Project Information Document (PID)

Appraisal Stage | Date Prepared/Updated: 23-Jun-2022 | Report No: PIDISDSA34428

BASIC INFORMATION

A. Basic Project Data

Country	Project ID	Project Name	Parent Project ID (if any)
Yemen, Republic of	P178347	Yemen Emergency Electricity Access Project-Phase II	
Region	**Estimated Appraisal Date**	**Estimated Board Date**	**Practice Area (Lead)**
MIDDLE EAST AND NORTH AFRICA	15-Feb-2022	30-Jun-2022	Energy & Extractives
Financing Instrument	**Borrower(s)**	**Implementing Agency**	
Investment Project Financing	Yemen, Republic of	UNOPS for the benefit of Yemen	

Proposed Development Objective(s)

Improve access to electricity in rural and peri-urban areas within Yemen and plan for the restoration of the Yemen power sector.

Components

1. Electricity Access in Rural and Peri-urban Areas
2. Implementation Support, Market Development, and Technical Assistance for Power Sector Sustainability
3. Contingent Emergency Response Component (CERC)

The processing of this project is applying the policy requirements exceptions for situations of urgent need of assistance or capacity constraints that are outlined in OP 10.00, paragraph 12.
Yes

PROJECT FINANCING DATA (US$, Millions)

SUMMARY

Total Project Cost	120.40
Total Financing	120.40
of which IBRD/IDA	100.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Development Association (IDA)	100.00
IDA Grant	100.00
Non-World Bank Group Financing	
Commercial Financing	20.40
Unguaranteed Commercial Financing	20.40

Environmental and Social Risk Classification

Substantial

Decision

The review did authorize the team to appraise and negotiate

Other Decision (as needed)

B. Introduction and Context

Country Context

1. **The Republic of Yemen is currently in the middle of a severe humanitarian crisis.** The country has been in a complex civil war since 2014, struggling due to a fall in global prices, weak public infrastructure, a limited ability to cope with extreme climate events, and the strains of COVID-19. Yemen also battles mass outbreaks of preventable diseases such as cholera, diphtheria, measles, and dengue fever. Yemen's death rate is currently five times the global average,[1] and the country has been designated a fragility, conflict, and violence (FCV) country by the World Bank.

2. **The ongoing conflict has severe socioeconomic consequences for the country.** Socioeconomic conditions are deteriorating rapidly, affected by declining remittances, trade disruptions, severe fuel supply shortages, and the disrupted and declining humanitarian operations. Non-oil economic activities were affected by the COVID-19-induced slowdown in trade, dual taxation systems in the north and south, scarcity of inputs, and commodity price hikes. The war in Ukraine is further worsening the already desperate socioeconomic situation.

3. **While the evolution of the war in Ukraine remains rapid and highly uncertain, it is estimated to have a broadly negative impact on the Yemen economy, through rising oil and food prices**. While the war in Ukraine offers an opportunity for Yemen to increase its export revenues from crude oil sales — due to the spike in international oil prices to over $100/barrel in the first half of 2022— this would likely be

[1] The United Nations Development Programme estimated in November 2021 that 377,000 Yemenis will have been killed by the conflict by the end of 2021, most indirectly and not in combat, 70% of them children under the age of five.

offset by the sharp rise in costs of imported refined petroleum products. The increase in other commodity prices, including food items like wheat, due to the war in Ukraine will add to the severity of the problems in Yemen.[2] Imported foods account for over 80 percent of Yemen's food needs[3], making it highly vulnerable to the spikes in global food prices, especially wheat. Ukraine and Russia are significant exporters of grains and agricultural fertilizers, so Yemen faces sharply higher prices for both.[4]

4. **The Republic of Yemen's private sector shows signs of resilience.** The private sector in Yemen has acquired a vital role during the economic downturn, as it continues to enhance community resilience and facilitate distribution, storage, and logistical services for humanitarian actors. The business sector dominates all economic activities, and roughly 75 percent of enterprises are still trading and resilient. Recent data also show a growing contribution of the private sphere to numerous economic sectors, such as manufacturing, construction, and services — including the development of Yemen's fledgling solar PV market.

5. **The effects of climate change have exacerbated the disaster vulnerability of the Republic of Yemen.** The Notre Dame Global Adaptation Initiative (ND-GAIN) for 2019 ranks Yemen as the 22nd most climate change vulnerable country in the world and the 13th least-ready country to adapt, with its readiness score significantly affected by the ongoing conflict.[5]

Yemen's Rural Context

6. **Nearly 70 percent[6] of Yemen's 31 million population[7] lives in rural and peri-urban areas where the level of poverty is higher than in urban areas and is increasing.** More than 12 million of the population in rural and peri-urban areas are poor and food insecure, while more than 5 million are on the verge of starvation. GDP per capita has more than halved since 2014[8], reflecting the deteriorating situation. During the 1980s, expatriate Yemenis transferred substantial remittances from Saudi Arabia, UAE, and other countries, investing them in vehicles, new houses, and water wells with diesel-operated pumps, and turned their rain-fed farm fields into irrigated fields of qat and citrus. By the 1990s, rural living conditions began to deteriorate because of the civil war and external shocks. In the early 2000s, as farming incomes diminished, the main source of income for most rural households was men's urban labor, resulting in less earnings. Poverty worsened. By 2020, meager household incomes in rural Yemen had mostly disappeared, falling victim to Yemen's ongoing conflict, devastating droughts and floods, and the global COVID-19 pandemic. Rural people became as dependent on food imports as urban dwellers, with one notable

[2] World Bank (2022), "Yemen Economic Monitors: Clearing Skies over Yemen?", Spring 2022, June 13, 2022. p. xi and p. 14.
[3] ACAPS (2020), "Yemen Food supply chain", Thematic report, 16 December 2020, ACAPS and Mercy Corps (https://www.acaps.org/sites/acaps/files/products/files/20201216_acaps_yemen_analysis_hub_food_supply_chain_0.pdf)
[4] FEWA 2022 "Yemen Food Security Outlook, March to September 2022", Famine Early Warning Systems Network, 20 April 2022, (https://fews.net/east-africa/yemen/food-security-outlook/march-2022)
[5] https://gain.nd.edu/our-work/country-index/rankings/
[6] Yemen Rural Population 1960–2021 Macro Trends. Yemen's rural population for 2020 was 18,519,540, a 1.24 percent increase from 2019. https://www.macrotrends.net.

[7] As of January 19, 2022, based on Worldometer elaboration of the latest UN data.

[8] World Bank data

difference — the higher added cost of transportation to remote locations.

7. **The devastation and destruction of war has not spared the rural and peri-urban electricity sector.** The few rural and peri-urban areas that were supplied power from the grid prior to the conflict have either had the infrastructure destroyed or cannot be supplied due to insufficient grid-connected generation capacity. Without access to electricity, health clinics have not been able to operate after sunset, store medicines, or power medical equipment; water wells have not been able to pump clean drinking water; farmers have not been able to irrigate crops and/or they have been using polluting fuel-powered generators to pump water for irrigation; and educational institutions have struggled to operate effectively, all contributing to the humanitarian disaster disproportionately affecting Yemen's poorest and most vulnerable rural and peri-urban population.

8. **The World Bank[9] and other international organizations have helped provide solar energy solutions for rural and peri-urban health clinics, schools, and water facilities and have encouraged the development of a private sector-driven market for renewable, off-grid electricity.** The support has not been enough. The need for targeted interventions to improve electricity access to rural and peri-urban households and critical services facilities continues to be huge. More attention and assistance needs be paid to restoring and improving off-grid power supply in rural and peri-urban areas if the worst effects of the humanitarian crisis are to be stemmed.

Sectoral and Institutional Context

9. **The energy sector in Yemen comprises two main components: (a) oil and natural gas production and (b) electricity production, transmission, and distribution.** The two are intertwined because oil and gas sector revenues provide most of the government revenues required to subsidize the electricity sector and fuel supply drives electricity production.

10. **Yemen's state-owned Public Electricity Corporation (PEC) is the enterprise that oversees electricity generation, transmission, and distribution in the county.** Other sector participants include: the General Authority for Rural Electrification (GARE), which is responsible for electrifying specific rural areas outside the main and secondary cities; private generators that produce electricity for own use or to sell to the PEC; private captive power produced for government buildings; and self-generation by consumers.

11. **Private sector participation in the electricity sector began in 2006 and was limited, by law, to electricity generation activities.** At present, there is no formal legal basis for the direct sale of privately produced electricity to end use consumers, even though such sales are taking place in Yemen during the conflict.

12. **Solar power represents a major opportunity to address some of the most immediate impacts of the developmental crisis and restore livelihoods.** In one of the few positive stories that emerged from the conflict, the lack of public electricity supply and limited fuel availability for diesel generators has led to the growth of a nascent industry for small- to medium-scale solar systems.

[9] RY EEAP, approved in 2018, provided a US$ 50 million IDA grant to address electricity access and product quality issues in rural and peri-urban areas by financing solar PV solutions for urgent needs in rural and peri-urban areas.

13. **The affordability of solar products remains a barrier for the poor and most vulnerable, and the low quality of products and after-sales support threaten the sustainability of the fledgling market.** The emerging solar market in Yemen is operating on a commercial basis and is driven by the private sector, with a supply chain that ranges from trading houses that import solar equipment to small-scale electronics retailers that expanded their business to solar panels. However, a market assessment by the World Bank found that debt finance is not readily available to most households. It also concluded that many household solar installations suffer from high failure rates.

C. Proposed Development Objective(s)

14. The Project Development Objective (PDO) is to improve access to electricity in rural and peri-urban areas within Yemen and plan for the restoration of the Yemen power sector.

Key Results

15. Achievement of the primary PDO will be measured against the following proposed key results indicators:

(a) People provided with new or improved electricity service (target: 3,500,000 persons); and

(b) Critical services facilities provided with new or improved electricity service (target: 700).

16. Achievement of the secondary PDO ("…plan for the restoration of the Yemen power sector") will be measured against completion of an analytical assessment of future governmental engagements and subsequent stakeholder discussions to inform on findings from the assessment (target: minimum 10 discussions, with a minimum of 50 persons consulted, of which at least 10 percent are female).

17. The project's primary PDO ("…to improve access to electricity in rural and peri-urban areas within Yemen") has a 95 percent weight, and the secondary PDO has a five percent weight.

D. Project Description

18. **The proposed Republic of Yemen Emergency Electricity Access Project-Phase II (RY-EEAP-II) will build on activities supported by the RY-EEAP (P163777), with an expanded focus on technical assistance designed to support access to electricity supply and prepare for post-conflict restoration of the Yemen power sector.** The operation will adopt an integrated, area-based approach to expand electricity access for households and electricity-dependent critical public services for the rural and peri-urban population within Yemen and support preparation of interventions to improve electricity supply across Yemen in a sustainable manner.

19. The project consists of the following components and subcomponents

a. Component 1: Electricity in Rural and Peri-Urban Areas
   i. Subcomponent 1.1 - Electricity for Households
   ii. Subcomponents 1.2 - Electricity for Critical Services Facilities
      - health care centers, drinking water wells, and schools
   iii. Subcomponent 1.3 – Electricity for COVID-19 Isolation and Vaccine Cold Chain Units

b. Component 2: Implementation Support, Market Development, and Technical Assistance for Power Sector Sustainability
    i. Subcomponent 2.1 - Project Implementation Support
    ii. Subcomponent 2.2 - Technical Assistance to Support Solar-PV Market
    iii. Subcomponent 2.3 - Technical Assistance for Power Sector Recovery
c. Contingency Emergency Response Component (CERC)

Legal Operational Policies

	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No

Summary of Assessment of Environmental and Social Risks and Impacts

20. Overall Environmental and Social risks are rated "Substantial" mainly because of the social risks.

21. The project's interventions are expected to have positive environmental impacts in the form of mitigated GHG emissions and lower air pollution (indoor and outdoor), and environmental risks are rated "Moderate". The project will include activities that might cause minor, site-specific reversible impacts such as those resulting from improper disposal of used batteries, and other health and safety impacts.

22. Social risks are rated to be "Substantial" and may include: i) elite capture of investments by powerful and/or better-connected beneficiaries; ii) workers and/or community safety such as injuries and health safety including COVID-19; iii) labor working conditions such as child labor and forced labor concerns; iv)) associated Gender-Based Violence (GBV) risks including sexual harassment (SH) and Sexual Exploitation and Abuse (SEA); v) security risks, exclusion/discrimination of female stakeholders.

23. The technical assistance component will consist of pilot studies/activities but with potential environmental and social implications such as: exclusion/discrimination of female stakeholders; battery waste management/recycling; support to existing power plants and transmission lines.

24. To manage potential environmental and social impacts/risks, UNOPS will be required to include the mitigation measures in the Environmental and Social Management Framework (ESMF), Labor Management Plan (LMP), Forced Labor Action Plan (FLAP), Stakeholder Engagement Plan (SEP), and Security Management Plan (SMP). During preparation of the site-specific Environmental and Social Management Plans, UNOPS will be required to conduct screening and assessment for all subproject activities to inform the development of required mitigation measures.

25. Based on the above-expected project risks and impacts, the overall environmental and social risk is rated substantial.

Institutional and Implementation Arrangements

26. UNOPS will be responsible for implementation of the Project and will in turn contract local entities with proven capacity on the ground — specifically, MFIs (for household solar systems (sub-component 1.1) and contractors (for critical service facilities (sub-components 1.2 and 1.3). This will allow the project to create synergies with a complementary intervention targeting larger urban infrastructure. The project would further expand the World Bank's collaboration with UN partners and build on experience from previous IDA-UN projects. A third-party monitoring agent would assist UNOPS with oversight of physical implementations, environmental and social (E&S) and other fiduciary aspects. The project management structure is the same as is being used for the RY EPP and has been found to be satisfactory. It is illustrated in Figure 8. For technical assistance, UNOPS will use its internal expertise where available, or independent consultants.

27. By working with and strengthening the existing, private sector-driven supply chain for solar energy and influencing a US$200 million per year commercial market and making it more sustainable, the project maximizes the value of the World Bank. The project would expand the reach of the supply chain to new segments of consumers and users of electricity and will work to make the market more transparent and technically sustainable.

28. Under sub-component 1.1, funding would be channeled to beneficiaries through Yemeni MFIs, which allows the project to capitalize on the reach of their agent networks and the private sector supply chain to cover all of Yemen — including rural areas, which are home to two-thirds of Yemenis. Most large MFIs in Yemen already have solar financing programs targeting richer households, and many have established relationships with solar suppliers that extend solar system lease arrangements consistent with Islamic finance.

29. For sub-components 1.2 and 1.3, recipient facilities will be identified by UNOPS on a need basis in coordination with development partners and local stakeholders. The selection will focus on critical services facilities in which the lack of electricity is the binding constraint to service delivery. Where possible, UNOPS will seek to create synergies with other donors' ongoing activities in the respective sectors and will procure the solar systems competitively, directly from service providers.

30. For TA where other stakeholders, including the PEC, are involved, the contracting authority would remain UNOPS, and no funding would be directed to or through such stakeholders due to the likely high fiduciary risk. However, such stakeholders would be represented in implementation of the tasks.

31. The World Bank will provide close implementation support through quarterly review missions and regular videoconferences and travel of the World Bank team to UNOPS' regional office in Amman.

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APPROVAL

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