US$)***	***Status of Guarantee***
Union Fenosa Internacional S.A.	Distribuidora Electrica de Oriente S.A. (DEORSA) and Distribuidora de Electricidad de Occidente S.A. (DEOCSA)	2001	Guatemala	96,570,000	107,300,000	Active
Union Fenosa International S.A.	Retelele Electrice Distributie Chisinau S.A.; Retelele Electrice Distributie Centru S.A.; Retelele Electrice Distributie Sud S.A.	2001	Moldova	61,092,000	136,000,000	Active
Construtora Norberto Odebrecht S.A.	Hidropastaza S.A.	2001	Ecuador	150,000,000	254,770,000	Active
72 Contracts, 39 Projects, 25 Countries				***1,742,229,686***	***$8,658,910,117***	

ANNEX N: WORLD BANK GROUP INVOLVEMENT IN RENEWABLE ENERGY AND ENERGY EFFICIENCY PROJECTS

During the 1990s, renewable energy and energy efficiency (or "alternative energy") grew significantly as innovative components of WBG energy activities. Bank and IFC initiatives reflect each institution's mandate: the Bank worked mainly with the public sector to achieve policy reforms, strengthen institutions, define legislative frameworks, and establish regulatory processes to provide the enabling environment for private participation, while IFC provided loans and equity financing directly to the private sector. As shown below, their financial assistance and AAA show a similar general division of labor, with the Bank focused on upstream policy and preinvestment activities, and IFC concentrated on investment and divestiture.

There is no institutionally agreed definition for the hydropower component of renewable energy. The Bank includes only mini- and microhydro (less than 1MW) as renewable, treating large hydro as conventional generation, while IFC includes all hydro in its accounting for its renewables portfolio (the average size of IFC-financed hydropower plants is 67MW, excluding one 450MW plant in LAC). This issue needs to be resolved given the attendant social (resettlement)

The Bank and IFC Division of Labor Is Also Evident in Renewable Energy Activities



PCF: Prototype Carbon Fund; SDC: Solar Development Corporation; REEF: Renewable Energy and Energy Efficiency Fund; PVMTI: Photovoltaic Market Transformation Initiative; AFFREI: Africa Rural and Renewable Energy Initiative; ASTAE: Asia Alternative Energy Program; ESMAP: Energy Sector Management Assistance Program; RPTES: Regional Program on the Traditional Energy Sector

Source: Spencer (2000).

and environmental issues of large hydro that are not normally associated with village-scale, decentralized renewable energy systems. It furthermore will not be possible to evaluate the significant and innovative PSD components of this alternative energy portfolio unless a common definition is agreed within the WBG.

There also are no data on the full extent of the Bank's support for alternative energy. However, it is known that through the Asia Alternative Energy Program (ASTAE), Energy Sector Management Assistance Program (ESMAP), Africa Rural and Renewable Energy Initiative (AFFREI), and Regional Program for the Traditional Energy Sector (RPTES) the Bank finances (including GEF grants) and provides technical assistance to governments to develop and implement renewable energy systems, promote energy efficiency, build long-term capacity, and expand energy access. ASTAE data is the most robust: its portfolio of alternative energy projects for FY93–03 has grown to 37 renewable energy and energy efficiency projects in 11 Asian countries, with a total alternative energy project cost of US$3.8 billion and total Bank/GEF commitments of up to US$1.5 billion. ASTAE's alternative energy program integrates significant technology and policy reform measures.

IFC works further downstream through the Solar Development Group (SDG), Renewable Energy and Energy Efficiency Fund (REEF), and the Photovoltaic Market Transformation Initiative (PVMTI).[1] It directly invests in financially viable renewables and energy efficiency projects, provides financing for the development of private sector activities in the distribution and retail of off-grid applications, and extends concessional financing for the development of photovoltaic markets. In the 1990s, IFC made a total investment commitment of US$225 million in 13 projects and managed seven GEF-funded projects. These investments represent 20 percent of IFC's total investment commitments in the power sector by FY99. Eight of these investments are in hydropower plants and five are in LAC. IFC has two investment commitments in the nonhydro renewables subsector: a 24MW geothermal plant and a 45MW *bagasse* cogeneration plant as part of an investment operation in a sugar mill.

As in other sectors, IFC invests in financial intermediaries for on-investing to smaller alternative energy projects. IFC has committed US$15 million for a multiproject financing facility to support alternative energy projects, focusing primarily on Central America. Among the beneficiaries are two hydropower plants (16MW and 18MW) and a wind farm (20MW) in Costa Rica. In addition, IFC made an investment commitment of US$15 million for a US$65 to US$100 million alternative energy global private equity investment fund with a parallel debt facility and a GEF cofinancing arrangement.

ANNEX O: ASTAE-SUPPORTED WORLD BANK/GEF ALTERNATIVE ENERGY INVESTMENT PROJECTS, FY92–03

		Technical Assistance and Policies				Technologies				
Country	Project	Training & Capacity Building [a]	Renewable Energy Master Plan	Small Power Purchase Agreement	Tariff & Duty Adjustment	Photo-voltaic	Hydro [b]	Wind Power	Biomass Power	Geothermal [c]
China	Renewable Energy Resources	●	●		●	●		●		
Indonesia	Second Rural Electrification	●	●	●	●		●			●
Indonesia	Solar Home Systems	●	●			●				
Lao PDR	Southern Provinces Rural Elect.	●	●			●	●			
Vietnam	Power Development	●	●							
Vietnam	Rural Energy I	●	●	●		●	●			
India	Re newable Resources Development	●				●	●	●		
India	Renewable Energy II/Energy Efficiency	●		●	●		●			
Sri Lanka	Energy Services Delivery	●		●	●	●	●	●		

Includes:

a. Institutional strengthening activities.

b. small-, mini-, and micro-hydro.

c. small-, mini-, and micro-geothermal.

ANNEX P: TECHNOLOGY AND POLICY REFORM MEASURES IN ASTAE-SUPPORTED RENEWABLE ENERGY AND ENERGY EFFICIENCY PROJECTS*

		Technical Assistance and Policies					Technologies					
Country	Project	Training & Capacity Building	DSM Plans [a]	Load Research [b]	Codes & Standards [c]	ESCO Dev.	Load Mgmt.	Motors	Light-ing	Appli - ances	HVAC [d]	Cogen. [e]
China	Energy Conservation	●				●		●	●			●
Lao PDR	Provincial Grid Integration	●				●		●				
India	Orissa Power Sector	●	●	●			●	●			●	
	Haryana Power APL	●	●	●		●	●	●		●		●
	Andhra Pradesh Power APL [f]		●	●		●	●	●	●		●	
	Renewable Energy II/Energy Efficiency	●				●	●	●	●		●	●
Sri Lanka	Energy Services Delivery	●	●	●	●				●	●	●	
Thailand	Distribution System & Energy Efficiency		●	●	●		●	●	●	●	●	
Thailand	Metropolitan Distribution			●		●				●		
Vietnam	Transmission & Distribution	●	●	●			●	●	●			

* ASTAE: Asia Alternative Energy Unit

Includes:

a. monitoring and evaluation; b. institutional strengthening activities; c. energy efficiency building codes and equipment standards; d. vapor absorption technology; e. industrial and biomass cogeneration; and f. TA and technology for the entire APL program.

ANNEX Q: ENVIRONMENTAL AND SOCIAL IMPACTS OF IFC INVESTMENT OPERATIONS IN THE POWER SECTOR

(Note: A separate background paper has been prepared for the Bank entitled "Environmental Mainstreaming and Private Sector Development in the Electric Power Sector: A Review of the World Bank's Policies and Performance.")

I. Environmental Performance of IFC Projects

The environmental performance of IFC's investment operations in the power sector has been better than IFC's all-sector portfolio.

Of the 29 evaluated projects, 23 (79 percent) have met or exceeded IFC's environmental requirements, compared to 68 percent for all evaluated IFC projects from the 1991 to 1996 approvals population. Based on the site visits conducted as part of the field assessments, the drivers for this successful outcome appear to be the following:

- environmental requirements are specifically built into the plant design criteria
- environmental performance criteria are an explicit aspect considered in Project Completion tests
- power plants are technology-driven: if designed and built properly, it is highly likely that a plant will be operated within IFC/WB guidelines
- at the national level, IPPs are sufficiently large that they are audited by national environmental agencies
- global power project sponsors generally operate in an environmentally responsible manner when they undertake projects overseas, due to reputational risk

As in any other sector, power has its share of projects with less than satisfactory environmental performers. An analysis of the six projects that are rated less than satisfactory points to two major reasons:

- inadequate attention to social issues
- inadequate environmental controls incorporated into the design to fully meet IFC/WB emissions standards

IFC has in the last four to five years expanded its social soundness reviews to better address social issues, partly as a result of a hydro project in LAC that did not adequately address social and resettlement issues. Actions taken have included the addition of specialist staff and the development and promulgation of guidance documents in key social development areas such as resettlement and public consultation.

Two projects failed to meet current IFC/WB emissions standards. In both cases, the fault lay with design. Environmental performance criteria are critical in the design and approval of power sector plants, but environmental performance issues may be less well managed for cogeneration and captive power plants that come under IFC's other sectors, such as food and agriculture, general manufacturing, or chemicals, and that are outside the scope of this report.

There is huge untapped potential for progressing beyond "doing no harm" to "doing good" on environmental issues:

(i) The system dispatch priority should consider the environmental impact.

Increasing the capacity of a system increases its flexibility and enhances the ability of managers to achieve least-cost and environmentally responsible dispatch of the system's power plants. Even within contractual constraints, better environ-

mental management is possible through the use of the right technology and the appropriate use of plant alternatives. When supply is constrained and system dispatch requires older and more polluting capacity to be called into longer periods of production, the environmental outcomes inevitably are inferior.

(ii) Projects can be more environmentally responsible by going beyond the fence line.

Industry practice delineates a fence line, real or imaginary, around a project. Activities outside the fence line are not considered to be part of the project impact. This is an area where IFC can add value. The following two examples are taken from actual projects in a case study country:

- Most IPPs sell power directly to the grid via a substation at the plant. The government or the transmission company owns the high-voltage transmission lines and is therefore responsible for any associated impacts from those lines. In one observed project, the high-voltage transmission lines leave the plant, join with those from an adjacent government-owned plant, and then continue directly over a neighboring slum in a major city. The impact of electromagnetic fields is open to debate, but these lines presented a direct safety hazard to the slum residents. High-voltage lines normally should pass through a safety corridor.
- There are several ways for fossil fuel-based plants to receive their fuel, including via pipeline, railways, and trucks. In one country, a World Bank-financed plant received fuel via a pipeline, an IFC-financed plant received fuel via rail, and three plants (one World Bank and two IFC) received their fuel via trucks. One plant receives approximately 80 fuel trucks per day, each of which traveled more than 200 kilometers from the fuel depot to the plant. This level of truck traffic presents a safety issue to the small villages and communities through which the trucks pass as well as the issue of carbon dioxide emissions. There furthermore was little control over truck maintenance: trucks were being maintained and washed at small service points, with waste oil and oily wastewater being discharged onto the ground and into drainage ditches. As the trucks are under a supply contract they are considered to be outside the fence line, yet their only business is to supply fuel to the power plants. The operating practices of these private trucking fleets are causing significant negative environmental impacts. Establishing improved truck maintenance facilities has the potential to create an additional private sector business opportunity while helping to protect the environment and reduce costs, through improved waste oil recovery and recycling. While a pipeline is the optimal option over the long term, rail appears to be the least-cost option and one that reduces environmental impacts to an acceptable level. At the least, better management of the trucking system could provide flexibility and lead to an improved environmental outcome.

II. The GHG Impacts of IFC Projects and Their Implications

IFC has existing policies on GHG emissions

IFC's policies and position with respect to greenhouse gas (GHG) emissions are captured in the 1998 Pollution Prevention Handbook (PPAH), which is available online at the World Bank Group's Web page: http://www.worldbank.org/.

The three GHGs of importance are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). GHGs are perceived to have a direct impact on climate change, and 80 percent of GHGs are generated from human activities—in particular from the burning of fossil fuels. IFC's 1998 guidance reflects the then-current developments of the UN Framework Convention on Climate Change (UNFCCC), but the failure to ratify the Kyoto Protocol is changing the debate. IFC's guidelines on energy efficiency are also captured in the 1998 Pollution Prevention Handbook (PPAH).

What is expected from host countries of IFC investments in the power sector?

It is important to recognize that the Kyoto Protocol differentiates between "transition

economies," "developing countries," and "least-developed countries." While IFC is active in all three country categories, the power sector portfolio is concentrated in the developing countries group. The Kyoto Protocol is primarily aimed at achieving reductions in Part I (industrial countries) and transition economies, and recognizes that continued growth of energy use is critical to the economic growth of developing nations. Under the Clean Development Mechanism (CDM), it is recognized that the cost of pollution control is significantly less in developing nations than in Part I nations. For these reasons, IFC's client countries do not have established emission reduction targets. CDM does however provide a financial incentive to achieve emissions reductions.

The GHG emissions of IFC-financed power projects are relatively immaterial

Using proprietary software developed for IFC, called IMAGE, IFC has calculated its net contribution to GHGs resulting from use of fossil fuels. These results are conservative—that is, they assume that all plants operate at the designed 70 percent capacity factor—but they do not take into account indirect emissions (such as methane emissions from coal mines) or line losses, as such losses are beyond the fence lines of IFC projects. The following table summarizes the total GHG emission of IFC-financed fossil fuel-based power plants.

The total GHG emission of the 21 fossil fuel-fired power plants approved in the 1990s and in IFC's portfolio as of December 31, 2001, was calculated as equivalent to 0.2 percent of the 1998 global emissions from fuel combustion (22,700 million tons CO_2) and 0.4 percent of the 1998 developing countries' emissions from fuel combustion (8,600 million tons CO_2).

IFC's power sector projects achieve the least impact (tons of CO_2/year/installed MW) with gas/naphtha-fired generators. Coal-fired steam boilers are the least efficient in terms of GHG production.

How can IFC most effectively contribute to GHG reduction while meeting the energy needs of the countries in which its projects are located?

Moving to renewable energy and switching to cleaner fuels (gas) provide the largest gains in GHG reduction. However, power plants are located and designed based on fuel or resource availability, cost, fuel diversification, and environmental considerations. In most cases, this means that coal was the best option through the 1990s.

Greater fuel efficiency has a direct impact on GHG reduction. There has been a significant improvement in overall energy efficiency: for a coal-fired power plant, an increase in efficiency from

GHG Production by Type of Thermal Generating Unit and Fuel Type, for the Portfolio of Projects Considered in this Review

			CO2 Emissions			
Technology	Fuel Type	Total Installed Capacity (MW)	tons-C/year	tons-C/year/GW	tons-CO^2/year	tons-CO^2/year/GW
Diesel generation	HFO	668	927,000	1.39	3,573,000	5.35
Thermal generation	Gas/naphtha	1,861	1,686,000	0.91	6,183,000	3.32
Thermal and steam generation	Coal	2,650	4,443,000	1.68	16,290,000	6.15
Thermal and steam generation	LFO and HFO	844	1,109,000	1.31	3,766,000	4.46

40 to 41 percent reduces the emission of CO_2 by 2.5 percent. (New coal-fired power plants can achieve efficiencies of 42–45 percent.)

To reduce GHG production, IFC should look at both fuel selection and power plant design (efficiency). Depending upon the age of the plant, it may be cost-effective to replace older, less efficient plants with modern, more efficient plants, with GHG reduction being a side benefit. In addition, IFC recently established a Dutch-funded CDM facility to help promote pollution trading.

III. Recommendations: Win-win opportunities for going beyond "doing no harm" to "doing good"

On reforming the sector. Reform plans for a country's power sector should consider a program to replace older, less efficient plants with modern, more efficient plants. Older plants tend to be state-owned, and this therefore is a possible policy approach to privatization that could simultaneously reduce overall costs and improve environmental quality.

On environmental aspects. Where logistically and financially feasible:

- move to cleaner fuels (fuel selection) and renewable energy options;
- promote more efficient plants;
- promote system optimization; and
- go beyond the fence line.

On social aspects. Possible solutions to social concerns include:

- Advise sponsors on site selection by helping them understand the social and environmental issues associated with the specific sites under consideration. It should be noted, however, that IFC may be brought into a deal after the siting decision has been made.
- Focus on community participation early in the process.
- Promote social responsibility to ensure the beneficiaries include both the local community and the regional and national populations.

ANNEX R: WORLD BANK GROUP MANAGEMENT RESPONSE AND MANAGEMENT ACTION RECORD

I. Introduction

Management commends OED/OEG/OEU for this thorough review of private sector development in the electric power sector (PSDE) and for taking into account staff comments and concerns. The review analyzes a decade of World Bank Group (WBG) experience, and it offers some valid criticisms and three challenging recommendations.

Significant change in the PSDE environment. The period covered by the review saw significant change in private sector involvement in the power sector: considerable foreign investment increases during the earlier part of the decade were followed by a rapid decline from 1997 onward. Against this background, the findings of the OED/OEG/OEU review are timely and will help the WBG to formulate its strategy.

II. OED/OEG/OEU Findings

Management concurs with the conclusion of OED/OEG/OEU that the WBG should continue to support private sector development in the electric power sector. Management also shares the review's assessment of the challenge to promoting private sector development in the electric power sector: the required reforms are both complex and resource-intensive, especially in the distribution sector, and approaches need to be tailored to the circumstances of individual countries. The review rightly notes that successful PSDE reforms and good performance require government commitment based on constituencies for reform established through civil society participation. Management welcomes the assessment that the Bank, pursuing multiple and complex reform objectives through a range of instruments across all Regions, achieved good results when country ownership and political commitment existed. IFC and MIGA—responding to market demand and focusing on the single reform objective of private sector participation—achieved good project-level outcomes overall.

III. Management's Views

To improve the impact of World Bank Group PSDE assistance, the OED/OEG/OEU review recommends developing operational guidance, mainstreaming environmental and poverty reduction objectives, and encouraging operational innovations. Management has recognized the issues that prompt these recommendations and, as is indicated in the following paragraphs, has already begun to formulate responses along the lines the review suggests. (The responses to the specific recommendations are set out in the accompanying Management Action Record matrix, appended to this annex.)

Need for operational guidance. The OED/OEG/OEU review recommends that operational guidance be provided to staff on when and how to promote PSDE in an environment of heightened macroeconomic and political risks and scant investor interest. Management agrees with this recommendation, and the Energy Sector Anchor is preparing a Guidance Note to complement the many other learning mechanisms already in place. This note, which will be delivered in early FY04, will address the respective roles of the Bank, IFC, and MIGA. The note will be grounded on the World Bank Group's policy adopted in 1993 by placing PSDE in the context of achieving commercialization and promoting competition under transparent regulation. It will also focus on the urgent issues associated with arresting the decline in PSDE and improving governance, including

management of the transition to a sustainable environment for PSDE.

Guidance differentiated by country conditions. The note will reflect experience with PSDE that highlights the importance of strengthening governance structures (including regulation, protection of investor rights, and implementation of internationally recognized accounting and auditing principles) before privatization. It will advise that each country's program for reforming its power sector according to this policy should be tailored to the particular economic, technical, political, and social conditions of the country at the start of the reform process. The note will therefore avoid a "cookbook" solution for power sector reform that ignores these conditions. It will provide the following two examples of country typology:

- *Large countries.* For relatively large and advanced countries, the focus would be on unbundling of the sector (through legal or ownership separation), the level and structure of tariffs, regulated third party access to the transmission and distribution wires services by public and private service providers, privatization of viable or potentially viable generation and distribution entities to foster the efficiency gains expected from competition, and freedom at least for the large industrial and commercial consumers to choose their supplier from within the country or from abroad. This form of competition is the simplest to develop and monitor. The Bank should be cautious about recommending the creation of market structures that mandate total reliance on price bidding into a competitive power pool because this structure will only succeed in the presence of certain preconditions that are rarely in place, and the effort involved may divert attention from other reforms that are likely to produce bigger efficiency gains in the short to medium term, such as loss reduction in distribution.
- *Small countries and countries with limited institutional capacity.* For small countries and those with limited institutional capacity, the focus would be first on commercialization of the sector and choosing a market structure appropriate for the country's circumstances. Private sector participation can be introduced gradually using management contracts or concession arrangements. Divestiture of assets can then be considered once the governance structure is fully implemented and the enabling environment for commercialization is in place. For small countries, one or more fully or partially vertically integrated enterprises may be the best option if imports cannot create a sufficiently competitive market. For example, a partially integrated enterprise might combine existing distribution, transmission, and generating assets with a requirement that all new supply sources be competitively acquired. This approach could also be combined with mandatory accounting unbundling so there is a potential to move to a more unbundled sector in the future. Horizontal unbundling into numerous generation and distribution entities is often impractical for these small markets.

Staff training. Staff training will continue to emphasize lessons learned and the analytic tools needed to guide staff in specific country assessments. In addition, the Bank, IFC, and MIGA will continue to provide staff with information about the evolving power sector agenda through other channels, such as Energy and Mining Sector Board Discussion Papers, Viewpoints, Energy Sector Management Assistance Program publications, brown bag lunches, lectures, the annual Energy Week, and the Energy Help Desk.

Mainstreaming the environment and poverty reduction. Management agrees with the recommendation that the WBG should mainstream environmental and poverty reduction objectives into the energy portfolio, and has been taking steps in that direction following the approach set out in the Energy Business Renewal Strategy.[1] Environmental and poverty issues are being addressed in a broader context than power interventions, notably in other energy projects[2] as well as through coordination of energy sector agendas with education, health, and other social sector development projects. Such interventions can be an effective way to deliver benefits to the poor, particularly when affordability and access are priority issues.

Management recognizes the need for *ex ante* analysis of the impact on the poor of the private provision of electricity services, particularly on affordability. Management also recognizes the need to stimulate innovative technologies for supplying electricity to poor areas in ways that economically meet the Bank's environmental safeguards. Impetus for continuing attention to environmental and poverty reduction objectives was provided by the World Summit on Sustainable Development in Johannesburg in September 2002[3] as well as by the agenda of the February 2003 Energy Week and related Energy Workshops. Beyond these events, which served to raise the prominence of environmental and poverty reduction objectives, the WBG will continue to carry out country-specific analytic work. The results of this work will provide the basis for investments and reforms in support of further mainstreaming of environmental and poverty reduction objectives.

Private investment in distribution. As part of its recommendation to mainstream environmental and poverty reduction objectives, the OED/OEG/OEU review draws attention to the importance of reforming and facilitating private investments in the distribution subsector. Management concurs with this emphasis. The WBG has recognized the key role of private sector participation in the distribution subsector since the early 1990s, and has provided guidance to staff on this topic since the mid-1990s. This has proved to be the most challenging area for PSDE because of the high political and regulatory risks perceived by investors in developing country power sectors. Against this challenging background, the recent shift in the IFC portfolio in favor of distribution investments is an important change, especially if it can be sustained. Hence the WBG will help countries to exploit the full range of ways to involve the private sector in distribution, from long-term concessions and full ownership with major investment commitments to limited or effectively no financial risk exposure such as through the contracting out of retail services, service contracts, and management contracts where this can improve subsector performance in situations where asset divestiture is not feasible. The particular form of private involvement should be selected pragmatically, depending largely on country and sector conditions and the stage of reform. Two recent publications by the Energy Sector Anchor provide guidance to staff in this respect. One is on the application of the World Bank's Partial Risk guarantee to distribution privatization. The other is on how best to mitigate risks through better specification of regulatory contracting mechanisms.

Innovations to ensure that PSDE goals are appropriately reflected in operations. The OED/OEG/OEU review recommends that operational innovations be encouraged to help achieve greater consistency between World Bank Group practices (and instruments) and its PSDE goals. Management is committed to working toward this objective where the Country Assistance Strategy (CAS) sets out pursuit of PSDE goals as a priority. IFC and MIGA have become increasingly involved in preparing CASs, focusing on countries where transactions are developing or ongoing, as the reform agenda has an important impact on their project risk assessments. IFC's and MIGA's inputs also help shape priorities for improvements in the policy and institutional environment for private investments, and as the role of energy in poverty reduction evolves they are expected to become increasingly involved in this agenda as well. However, to date, private investors have been reluctant to participate in low-income countries, as the perceived risks in these markets outweigh the expected returns. To increase PSDE in these markets, the Bank is working with IFC to ensure that these risks are appropriately allocated. They will also seek to widen the pool of investors to include strong domestic private partners in client countries so as to counter the decline in the number of European and American investors that has been caused by developments in their home markets. Output-based aid (OBA) appears to be a promising technique to increase poor people's access to electricity and to reduce costs by facilitating private investment in these markets. It is important, however, that OBA not be undertaken in isolation: in some cases it could be a component of a sectorwide approach that encompasses achievement of transmission and generation ca-

pability and reliability commensurate with consumers' ability to pay.

Measuring impact. As part of its recommendation to encourage innovation in the pursuit of PSDE objectives, the OED/OEG/OEU review highlights the importance of developing performance indicators and related internal systems. Management agrees that these are important objectives. Monitoring and evaluation (M&E) of PSDE should cover intermediate indicators of outputs and outcomes, and the WBG should help client governments and executing agencies to develop their limited financial resources and capacity for M&E programs. To make headway toward improved M&E, a comprehensive work program is underway, details of which are set out in the attached Management Action Record matrix.

IV. Conclusions

As noted, Management broadly supports the recommendations and conclusions of the OED/OEG/OEU review. Implementation of many of the recommendations is already underway, drawing on five key lessons from recent experience:

- ***Continue to support PSDE.*** Experience has shown that the private sector has brought efficiency gains, performance improvements, and cost reductions when the incentives for investors, producers, consumers, and regulators were adequately addressed. Pursuit of greater engagement of the private sector in distribution, in particular, is important.
- ***Need for government support of broad-based reforms.*** Reforms are key to increasing economic efficiency and will be supported by economic and sector work, policy advice, and adjustment operations. Monitoring and evaluation will be done in parallel to establish the empirical evidence to guide the World Bank Group's evolving agenda. An ambitious PSDE agenda should only be supported when there is clear and strong political commitment, including up-front actions to strengthen sector governance.
- ***Innovation.*** The WBG will continue to support innovative approaches, especially in addressing the Millennium Development Goals and the Johannesburg objectives that build on them.
- ***Competition as an incentive mechanism for efficiency gains.*** To establish incentives for the desired efficiency gains, the WBG will continue wherever feasible to support the establishment of an enabling environment for a competitive generation market.
- ***Governance.*** It is important to strengthen governance structures (including regulation, protection of investor rights, and implementation of internationally recognized accounting and auditing principles) before privatization. Privatization can help develop better governance arrangements by formalizing a separation of powers and arm's length regulation.

MANAGEMENT ACTION RECORD

Major OED Recommendation	Management Response
1. On an urgent basis, the WBG should provide operational guidance to WBG staff on when and how to continue promoting PSDE under the current situation of heightened macroeconomic and political risks and scant investor interest. Such guidance should be grounded on the Bank's recently enacted PSD strategy. • The Bank's Energy and Mining Sector Board, in close consultation with the Private Sector Development Board, should provide WBG staff with updated, practical operational guidance for pursuing PSDE based on what works best in terms of reform packages and their sequencing, given particular country-sector situations, needs, and institutional capacities. Best-practice examples can be developed for a range of frequently observed country attributes. • The development of this guidance should be a joint effort of the Bank, IFC, and MIGA. The guidance should define a framework that enables the full analysis of PSDE alternatives, that ensures environmental sustainability, and that aligns with the WBG's poverty reduction mission. • WBG senior management should clarify the roles of the Bank, IFC, and MIGA in promoting PSDE, particularly in terms of increased financial and advisory support.	Management agrees, in general, with this recommendation. The Energy Sector Anchor has started the preparation of a Guidance Note to complement the numerous other learning mechanisms already in place. The Guidance Note, planned for delivery in early FY04, will address the respective roles of the Bank, IFC, and MIGA. The note will focus on the urgent issues associated with arresting the decline in PSDE and protecting public goods through improved governance. However, as no "cookbook" solution exists for power sector reform, the WBG feels the appropriate approach to training energy staff will continue to be one that focuses on lessons learned and the analytic tools needed to guide staff in specific country assessments.
2. In its future PSDE interventions, the WBG should give greater emphasis to the mainstreaming of the poverty reduction and environmental objectives (in addition to its traditional macro-fiscal and sector efficiency objectives) that are at the core of the WBG's overall energy strategy. • The WBG should focus more on reforming and facilitating private investments in the distribution subsector. This will require actions to improve cash collections, reduce losses, address corruption, achieve better targeting of subsidies, expand access by the rural poor, and privatize distribution where and when circumstances permit. • The WBG should maximize the involvement of the local private sector in small-scale and/or decentralized projects. This will require innovative approaches and much better cross-sectoral integration within the Bank, and among the Bank, IFC, and MIGA.	Management agrees with the recommendation that poverty reduction and environmental objectives be mainstreamed into the energy portfolio. A review of the current pipeline of energy projects reveals a considerable proportion of energy projects with environmental and poverty components. Environmental and poverty reduction objectives are being highlighted at learning forums such as the February 2003 Energy Week and Energy Workshops. This will be followed by selected country-specific ESW addressing environmental and poverty concerns, as a precursor to the inclusion in the portfolio of projects with corresponding objectives. Regarding the facilitation of private sector investments in distribution, the WBG has already taken on this agenda through policy dialogue, support of private interventions, and facilitation of new instruments. For countries in which PSDE is planned, poverty alleviation and environmental protection will remain as key elements of the reform program. This will include targeted income support for the poor in cases where it is economically efficient, and lifeline energy tariffs when it is not. The Energy Anchor will prepare a paper in FY04 that addresses these issues of environmental sustainability and poverty reduction. The prospects for increasing local private sector involvement in small-scale and/or decentralized projects are modest as the limited financial resources available tend to be allocated to other high-risk/high-return investments. However, the WBG plans to encourage participation from a broader group of private investors, including those from low- and middle-income countries.

MANAGEMENT ACTION RECORD

Major OED Recommendation	Management Response
3. The WBG should encourage operational innovation to ensure greater consistency between its practices and instruments and its evolving PSDE goals. • The WBG needs to improve the coordination of the various units active in PSDE. To this end, it should pursue better integration of its PSDE objectives within the CAS framework (including in non-joint CASs) and Poverty Reduction Strategy Papers (PRSPs). • The Bank, IFC, and MIGA management should support flexibility and the exercise of initiative in PSDE operations and AAA, to enable better response to rapidly changing country-sector conditions and to opportunities that are not always foreseeable in the CAS. Through its diverse lending and advisory instruments, the WBG should promote more public–private partnerships and promising innovations, such as the pro-poor design of reforms and output-based aid schemes, for which robust monitoring and evaluation systems are essential. • The WBG should develop performance indicators and related internal systems and should help strengthen borrower capacities (including through project funding) to monitor and evaluate the achievements and impacts of its PSDE interventions. These M&E efforts should be keyed to the Energy Business Renewal Strategy and other relevant strategy and policy objectives, especially in the relatively neglected areas of helping the poor and mainstreaming environmental sustainability.	Management agrees that, within the framework provided by the CAS, it should continue to increase the consistency of PSDE goals with the Bank's operational practices and instruments. Consistency is pursued, notably, when the Bank and IFC prepare joint CASs (half of CASs and CAS progress reports in FY01 and FY02 were prepared jointly, and this effort is being sustained in FY03, when 15 CASs and CAS progress reports are expected to be joint Bank/IFC products, including those for China, Colombia, Jordan, Thailand, and Vietnam). IFC and MIGA will continue to be involved in CASs, focusing especially on those countries where transactions are developing or ongoing, because the reform agenda has an important impact on their project risks. Where the CAS indicates that support for PSDE goals is a priority, the Bank will work with IFC to attempt to ring-fence risks and ensure that they are appropriately allocated. Work is under way in the PSI VPU and the energy sector family/Sector Board to establish appropriate methodologies and acquire data for monitoring and evaluation. The Energy Business Renewal Strategy set forth proposed indicators to measure performance in the sector as a whole. A note on energy indicators will be prepared in FY04 for the Results Measurement System in IDA14. In parallel, work is being launched at the PSIVP level to develop performance measures and accompanying databases for several key infrastructure sectors, including energy, which can serve a variety of institutional purposes (for example, to standardize and set benchmarks for use in Bank ESW). The work is likely to focus initially on sectors and indicators that have higher priority for the tracking of global outcomes, such as those sectors and targets that are identified in the Millennium Development Goals. Critical lessons on data sources and needs (for the Bank, donors, and clients) will be gleaned from this exercise, as well as lessons on borrower capacity, the sustainability of data collection, and partnering with specialized agencies in the various sectors. Finally, PSIVP has recently completed an assessment of project-level M&E, focusing on overall quality, distilling sector-specific lessons of best practice on outcomes and indicators and clarifying the links between project–sector–country–global outcomes and indicators to measure progress toward those outcomes. These efforts represent a solid beginning to address deficiencies in the ability of the Bank, its clients, and the international community to measure performance across all infrastructure sectors.

ANNEX S: CHAIRMAN'S SUMMARY: COMMITTEE ON DEVELOPMENT EFFECTIVENESS (CODE)

On May 7, 2003, the Committee discussed *Private Sector Development in the Electric Power Sector: A Joint OED/OEG/OEU Review of the World Bank Group's Assistance in the 1990s* (R2003-0038, IFC/R2003-0043, MIGA/R2003-0011) and the *Draft Management Response* (CODE2003-0022). The Committee thanked the evaluation units of the Bank Group and Management for their comments and was pleased at the high degree of coherence between the recommendations in the review and the evolution of Management's orientation to the power sector.

Background

This joint OED/OEG/OEU review evaluates the performance of the World Bank Group during the 1990s in promoting private sector development in the electric power sector (PSDE). The review's main message is that PSDE has delivered expected benefits and good outcomes where countries were committed, reforms have advanced, and PSDE programs were properly implemented. However, the quality of outcomes depended on the objectives pursued and on the types of assistance provided. Most countries remain in the early stages of reforming and deepening private sector involvement in their power sectors. Bank-supported activities achieved good results where country ownership and sustained political commitment existed. But the Bank underestimated the complexity and time required for reforms to mature and achieve lasting and equitable country-sector outcomes; it obtained poor or, at best, mixed results where reforms have been weak or slow to take root. IFC and MIGA, focusing on the single reform objective of private sector participation and responding to market demand, achieved good project-level outcomes overall, although these could not in and of themselves ensure good sector-level outcomes. The review further points out that private interest in the power sector has been declining rapidly in recent years, particularly since the 1997 Asian financial crisis. Thus, the global picture indicates that while the Bank pursues the creation of a PSDE-enabling environment in 68 countries, private foreign interest itself is dwindling. The review, therefore, suggests that the Bank work toward the middle of the "continuum" from fully public to fully private service provision, and that it ensure that resources for investment in power generation and, particularly, transmission, are available.

Specifically, the review recommends that the WBG continue to pursue PSDE. In doing so, it should (i) provide operational guidance to staff on when and how to continue promoting PSDE; (ii) give greater emphasis to the mainstreaming of poverty reduction and environmental objectives in the design of future PSDE strategies; and (iii) encourage operational innovations (for example, in public–private partnerships), coupled with more systematic monitoring and evaluation of impacts.

Management welcomed the review and noted its timeliness given that 10 years had passed since the Bank adopted its policy on PSDE, and that it was in the process of preparing a forward-looking action plan on the Bank's engagement in the infrastructure sector. Management broadly agreed with the findings of the review and agreed that the Bank needed to operate away from the extremes of only public or private financing of infrastructure and needed to find innovative solutions. Management summarized its response to the review's recommendations in which it noted, in particular, the development of a PSDE guidance note to staff addressing the respective roles of the Bank, IFC, and MIGA in PSDE; progress on main-

streaming poverty reduction and environmental objectives in PSDE through an increasing pipeline of energy projects with environmental components, multisectoral approaches, and improved coordination; greater attention to poverty reduction and environmental objectives through forums such as the WSSD Summit in Johannesburg and the 2003 Energy Week; and ongoing work to improve monitoring and evaluation through a comprehensive program to develop concrete indicators.

Main conclusions and next steps.

The Committee broadly endorsed the findings of the review and focused on the lessons learned for the future. The main conclusions of the discussion included support for a continued role by the Bank Group in promoting PSDE; concern about declining private sector investment; and emphasis on the need for the Bank Group to address the issue by working across the continuum away from the extremes of purely public or private sector engagement. Members underlined the importance of providing clear guidance to staff, the importance of integrating environment and poverty reduction into the Bank Group's approach, and the importance of developing a sustainable approach to assuring the affordability of electric power to the poor. It was agreed that further discussion would take place at the upcoming Board discussion of the infrastructure action plan and that Management would hold a Technical Briefing to consult with the Board on the PSDE guidance note to staff. The final version of the review, along with the finalized management response and a summary of the CODE meeting, will be made available to the public in accordance with procedure.

Among the specific issues raised by the Committee were:

Approach and instruments. The Committee commented on the differences between the Bank's sector-level outcomes versus the project-level outcomes of IFC and MIGA. Some members suggested that the Bank's approach to PSDE is not sufficiently tailored to individual country needs and that there is a need for many more flexible instruments to quickly respond to on-the-ground needs. In this regard, they suggested that a much more thorough evaluation is needed of the Bank's policy advice, given that the review had found that nearly half of the Bank's interventions had failed to produce the desired sector-level outcomes. Management agreed on the need to maintain a flexible approach and noted that it was focusing on appropriate reform strategies to account for individual country situations and on providing a menu of options for this purpose.

Public–private roles. The Committee expressed concern about the withdrawal of private capital from the sector and stressed the need for better analysis of the reasons and much greater detail on how the Bank Group proposes to respond. The importance of innovation, as mentioned in the review, was highlighted in this regard. Some members suggested that the Bank Group had been overly reliant on the private sector and that it is necessary to find a balance between supporting private and public sector financing of infrastructure projects. Others suggested that the performance of public utilities had been extremely poor and there were significant efficiency gains to be made from private sector involvement. Some members stressed that while the review and the Management Response assumed that it is feasible to reengage the private sector in developing country markets, Management needed to have an alternative for client countries since it is not likely that the private sector will meet the global need for investment in generation and distribution. One member felt that an important area of inquiry is whether power sector reforms and IPPs supported by the Bank Group have contributed to lowering the cost of electricity generation and improving the access of the poor to electricity. He emphasized the critical importance of policy advice and building capacity in developing countries to negotiate appropriate and fair contractual arrangements between the government and the private sector. The Committee agreed that the Bank needs to remain flexible, and that it needs to assess how the public and private sectors could bring their relative strengths to bear in each country situation. Management responded that the declining interest of the private sector is a cause for concern. Reasons included significant diffi-

culties in global economic markets in the 1990s, overoptimism on the potential role and interest of the private sector, and a slower-than-expected pace of reform in client countries. Management agreed with the need for flexibility and emphasized that the Bank's approach would be tailored to the particular economic, technical, political, and social conditions of each country. For example, in the case of relatively large and advanced countries, the focus will be on unbundling the sector, privatization of viable entities, and initiation of competitive transactions, whereas for smaller countries with limited institutional capacity the focus will first be on commercialization of the sector and on choosing a market structure appropriate for the country's circumstances.

Integrating poverty reduction and the environment. The Committee emphasized the importance of the Bank Group mainstreaming poverty reduction and the environment in its PSDE work and asked Management how they proposed to address this issue. Some members highlighted the inherently pro-poor focus of power sector reform, noting that access to power supply is critical for providing the poor with a better quality of life and for supporting social sector interventions in the health and education sectors. One member, while stressing that the poverty reduction goal is fundamental, suggested that other goals, such as meeting environmental objectives, could lead to too many project delays. Another member noted that the review and Management Response urged the return of the private sector to PSDE and wondered what the Bank Group proposed to do in cases where there was a trade-off between attracting private investment and the raising of environmental safeguards standards.

Subsidies. The Committee stressed the importance of developing a sustainable approach to targeted subsidies for the poor, to take account of fiscal pressures and the need to make power affordable to the poor. Members stressed the importance of the innovative use of subsidies, guarantees, and the domestic private sector to respond to individual country situations. OED emphasized that while subsidies do work, they have to be transparent and targeted appropriately to ensure that they are in fact getting to the poor. Management agreed and stressed that the Bank's current focus is to target subsidies appropriately. It emphasized that it is focusing on affordability for the poor as well as efficiency in going forward.

Monitoring and evaluation. The Committee agreed with the review's findings with regard to the need for more systematic monitoring and evaluation of impacts. Members stressed the importance of intermediate quantifiable indicators that would allow for mid-course correction, while emphasizing the need for the Bank to be flexible and responsive to changing needs in the sector. Management agreed and pointed to ongoing work in this area that would address the difficulty of measuring the impact of PSDE and the limited financial resources and capacity of client governments and executing agencies for monitoring and evaluation.

Division of labor. The Committee discussed coordination within the Bank Group and stressed the importance of a clear division of labor between the PSD and Infrastructure VPUs to facilitate greater coherence in the Bank Group's strategy in PSDE. They hoped the separation of the two VPUs would achieve this and encouraged strong coordination between them. They stressed the importance of the new CAS framework and the results agenda to further address this problem. Management agreed.

Finn Jonck, Chairman

ENDNOTES

Summary

1. The three evaluation units comprise the following: (i) the Operations Evaluation Department (OED), which prepared the evaluation of the World Bank (International Bank for Reconstruction and Development/International Development Association) PSDE portfolio and its project- and sector-level outcomes; (ii) the Operations Evaluation Group (OEG), which evaluated the power investment portfolio of the International Finance Corporation (IFC) and prepared the sections on independent power producers (IPPs); and (iii) the Operations Evaluation Unit (OEU), which assessed the power guarantees portfolio of the Multilateral Investment Guarantee Agency (MIGA).

1. Compuesto de lo siguiente: (i) el Departamento de Evaluación de las Operaciones (OED), que preparó la evaluación de la cartera del PSDE del Banco Mundial (BIRF/IDA) y sus resultados a nivel del proyecto y del sector; (ii) el Grupo de Evaluación de Operaciones (OEG), que evaluó la cartera de inversión en energía de la Corporación Financiera Internacional (CFI), y preparó las secciones sobre los productores independientes de electricidad (IPP); y (iii) la Unidad de Evaluación de Operaciones (OEU), que evaluó la cartera de garantías en energía del Organismo Multilateral de Garantía de Inversiones (OMGI).

1. Comprend ce qui suit : (i) le Département d'évaluation des opérations, qui a préparé l'évaluation du portefeuille DSPE de la Banque mondiale (BIRD/IDA) et les résultats au niveau projet et secteur, (ii) le Groupe d'évaluation des opérations qui a évalué le portefeuille des investissements en énergie de la Société financière internationale et qui a préparé les sections sur les producteurs d'énergie indépendants (PEI), et (iii) l'Unité d'évaluation des opérations (OED), qui a évalué le portefeuille de garanties d'énergie de l'Agence multilatérale de garantie des investissements (MIGA).

Chapter 1

1. Some results of the task manager survey were used mainly as sources of technical and other specific information, as the response rate was relatively low.

2. Projects that have been approved five years before evaluation and have at least 18 months of operating results. The evaluations for this study cover active projects approved up to 1996.

Chapter 2

1. IFC's purpose, as specified in Article 1 of its Articles of Agreements, is "to further economic development by encouraging the growth of productive private enterprise in member countries." This has been further emphasized in IFC's current mission statement of promoting private sector investments in developing countries. By definition, all IFC operations in any sector aim to catalyze private investments through direct and indirect financing and through project-induced impacts designed to create an environment conducive to private sector investment.

Chapter 3

1. Three projects have unsatisfactory ratings: the India Private Power Development Technical Assistance Project and the first and second Pakistan Private Sector Energy Development Projects.

2. The study assigned sector reform scores to 115 countries based on whether they have taken the seven steps necessary to liberalize the energy sector. Countries that have taken all seven steps received a score of 6 (the highest score), while those that have not taken a single step received a score of 0. The seven steps are: 1. Corporatization of state-owned utility; 2. Passage of energy law; 3. Commencement of work by the regulatory body; 4. Initiation of construction of private sector investments in IPP; 5. Restructuring of state-owned utility; 6. Privatization of generation; and 7. Privatization of distribution.

3. In Ghana, the 1998 first Economic Reform Support Operation (ERSO I) improved the sector's financial viability, increased tariffs substantially, and enhanced the regulatory framework for private participation. The public utilities in Mali and Mauritania are being or were privatized and regulatory authorities put in place. Côte d'Ivoire also implemented major energy sector restructuring.

4. Notably in Côte d'Ivoire; in Kenya, where the sector unbundling and related tariff and regulatory reforms are delayed; and in Madagascar, Sierra Leone, and Tanzania, where the partial reforms achieved are of doubtful sustainability given the continuing serious weaknesses in financial management, which has been consistently rated unsatisfactory across Bank projects.

5. Achievements consisted mainly of training, studies, and official documents expressing intent to reform, as in Angola (where the Electricity Law was passed but the project was unsatisfactory because the regulatory infrastructure was not set up), Benin (where the tariff and Long-Run Marginal Cost study was completed but the build–own–operate–transfer [BOOT] scheme failed), Malawi, and a few others.

6. Argentina should be in the advanced group of countries in terms of PSDE achievements, many of which were made in the 1980s.

7. Brazil has promoted a deep restructuring of its power sector. The Bank has assisted with the privatization of two electricity distribution companies in Rio Grande de Sul, representing approximately two-thirds of the state's territory. However, the federal regulatory agency has been slow to delegate powers to the newly created state regulatory authority. In Rio de Janeiro, Bank support was provided for the privatization of CERJ, the state utility. MIGA provided political risk insurance for the privatization of Light Servicos de Electricidade, the electricity distributor in Rio de Janeiro, in FY97 and later supported the expansion and rehabilitation of this project.

8. Bolivia, El Salvador.

9. Bolivia, Colombia, El Salvador, Guatemala, Panama, Peru.

10. Bolivia, El Salvador, Guatemala, Peru.

11. Bolivia, Colombia, El Salvador, Guatemala, Peru.

12. Bolivia, Colombia, Peru.

13. The others include the Uch Power Project (525MW), Rousch Power Limited (412MW), Southern Electric Power Company (117MW), and the Asia Pipeline Limited, which provided fuel to Hub, with a capacity of 3.5 million tons per annum.

14. Loan and equity risks are rated based on the following scale: 1–Very Good; 2–Good; 3–Average; 4–Watch; 5–Substandard; 6–Doubtful; and 7–Loss.

15. The economic rate of return (ERR) is the discount rate at which the present value of the project's costs to society is equal to the present value of its benefits to society.

16. While there is no single case of a less-than-satisfactory economic rate of return (ERR) in which projects yield a satisfactory financial rate of return (FRR), there are three cases in which the project returns to financiers were less than satisfactory but the ERRs were satisfactory.

17. Based on an IFC interview of major industrial users. This interview was undertaken as part of an XPSR field visit.

18. This includes a strong credit support arrangement and innovative equity structure.

19. IFC has a fifth investment in this country but this has not been included in the report since it is not yet mature for evaluation. This project has suffered significant delays, cost overrun, and technical difficulties at start-up.

20. Because many of the projects were affected by a series of unexpected regional and country financial crises, there is no basis for inferring that a detailed market analysis at the time of appraisal would likely have forecast a demand growth lower than official World Bank-endorsed projections and a retail tariff regime remaining at subsidized levels despite a robust sector reform program.

21. In the generation subsector, MIGA supported the construction, rehabilitation, or expansion of generating capacity totaling approximately 7,450MW. Although the majority of projects (21) are in thermal generation, a significant share is in renewable energy such as hydro (7) and geothermal power (4), which account for a total capacity of 2,876MW. Some of the thermal stations use clean-burning natural gas and others promote energy efficiency. The size of power stations ranges from 8MW to 1,300MW, with an average capacity of 233MW.

22. MIGA has also managed five disputes between guarantee holders and host countries, which centered on the highly political issue of tariff rates. The incidence of such disputes in the electricity sector, most of which occurred in Asia, was higher than in any other sector for MIGA.

23. This includes projects in China up to FY99 and one dual-country project where only one country is IDA eligible.

24. Transmission and distribution projects were not part of the evaluation sample because they were underwritten more recently and were not mature enough for evaluation.

Chapter 4

1. One of the initial conditions of the contract with CIE was that there would not be any forced staff departures, despite some overstaffing.

2. In Bolivia, private investments had reached US$204 million by mid-1998, allowing demand growth of more than 7 percent per year to be met.

3. In Panama, all privatized power companies contributed US$70.8 million to the treasury in 2000 by way of income taxes and dividends.

4. Statistics presented in Table 4.2 are based primarily on data from projects that the Bank has financed.

5. This is also true in the United Kingdom. Other countries, such as Australia, have experienced increasing prices. Spot prices tend generally to be very volatile, particularly in hydro-based systems such as those of Chile and New Zealand.

Chapter 5

1. For example, in FY99, 32 percent of energy lending was in the 21 riskiest countries, compared to 23 percent for other sectors; 65 percent was at risk in those 21 countries, compared to 13 percent elsewhere. In other sectors, the figures were 34 percent for the risky countries and not much lower elsewhere. This results from the tougher financial covenants in those countries, and the automatic translation of the East Asian, Russian, and Ukrainian crises into bad ratings.

2. This is reported on in project documents for Peru and El Salvador.

3. This is reported on in project documents for Peru.

4. In Côte d'Ivoire, ESMAP had recommended putting electricity and gas under a single regulator. In Ghana, the Public Utilities Regulatory Commission (PURC) regulates electricity and water tariffs but not hydrocarbons. A separate Energy Commission deals with licensing and regulates technical matters for electricity and hydrocarbons.

5. The Office of Utilities Regulation (OUR) in Jamaica is an exception. It is also unusual in covering a broad spectrum of regulated industries, including urban public transport.

6. The Ivorian regulator can only make tariff recommendations to government.

7. In Kyrgyzstan the law empowers the State Energy Agency to set tariffs, but in practice these are referred to the Cabinet. In Ghana, the Public Utilities Regulatory Commission (PURC) was set up by government to depoliticize tariff increases, but in practice the PURC refused to approve rises in the two years preceding presidential elections.

8. In Orissa (India) the Orissa Electricity Regulatory Commission (OERC) followed a populist rather than impartial policy on tariff hikes. In Maharashtra the regulators jurisdiction over the Dhabol IPP became a matter of litigation.

9. There is still a wide range of industrial countries (including several U.S. states, Canadian provinces, and Western European nations) in which such competitive power supply arrangements are not in place and where the more traditional utility monopolies exist, operating at high levels of efficiency.

10. WAPDA was not able to meet its payment obligations to the 20 IPPs (representing more than 4,000MW of new capacity) and had to resort to renegotiation of PPAs to reduce the purchase price for power. Unaccounted-for electricity was estimated at as much as 35 percent, while revenue collections and average tariffs were low. IPP payments furthermore were denominated in U.S. dollars, and the rupee depreciated by 45 percent.

11. MSEB was forced to back down production from its much lower-cost generation plants to honor its take-or-pay contract with the Dabhol Power Co. (690MW, Phase I—the largest single foreign investment project in India) and defaulted on its payments to DPC. The Maharashtra state guarantee and Government of India sovereign guarantees were then invoked and the matter went to international arbitration and to the Indian Supreme Court regarding the jurisdiction of the state regulatory commission.

12. Total energy losses in the power sector are much higher because its main client, the Dhaka Electric Supply Authority, which serves the Dhaka metropolitan area, has system losses of more than 28 percent.

Annex A

1. The external reviewers included Dr. Catherine Waddams, Dr. V.V. Desai, Dr. Navroz Dubash, and Dr. Graham Thomas.

Annex J

1. This is an abbreviated version of OEG's XPSR Evaluation Framework.

Annex L

1. Based on a stratified random sample of FY91–95 approvals evaluated in the FY96–00 XPSR program.

2. One project cannot be rated due to insufficient information.

3. Based on an IFC interview of major industrial users. This interview was undertaken as part of an XPSR field visit.

Annex N

1. Respectively, the Solar Development Corporation (SDC), the Renewable Energy and Energy Efficiency Fund (REEF), and the Photovoltaic Market Transformation Initiative (PVMTI).

Annex R

1. Executive Directors discussed this strategy informally in May 2001, following presentation of *The World Bank Group's Energy Program: Poverty Alleviation, Sustainability, and Selectivity: A Topical Briefing to the Board of Directors* (May 22, 2001).

2. The current pipeline of energy projects shows a considerable shift toward projects with environmental components. (The Global Environmental Facility and the Prototype Carbon Fund are helping to promote these changes.)

3. The World Summit on Sustainable Development highlighted four energy issues: (i) increasing access by the poor to modern fuels; (ii) improving the targeting of subsidies; (iii) increasing the use of renewable energy resources; and (iv) increasing the efficiency of energy use.

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ISBN 0-8213-5693-3