

MENA Climate Change Virtual Clinic

Presenters

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March 18, 2020



Climate Change and Development Implications in MENA

Mainstreaming Climate Considerations in MENA



Climate Change and Development Implications in MENA

Key messages

- ❑ Climate threatens development progress in MNA. Last two years show warmest global temperatures on record.
- ❑ Achieving climate mainstreaming across policies, programs and projects is a shared responsibility across all sectors and countries. ENB/CCG teams are available to support teams and client.
- ❑ Maximizing climate finance in the region will need concerted effort in current and future pipelines.
- ❑ Beyond climate finance, a transformative shift is needed in country partnership strategies, innovative financing, and policy reforms, to help MENA better respond to climate risks and opportunities.

Paris Agreement and NDCs

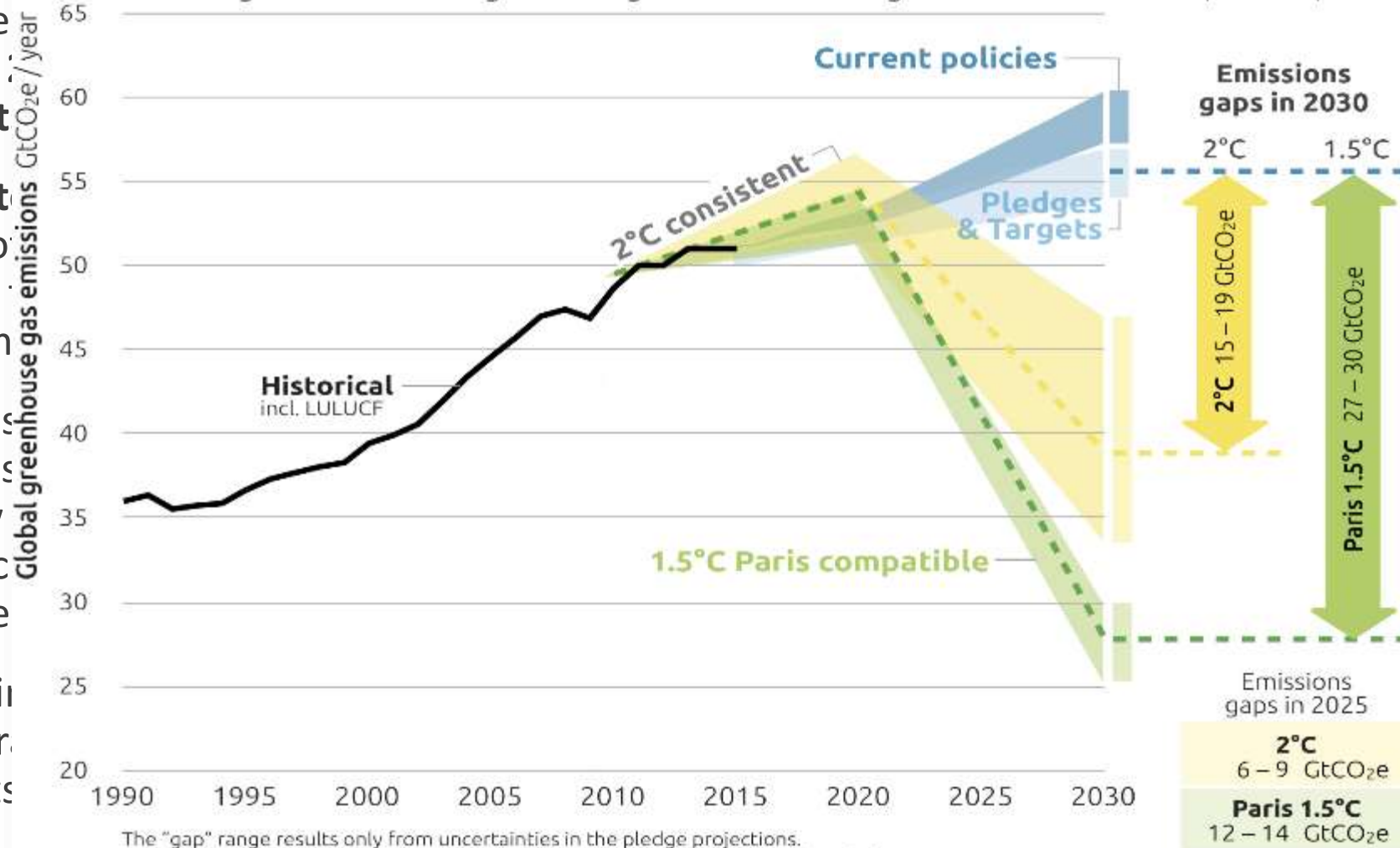
1. Under the Paris Agreement, countries have committed to well below pursuing effort
2. Nationally Determined Contributions (NDCs) at the heart of each country's climate strategy to adapt to the impacts of climate change
3. Achieving this requires a 45% reduction in global greenhouse gas emissions by 2030, with negative emissions reaching 10 GtCO₂e by 2030
4. Governments are working to enable this transition from all aspects

2030 EMISSIONS GAPS

CAT projections and resulting emissions gaps in meeting the 1.5°C Paris Agreement goal vs 2°C Cancún goal



Sept 2019 update



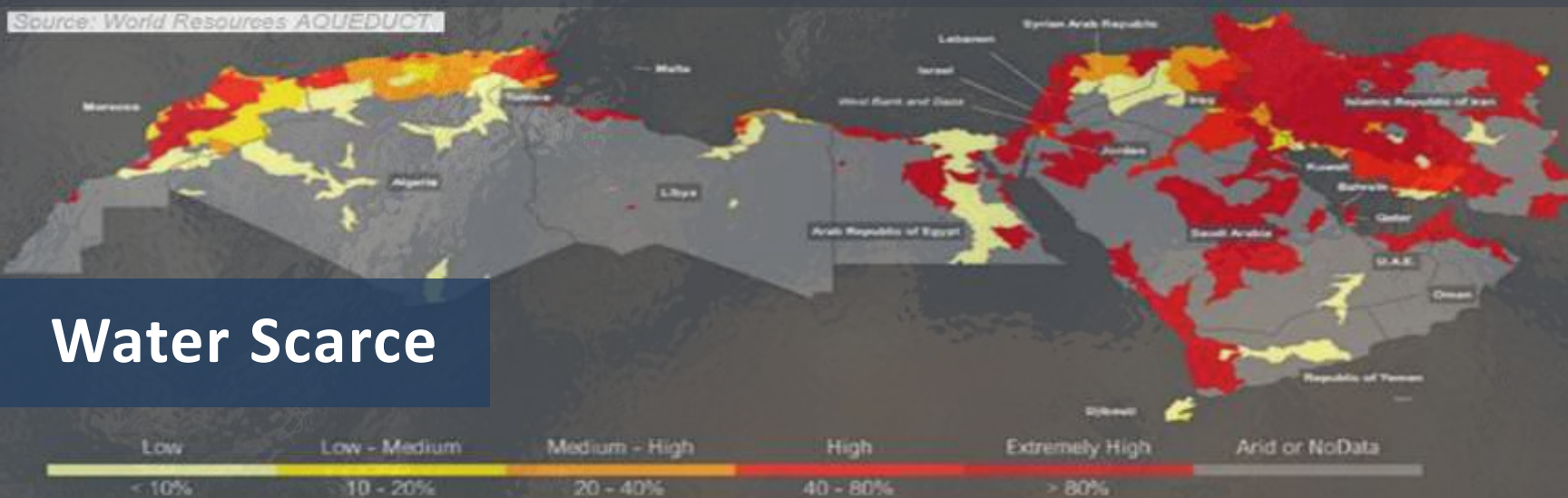
The "gap" range results only from uncertainties in the pledge projections. Gaps are calculated against the mean of the benchmark emissions for 1.5°C and 2°C.



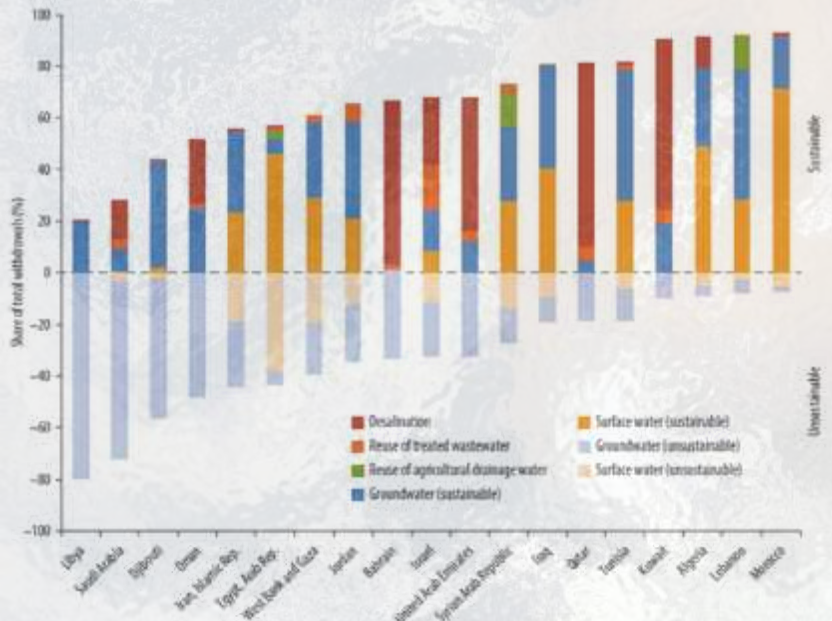
submitted 1st NDC
submitted 2nd NDC

MNA Is Innately Vulnerable to Natural & Economic Shocks...

Water Scarce



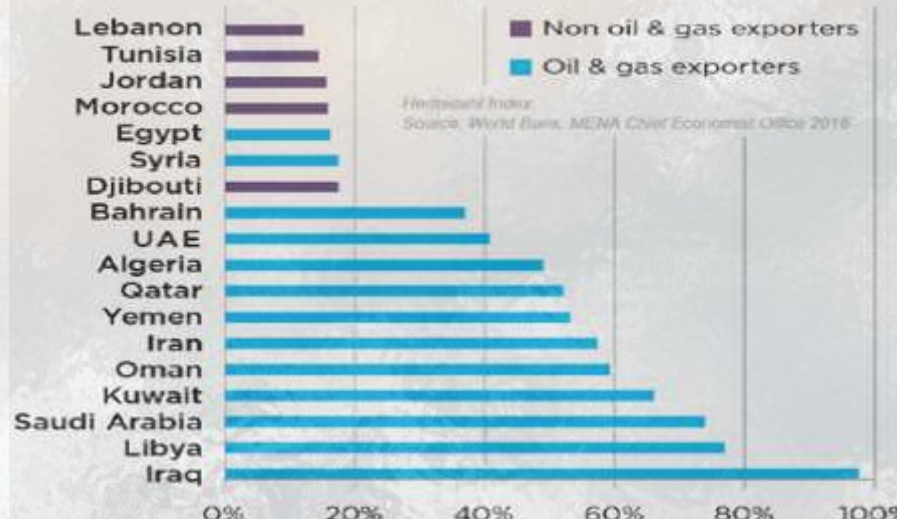
Sustainability of Water Withdrawals, by Source, as a Percentage of Total Withdrawals, Selected Countries and Economies



Sources: World Bank calculations, based on desalination capacity from Global Water Intelligence 2016a; data on all other categories are from FAO AQUASTAT database

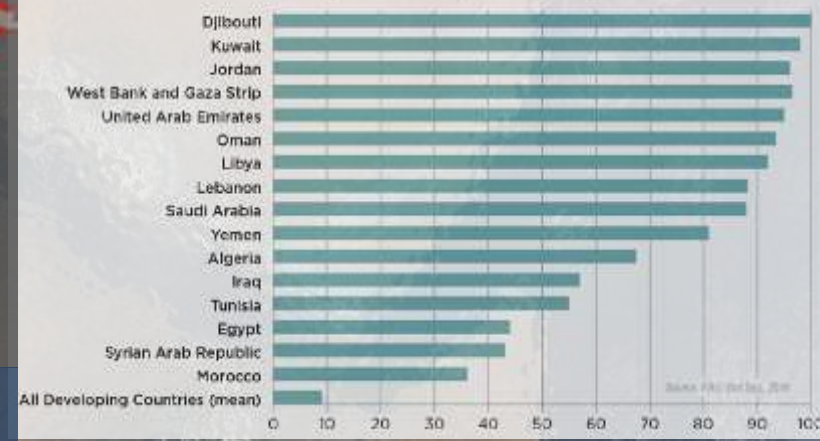
Hydrocarbon Dependent

Value of Oil and Gas as Percent of Total Exports



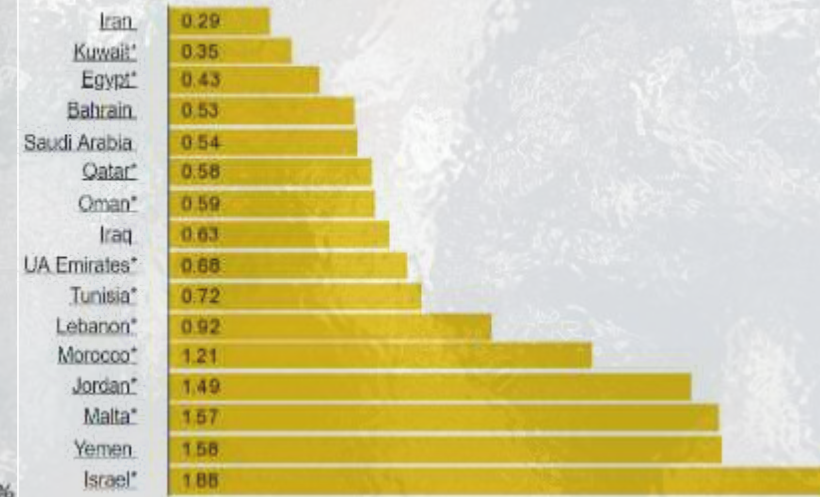
Food Insecure

Cereal Imports Dependency (%)

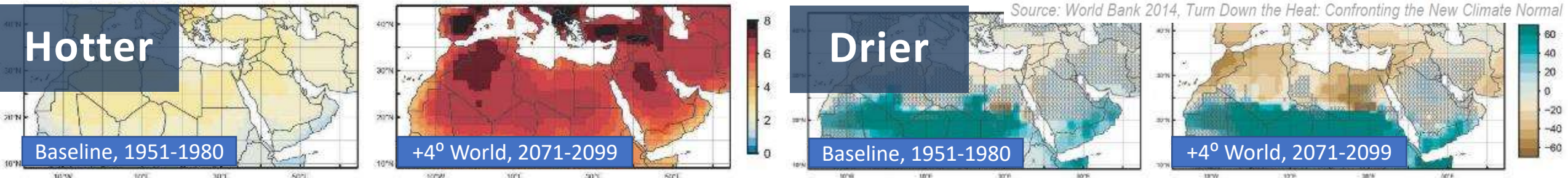


Energy Subsidized

Gasoline prices, 03-Sep-2018 (liter, U.S. Dollar) Source: GlobalPetrolPrices.com

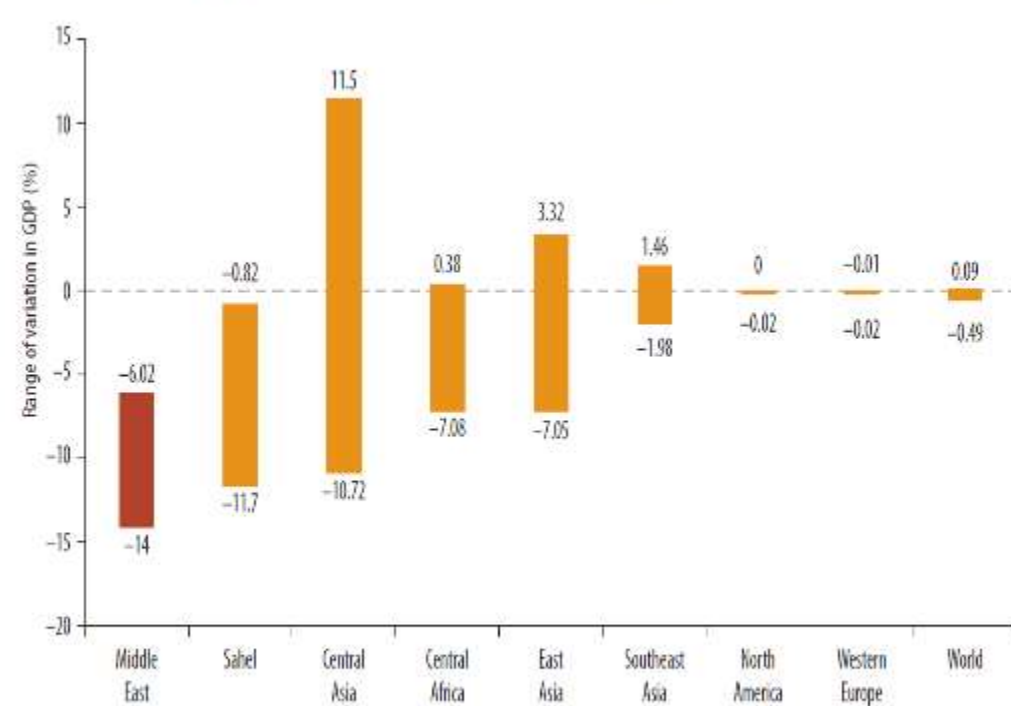


...Climate Change Amplifies Pre-Existing Regional Fragility by Making MNA



With Mean Warming Higher Than Global Average... Plus Longer, Deeper & More Frequent Droughts

The Economic Impacts of Climate Change-Induced Water Scarcity, by 2050



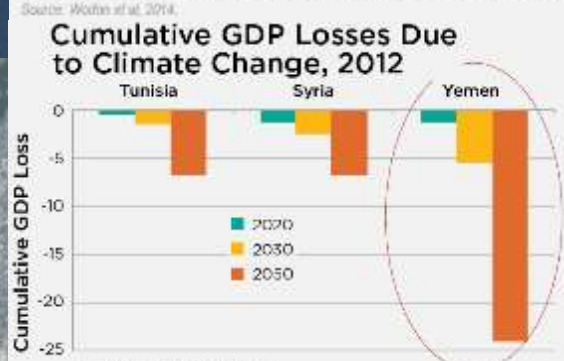
Source: World Bank 2016.
 Note: The range of impacts is determined by the type of policies implemented to cope with water scarcity, from a business-as-usual policy (-14 percent) to a policy seeking to reallocate water to the most productive uses (-6 percent).

Poorer
& Less Inclusive

Impact of Weather Shocks on MENA Households

Percent	Quintiles					All
	Q1	Q2	Q3	Q4	Q5	
Lost income	46	44	43	29	21	37
Lost crops	58	62	62	49	42	55
Lost livestock or Cattle	24	25	30	23	15	23
Less fish caught	10	10	9	10	5	9

(Percentage reporting economic impacts from weather shocks)



Regional Patterns of Climate Change

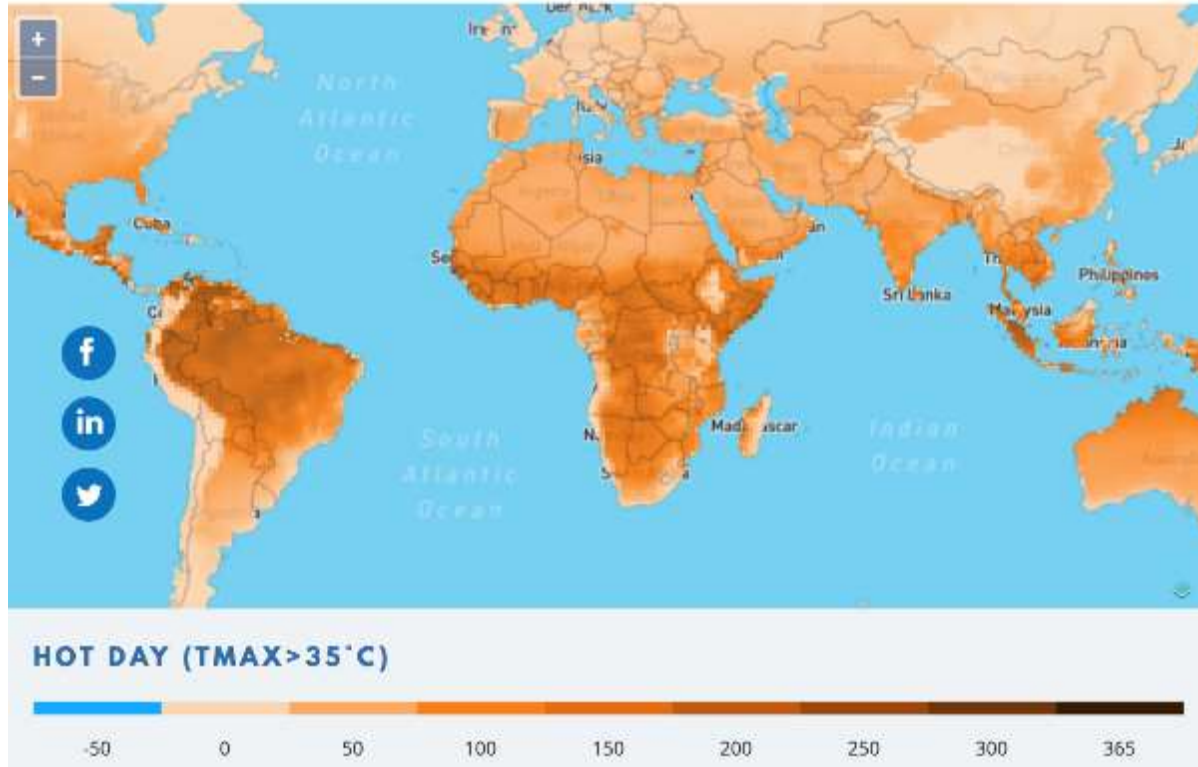


Figure 1. Multi-model projected change in Hot Day (Tmax>35°C) for 2080-2099 relative to 1986-2005 under the highest emission scenario (RCP8.5)

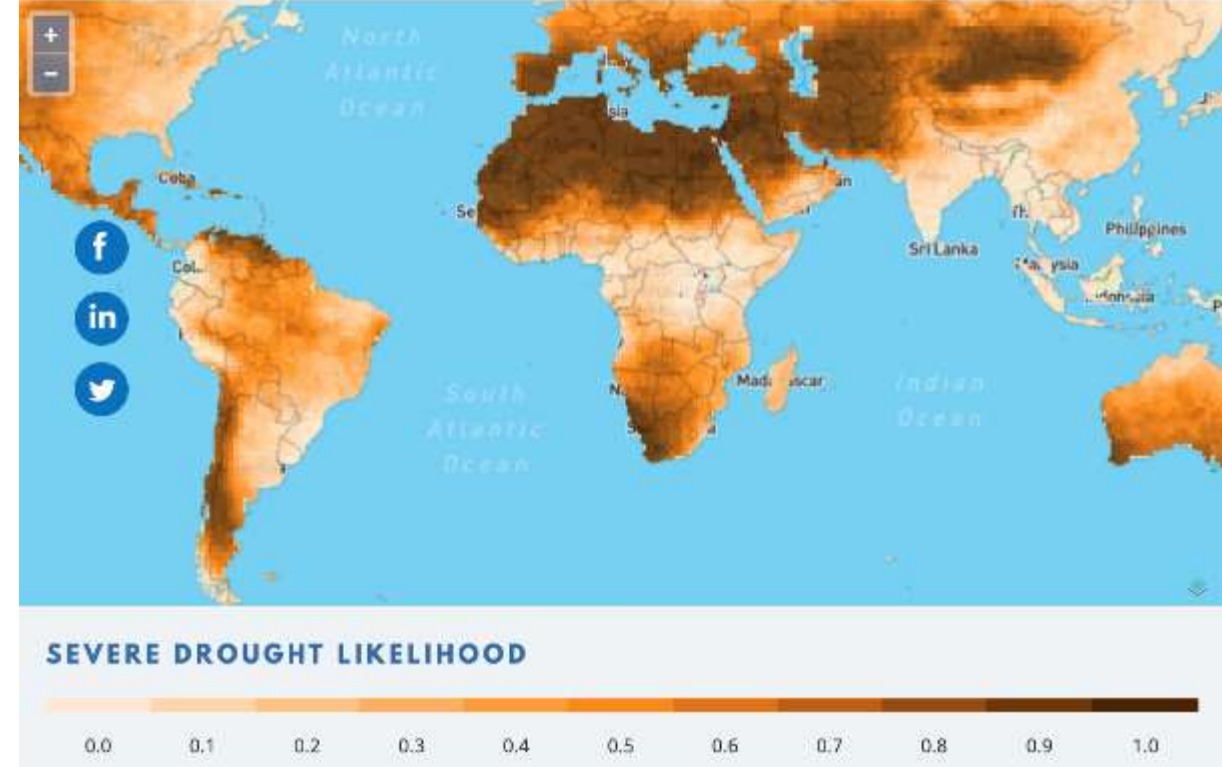


Figure 2. Multi-model projected change in Severe Drought Likelihood for 2080-2099 relative to 1986-2005 under the highest emission scenario (RCP8.5)

Source: The WB's Climate Change Knowledge Portal:
<https://climateknowledgeportal.worldbank.org/>
FURL: CCKP/

Impacts of Natural Disasters in MENA Countries for 1900-2019

Natural Disaster Type	Total Deaths	Total People Affected	Total damage ('000 US\$)
Drought	150,000	41,005,400	1,387,100
Forest and Land Fires	137	83,564	835,000
Flood	7,428	14,083,066	8,823,117
Earthquake	120,540	9,834,324	39,127,572

Source: The International Disaster Database (EM-DAT): <https://www.emdat.be/> (As of March, 2020)

EM-DAT includes all disasters from 1900 until the present, conforming to at least one of the following criteria: 10 or more people dead; 100 or more people affected; declaration of a state of emergency; a call for international assistance.

Summarizing Vulnerability to Climate Change Impacts



The ND-GAIN Country Index summarizes a country's **vulnerability** to climate change and other global challenges in combination with its **readiness** to improve resilience. It aims to help governments, businesses and communities better prioritize investments for a more efficient response to the immediate global challenges ahead.

A country's ND-GAIN Index score is composed of a Vulnerability score and a Readiness score. **Vulnerability:** Vulnerability measures a country's exposure, sensitivity and ability to adapt to the negative impact of climate change. ND-GAIN measures the overall vulnerability by considering vulnerability in six life-supporting sectors: food, water, health, ecosystem service, human habitat and infrastructure. **Readiness:** Readiness targets those portions of the economy, governance and society that affect the speed and efficiency of absorption and implementation of Adaptation projects.

Evolution of Climate Change Corporate Commitments



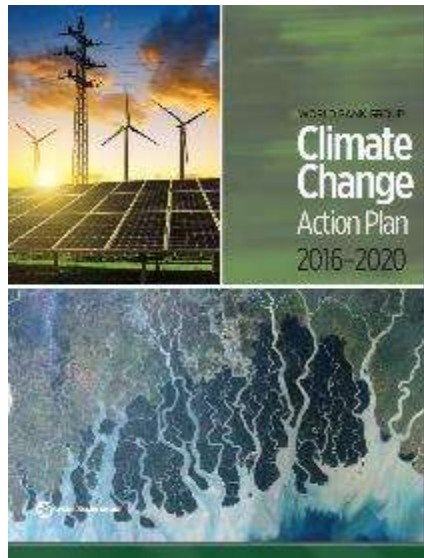
WBG Climate Change Action Plan
(April 2016)

IDA18 Policy Commitments
(Jan. 2017)

Commitments in IBRD Capital
Package
(April 2018)

WBG 2025 Climate Targets and
Actions (Nov. 2018)
Adaptation & Resilience Action
Plan (Jan. 2019)

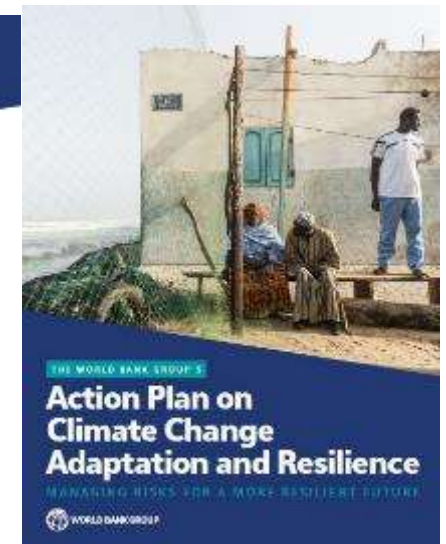
IDA19 Policy Commitments
(Feb. 2020)



WBG Corporate Commitment:

“The WBG [will] increase **climate financing** from **21% to 28%** in 2020...” (October 2015)

Reaffirmed in **Climate Change Action Plan** (2016) and **One Planet Summit** (2017)



Deepening Climate Mainstreaming for Greater Impact



Further Integrate Climate into
SCDs and CPFs



Track **Climate Outcomes** with
Specific Indicators



Strengthen **Analytics and Tools** to
Drive Climate Actions



Disclose both Net and Gross **GHG**
Emissions and Apply **Carbon Price**



Strengthen Quality and Coverage of
Climate Risk Screening



Reduce Carbon Emissions from
WBG Global Facilities

Where are we now in MENA

- In FY19, MNA achieved 18% climate co-benefits, **below** its FY target of 30%.
- In FY20, **MNA is projected to have between 20% - 34%** of climate co-benefits. Still at risk of achieving **below** the regional FY target of 30%.

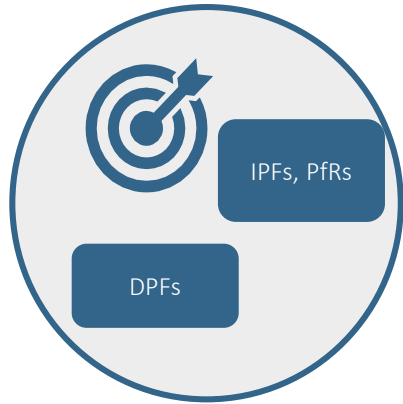
CMU	No. of Projects	IBRD/IDA Commitment (\$M)	# of CCG Assessed Projects	For Assessed Projects: Climate Co-Benefits (\$M)	For Assessed Projects: Climate Co-Benefits (%)	Potential Range for All FY20 Pipeline (\$M)		Potential Range for All FY20 Pipeline (%)	
MNC01	10	1,997	5	400.58	42%	560	860	28%	43%
MNC02	5	413	2	0	0%	19	73	5%	18%
MNC03	8	2,080	3	165.65	16%	312	594	15%	29%
Grand Total	23	4,490	10	566.23	26%	891	1,527	20%	34%

Notes: Only Firm and Likely FY probability projects assessed until November 30, 2019. Assessed Projects include also Board Approved projects.

PYE: Projected Year End / CCB: Climate Co-benefits

Pipeline: based on MNADE list shared on **January 6, 2020**.

How can we mainstream climate and raise ambition?



- **Examples of opportunities to build climate smart design in various sector operations (IPFs, PFRs),**
- **Examples and suggestions for integrating climate change in policy reforms**

Visit FURL: [CCKNOW/](https://www.ccknow.org/)

- Guidance on corporate climate commitments
- Sector Specific Guidance Notes,
- Prior Actions with Mitigation & Adaptation Co-Benefits
- Project Examples





Improving information on climate impacts on vector-borne diseases

Providing climate-informed nutrition services

Building climate-resilient community infrastructure and emergency shelters

Addressing Climate in MNA HD Projects

Example: Djibouti Nutrition Project (P164164)

- Addressing **climate change as a ‘hunger-risk multiplier’** exacerbating malnutrition among children and women
- Strengthening disease surveillance mechanisms to capture **early warnings for climate impacts** (e.g. heat related illnesses and vector-borne disease patterns)
- Reducing **climate-related risks to nutrition outcomes** through improved monitoring and tracking

Addressing Climate in MNA EFI Projects


Example: Egypt Third Fiscal Consolidation, Sustainable Energy & Competitiveness DPF (P164079)

Implementing competitiveness reforms to promote RE/EE and mass transit

Supporting fiscal reforms to promote low carbon transition

Developing national low-carbon strategies and standards in key sectors

- Enabling use of **competitive auctions** for procurement of next round of **private-sector-owned renewable energy capacity**
- Encouraging **private investment in renewable energy** to support national targets
- Supporting policy on **fuel and electricity price adjustments**
- **Increased taxation on high-carbon activities (e.g. diesel cars) or decrease taxes on low-carbon activities (e.g. hybrid/electric vehicles)**



Using data analytics for resilient urban planning, water management, and emergency planning

Improving land administration and information to enable climate-resilient planning

Supporting a low-carbon energy transition

Addressing Climate in MNA SD and Infra Projects

Morocco Disaster Risk Management DPO with CATDDO (P168580)

- Strengthening institutional capacity and frameworks to deal with **adverse financial impacts of disasters and climate-related shocks**
- **Increased preparedness** to cope with physical and social impacts of disasters & shocks

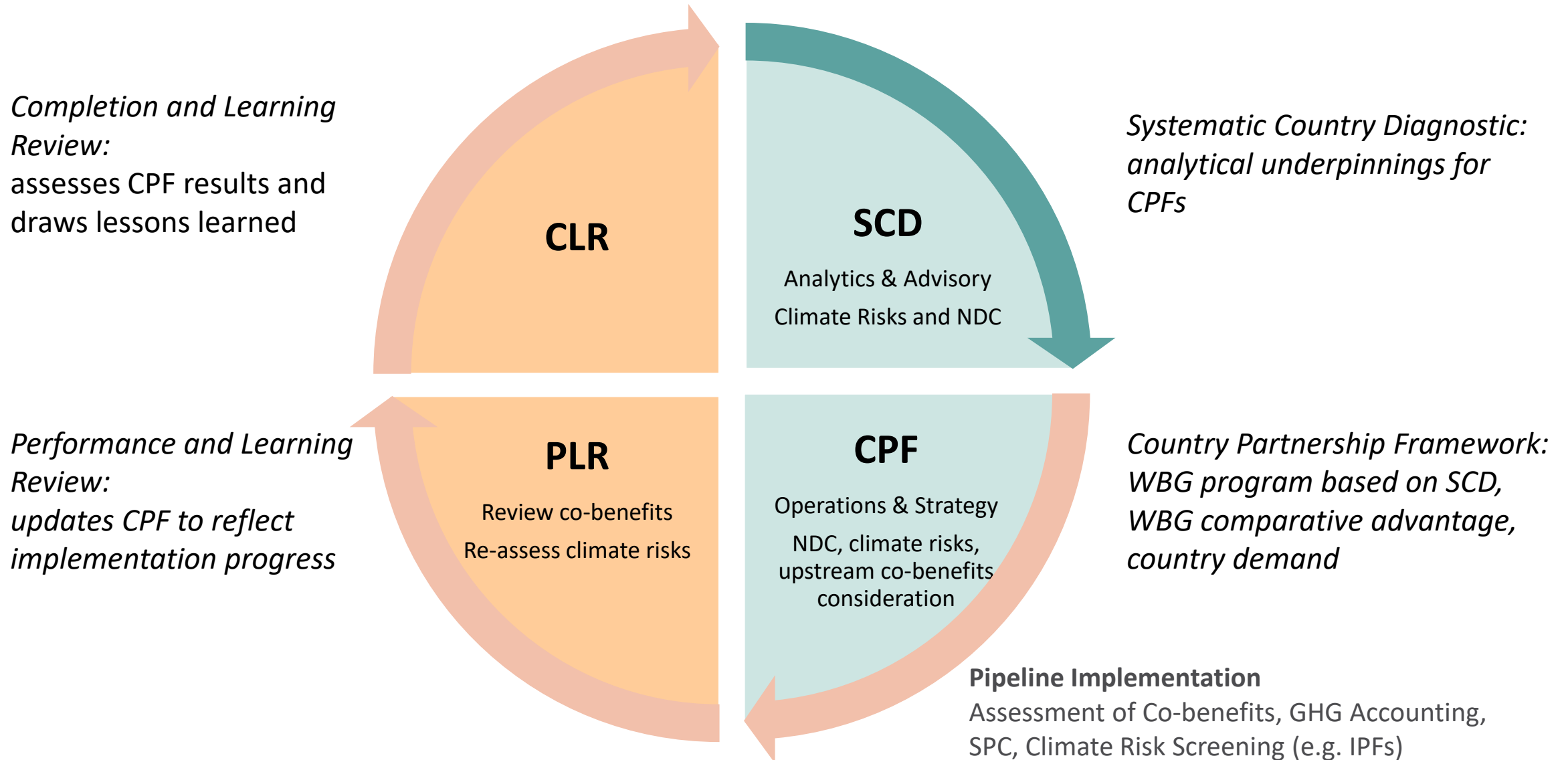
Tunisia Energy Sector Performance Improvement Project (P168580)

- Supporting expansion and reinforcement of power transmission system with **connection to new PV power plants**
- Implementation of **smart metering** for utilities



Mainstreaming Climate Considerations in MENA

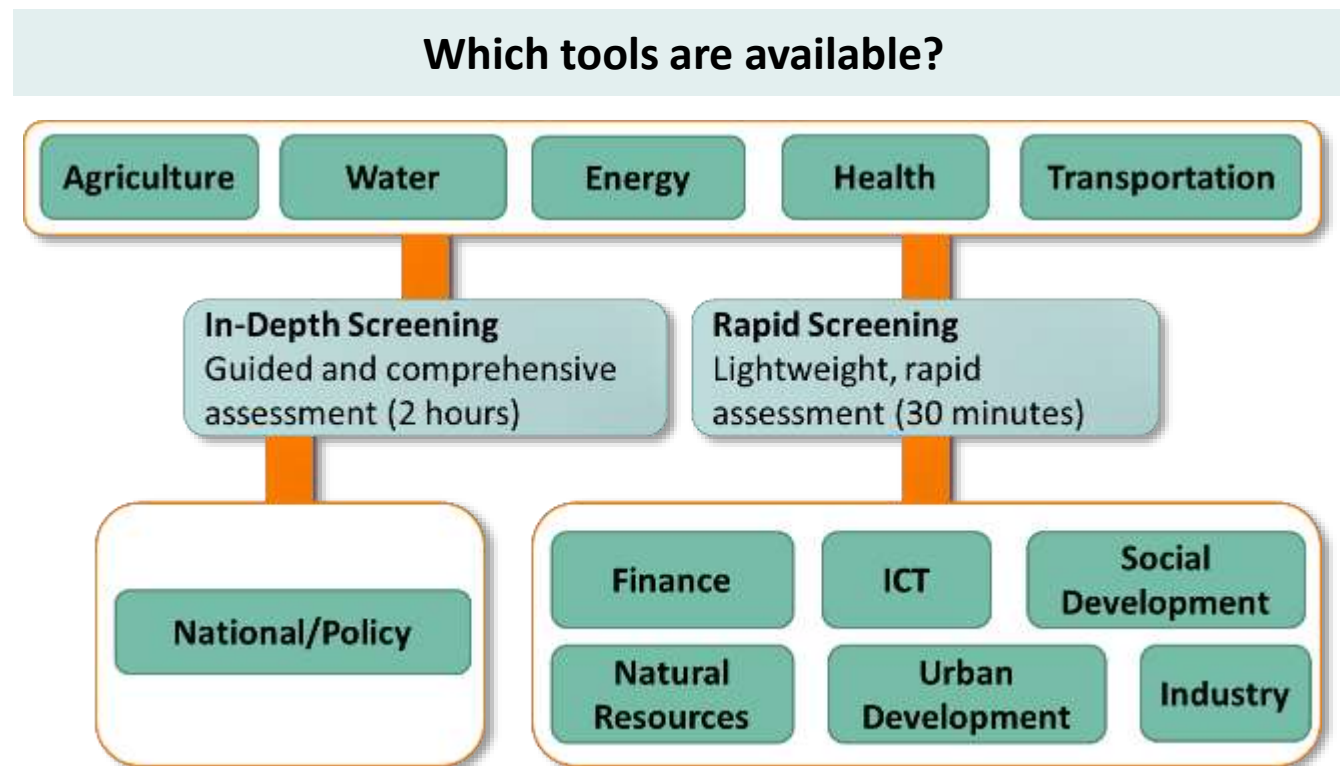
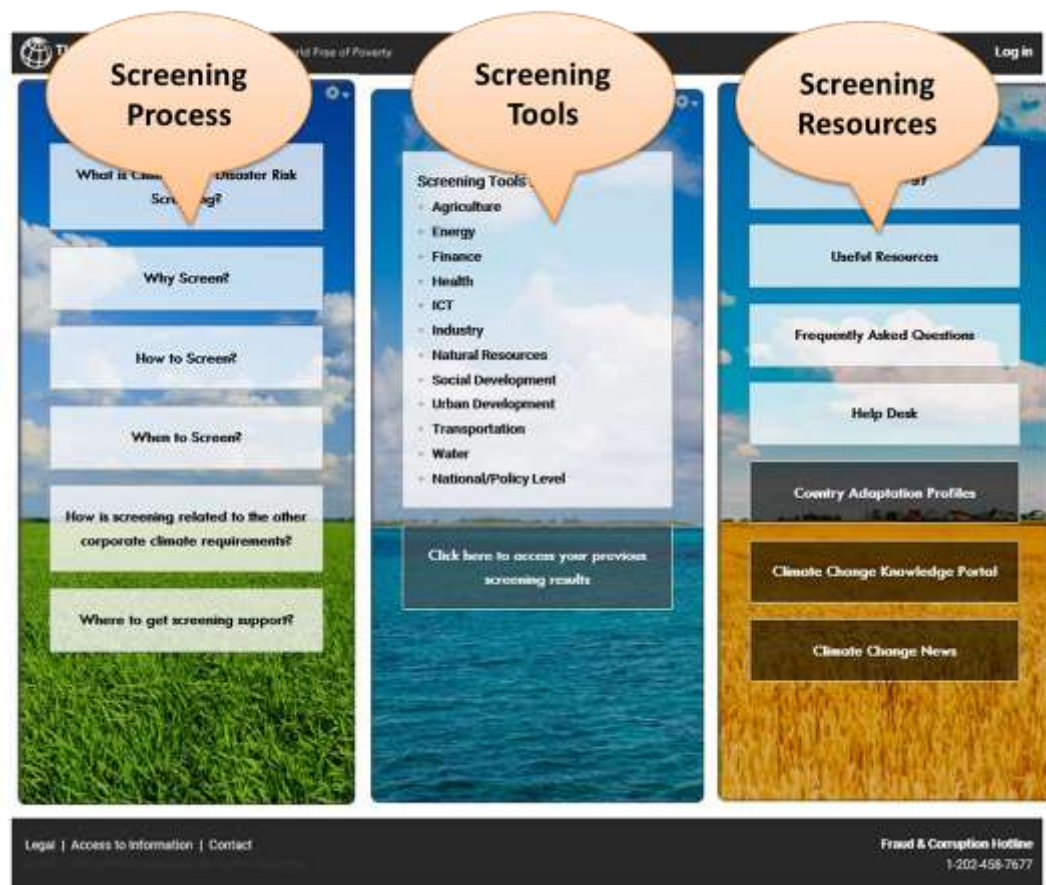
Country Engagement Cycle: Mainstreaming Climate Change





	Climate and Disaster Risk Screening	Climate Co-Benefits	Greenhouse Gas Accounting	Shadow Price of Carbon	Climate Indicators
Purpose	Identify climate and disaster risks	Identify climate mitigation and/or adaptation co-benefits	Determine ex-ante gross and net GHG emissions, and, later, value these emissions in the economic analysis	Account for carbon externalities in project economic analyses	To measure the results of World Bank's climate-related interventions
Benefit for Task Teams & Clients	"Climate proof" projects and better account for future conditions	Get "credit" for contributing to WBG 28% climate finance target	Gain knowledge of emissions sources and opportunities to design lower carbon projects	Gain knowledge of the costs and benefits of carbon emissions/reductions of a project and its alternatives	Monitor and track the progress of a mitigation and/or adaption activity
Applicable Projects	Required for IBRD/IDA operations	Applicable to all projects. (Only IBRD/IDA lending projects count towards the target 28%)	Required for IBRD/IDA IPFs led by SD & INF GPs for which GHG accounting methodologies are available	Required for IBRD/IDA IPFs subject to GHG accounting and with PCNs approved on or after July 1, 2017	Required for all IBRD/IDA operations with 20% climate co-benefits, effective FY21
Guidance and Tools	FURL: CCSCREEN	FURL: COBENEFITS	FURL: GHGACCOUNTING	FURL: SHADOWPRICEOFCARBON	FURL: CCINDICATORS
Contact Information	climatescreeninghelpdesk@worldbankgroup.org	climatecobenefit@worldbank.org	Contact the GHG Accounting GP focal point or ghgaccounting@worldbank.org		climateindicators@worldbank.org

Climate and Disaster Risk Screening



Climate Risk Screening Process

WBG resources embedded in CCScreen

CCKP:



ThinkHazard:



Climate and Disaster Risk Screening Report

Summary Climate and Disaster Risk Screening Report

1. Identify Priority Sectors:
This step identifies priority sectors required to achieve proposed programs or policies.

Selected Priority Sectors:

- Finance
- Energy
- Natural Resource Management / Forestry

2. Characterize Hazards and Rate Impacts
This step identifies and assesses the current and future impacts of climate and geophysical hazards on selected priority sectors.

Impact ratings for priority sectors:

	Current Impact	Future Potential Impact
Finance	High	High
Energy	High	High
Natural Resource Management / Forestry	High	High

3. Score Institutional Readiness
This step scores the institutional readiness to act on potential impacts from climate and geophysical hazards for selected priority sectors.

Institutional Readiness Scores	Finance	Energy	Natural Resource Management / Forestry
Awareness of Climate and Geophysical Hazards	0-Absent	2-Moderate	2-Moderate
Ability to Conduct Risk and Impact Assessments	0-Absent	2-Moderate	2-Moderate
Ability to Plan and Implement Adaptation Measures	1-Minimal	2-Moderate	2-Moderate
Adaptive Management Capabilities	1-Minimal	2-Moderate	1-Minimal
Total Institutional Readiness Score	2-Minimal	8-Moderate	7-Moderate

4. Rate Overall Risk to Priority Sectors
This step assesses the level of overall risk to priority sectors from climate and geophysical hazards.

Priority Sector	Overall Risk
Finance	High
Energy	High
Natural Resource Management / Forestry	High

How this information can translate into action

After carrying out the risk screening, the task team considered **moderate to high** project risks associated with **extreme heat, floods and droughts**.

Resilience measure:

PA 1 provides “protection to the poor” against climate impacts through access to resilience-generating capital, goods, and services

Excerpts from the PD:

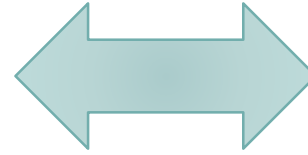
“The climate change risks associated with this DPF are considered moderate to high based on the Climate and Disaster Risk Screening Report.

Climate change threatens inclusive growth in Egypt where low-income, marginalized populations lack the resources to adapt to climate-induced shocks such as floods, droughts, heatwaves, as Egypt is highly exposed to natural disaster risk.”

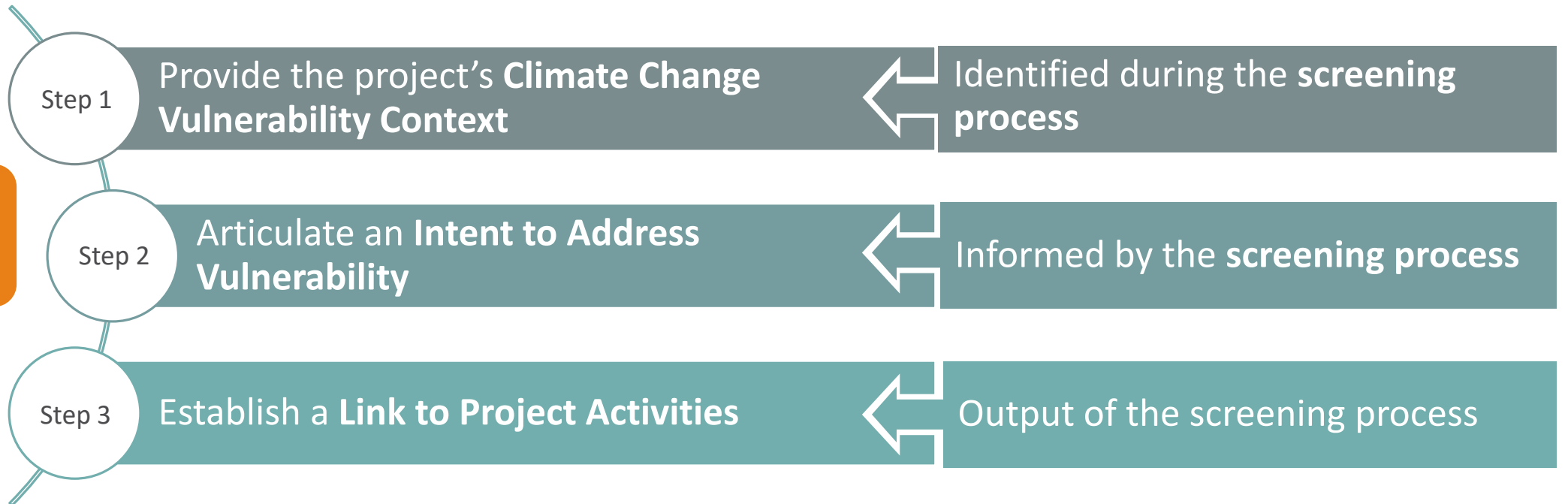
Linkage Between Climate Co-Benefits and Risk Screening



**Climate
Co-Benefits**



**Climate and Disaster
Risk Screening**



Where to Find Screening Support

✓ Take training:

- New [e-learning course](#) available
- Training sessions held upon request

✓ Write to us:

- Climate Screening Help Desk
climatescreeninghelpdesk@worldbankgroup.org

✓ Visit [RiskScreening/](#) for more information

✓ Coming soon from the Screening Team:

- Enhanced guidance notes – initially 5 sectors (Agriculture, Water, Energy, Health, Transport)



Climate and Disaster Risk Screening

Climate Co-Benefits

Greenhouse Gas Accounting

Shadow Price of Carbon

Climate Indicators

Purpose

Identify climate and disaster risks

Identify climate mitigation and/or adaptation co-benefits

Determine ex-ante gross and net GHG emissions, and, later, value these emissions in the economic analysis

Account for carbon externalities in project economic analyses

To measure the results of World Bank's climate-related interventions

Benefit for Task Teams & Clients

"Climate proof" projects and better account for future conditions

Get "credit" for contributing to WBG 28% climate finance target

Gain knowledge of emissions sources and opportunities to design lower carbon projects

Gain knowledge of the costs and benefits of carbon emissions/reductions of a project and its alternatives

Monitor and track the progress of a mitigation and/or adaptation activity

Applicable Projects

Required for IBRD/IDA operations

Applicable to all projects. (Only IBRD/IDA lending projects count towards the target 28%)

Required for IBRD/IDA IPFs led by SD & INF GPs for which GHG accounting methodologies are available

Required for IBRD/IDA IPFs subject to GHG accounting and with PCNs approved on or after July 1, 2017

Required for all IBRD/IDA operations with 20% climate co-benefits, effective FY21

Guidance and Tools

FURL:
CCSCREEN

FURL:
COBENEFITS

FURL:
GHGACCOUNTING

FURL:
SHADOWPRICEOFCARBON

FURL:
CCINDICATORS

Contact Information

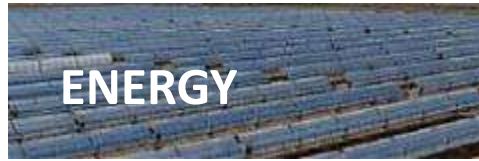
climatescreeninghelpdesk@worldbankgroup.org

climatecobenefit@worldbank.org

Contact the GHG Accounting GP focal point or
ghgaccounting@worldbank.org

climateindicators@worldbank.org

What are the GHG accounting methodologies?



Transmission and distribution
Power generation (fossil fuel, solar, wind, geothermal, hydro)
Energy efficiency, Energy access
Pumped-storage hydro



Afforestation/ reforestation
Sustainable forest management



Land use change
Crop production, grassland
Livestock, Land degradation
Wetlands

Fertilizers
Irrigated crops
Agribusiness value chain
Fisheries and aquaculture



Roads, Rail
Waterways
Urban transport



Water treatment plants
Wastewater treatment plants
Desalination plants

Wastewater reuse
Multipurpose water reservoirs
Irrigated rice



Solid waste

- Methodologies are aligned with the [IFI Harmonized Framework for GHG accounting](#).
- UNFCCC Secretariat has completed a review of the WB GHG methodologies.

FURL: [CCKNOW](#)

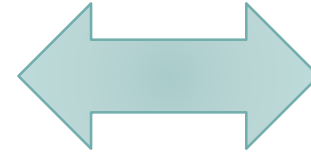
FURL: [GHGACCOUNTING](#)

[Shadow Price of Carbon](#)

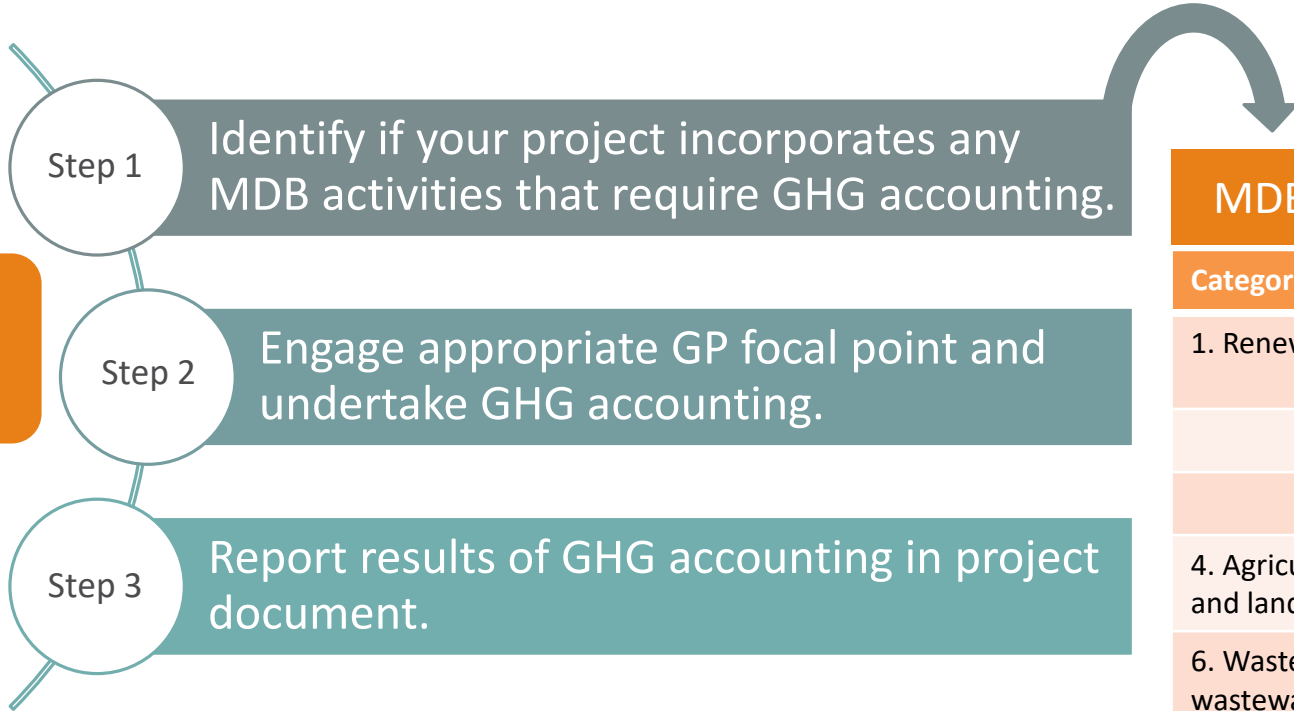
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ghgaccounting@worldbank.org

Linkage Between Climate Co-Benefits and GHG Accounting



Mitigation Co-Benefits



MDB agreed activities requiring GHG accounting		
Category	Sub-category	Specific activity
1. Renewable Energy	1.1 Electricity Generation	Geothermal power
		Biomass or biogas power
		Hydropower plants
4. Agriculture, forestry and land	4.4 Biofuels	Production of biofuels
6. Waste and wastewater	6.1 Wastewater	Treatment of wastewater
	6.2 Solid waste management	Waste collection, recycling and management project

Where to Get Support?

FURL: [CCKNOW](#)

FURL: [GHGACCOUNTING](#)

[Shadow Price of Carbon](#)

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FURL: [GHGAccounting](#)

ghgaccounting@worldbank.org

**Guidance and
Tools**

**Contact
Information**

Visit <http://ghgaccounting> and <http://shadowpriceofcarbon>

Unit	Contact
SCCAO	Janak Srestha Sam Fargher Rubaina Anjum
Agriculture	Christine Heumesser Nkulumo Zinyengere
Energy	Karan Capoor Sheng Cui
Environment	Gerardo Segura
Transport	Natalya Stankevich Maria Cordeiro
Water	Nathan Engle Sean Nelson Inge Pakulski
SURR	Eduardo Ferreira Sharad Sharma





Climate and Disaster Risk Screening

Climate Co-Benefits

Greenhouse Gas Accounting

Shadow Price of Carbon

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Joint MDB Climate Finance Tracking Methodology: Overview



MDB Climate Finance Report 2018

- MDBs (AfDB, ADB, EBRD, EIB, IDB and WBG) track and report climate finance based on a **harmonized methodology** for climate mitigation and adaptation since 2012.
- Climate finance is tracked in a granular manner, i.e. climate finance reported covers only those **sub-components/prior actions/disbursement linked indicators** (or portions of these) that directly contribute to or promote adaptation and/or mitigation.
- All lending instruments (IPF, DPF, P4R) are **tracked at commitments**, i.e. at Board Approval.
- See Annex – B for **Adaptation Finance Methodology** and Annex – C for **Mitigation Finance Methodology**

Based on the experience of implementing the methodologies, Joint MDB Working Groups periodically refine the methodology

Joint MDB Methodology: Adaptation

Adaptation co-benefits are based on a context- and location-specific approach and capture financing amounts directly linked to measures addressing climate change vulnerability in projects

**Three steps
are required
for assigning
adaptation co-
benefits:**

Step 1

Set out the climate change vulnerability context

- The current and anticipated impacts of a changing climate (**not** normal climatic variables) on a project's location, sector, and/or beneficiaries

Step 2

Explicit statement of intent to address climate vulnerability

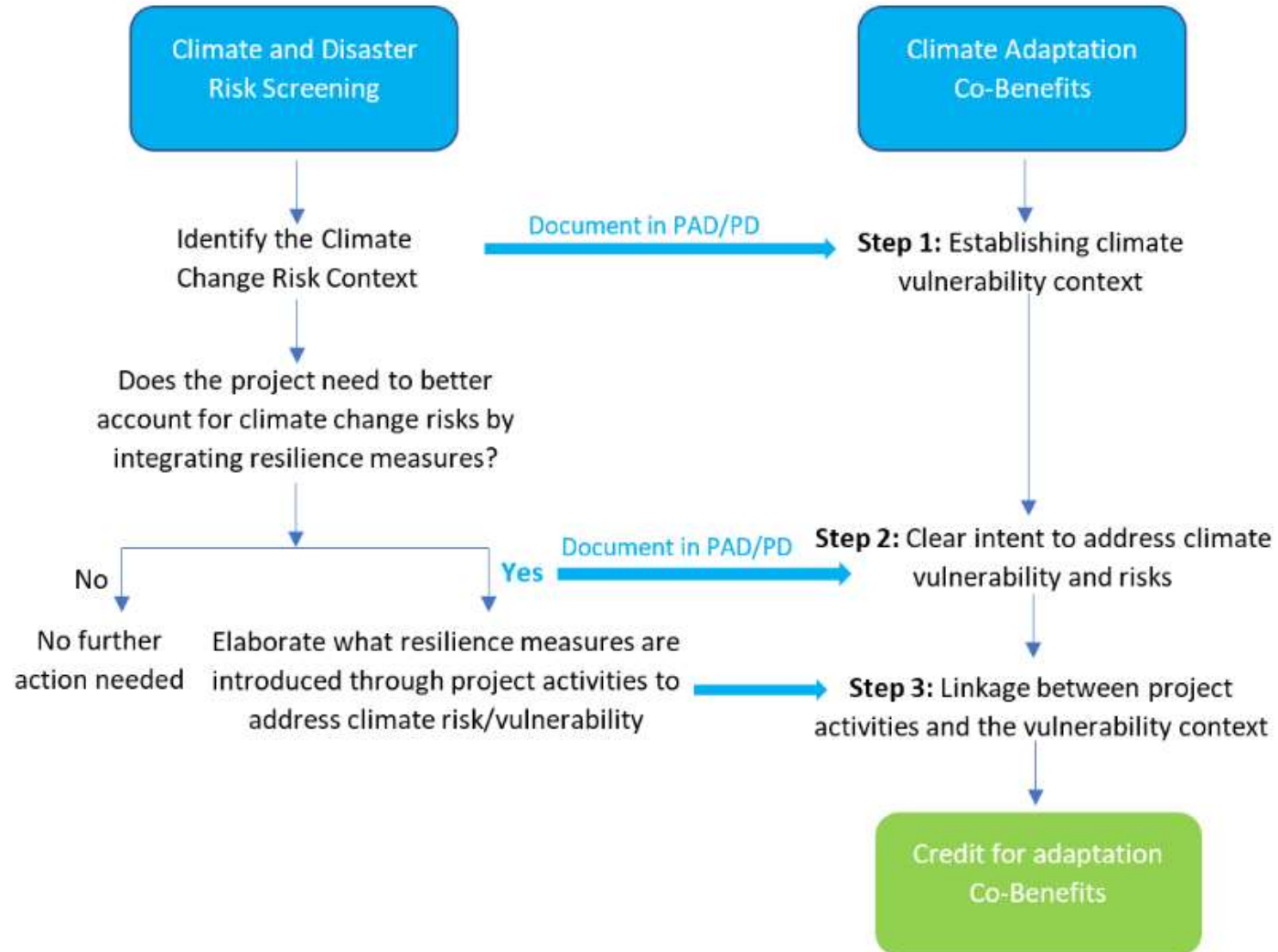
- Methodology is flexible about the location and form of this statement of intent in the document; usually articulated in a sentence or two.

Step 3

Articulate link between climate vulnerability and specific action(s)

- Adaptation co-benefits are allocated to specific project activities that are clearly linked to project's climate vulnerability context.

Adaptation: Decision Tree



Commonly Asked Questions

Q1

WHAT DOES ADAPTATION CO-BENEFITS MEASURE?

- The methodology **captures the financing dedicated to adaptation measures** that are designed to address vulnerability to climate change risks.
- The adaptation co-benefits **do not measure the project's contribution to climate resilience.**

Q2

WHY IS THE SIMILAR PROJECT RECEIVING HIGHER/LOWER ADAPTATION CO-BENEFITS?

- Adaptation co-benefits are assigned based on **the project specific context**, i.e geographical location, sector, project design, etc.
- Adaptation co-benefits assigned do not reflect “how well” the project performs

Joint MDB Methodology: Mitigation



Climate change mitigation promotes efforts to reduce, limit, or sequester GHG emissions to reduce the risk of climate change.

Mitigation Finance is based on MDB agreed list of activities that are compatible with low emissions pathways

- **However, not all activities that reduce GHGs are eligible to be counted towards MDB mitigation finance.**
 - **Demonstration of GHG emissions reduction is not required for mitigation co-benefits** (except for a select few sub-categories, where net GHG reductions need to be demonstrated). However, GHG accounting can help in assigning co-benefits, particularly in Energy Efficiency and Agriculture projects
- **Link to the list:** [MDB Climate Finance Report 2017 Annex C](#)

Joint MDB Methodology: Mitigation Categories



1. Renewable Energy



2. Lower-Carbon and Efficient Energy Generation



3. Energy Efficiency



4. Agriculture, Aquaculture, Forestry, and Land Use



5. Non-energy GHG Reductions



6. Waste and Wastewater



7. Transport



8. Low-carbon technologies



9. Cross-cutting

Joint MDB Methodology: Mitigation Categories

SNAPSHOT OF ELIGIBLE ACTIVITIES

Category	Sub-category	Eligible activities
3. Energy efficiency ¹⁴	3.1 Energy efficiency in industry in existing facilities	Industrial energy efficiency improvements through the installation of more efficient equipment, changes in processes, reduction of heat losses and/or increased waste heat recovery and/or resource efficiency
		Installation of co-generation plants that generate electricity in addition to providing heating/cooling
		Replacement of an older facility (old facility retired) with a more efficient facility
	3.2 Energy efficiency improvements in existing commercial, public and residential buildings	Energy efficiency improvement in lighting, appliances and equipment
		Substitution of existing heating/cooling systems for buildings by co-generation plants that generate electricity in addition to providing heating/cooling ¹⁵
	3.3 Energy efficiency improvements in the utility sector and public services	Retrofit of existing buildings: architectural or building changes that enable reduction of energy consumption
Energy efficiency improvement in utilities and public services through the installation of more efficient lighting or equipment		
Rehabilitation of district heating and cooling systems		
Reduction of heat loss in utilities and/or increased recovery of waste heat		
3.4 Vehicle fleet energy efficiency	Improvement in utility-scale energy efficiency through efficient energy use, and loss reduction, or resource efficiency improvements	
	Existing vehicles, rail or boat fleet retrofit or replacement (including the use of lower-carbon fuels, electric or hydrogen technologies, and so on)	
3.5 Energy efficiency in new commercial, public and residential buildings	Use of highly efficient architectural designs, energy efficient appliances and equipment, and building techniques that reduce building energy consumption, exceeding available standards and complying with high energy efficiency certification or rating schemes	
3.6 Energy audits	Energy audits to energy end-users, including industries, buildings, and transport systems	

Each lending instrument is assessed at the following level

- Investment Project Financing (IPF) : **Components/Sub-Components**
- Development Policy Lending (DPO/DPL/DPF) : **Prior Action**
- Program-for-Results (PforR) : **Disbursement Linked Indicator**

IPF

Disbursement is based on reimbursements of **eligible expenditures at the component/sub-component level**

DPF

Once all prior policy/ institutional actions are met (**assigned to Prior Actions**), disbursement is to **the general budget**

PforR

On achievement of **DLIs**.
No tracing of Bank financing for specific activities as funds support **overall program of expenditures**.

MENA Water Case study

Baghdad Water Supply And Sewerage Improvement Project (US\$ 210 million, FY18)

Project Development Objective:

“To improve the quality of drinking water supply and wastewater services in Baghdad.”

Components:

- **Component 1** : Institutional strengthening for integrated urban water management and utility management
- **Component 2** : Investment in drinking water supply and wastewater infrastructure
- **Component 3** : Project management, studies and M&E

<i>Adaptation Co-Benefits:</i>	<i>US\$ 74.26 million</i>
<i>Mitigation Co-Benefits :</i>	<i>US\$ 78.13 million</i>
<i>Total Climate Co-Benefits: US\$ 152.39 million (73%)</i>	



MENA Water Case study

Baghdad Water Supply And Sewerage Improvement Project (US\$ 210 million, FY18)

CLIMATE & DISASTER RISK SCREENING AND CLIMATE CO-BENEFITS

STEP 1: Climate Change Vulnerability Context

From Climate & Disaster Risk Screening :

- Project location exposed to extreme temperature, precipitation and flooding, and water scarcity that may affect future service delivery

Articulated climate change vulnerability context :

- “...The Baghdad area is at a high level of exposure to future river floods and at a medium level of exposure to water scarcity. In addition, the country is at risk of higher temperature and heat.”
- “Untreated wastewater in Baghdad has been leaking out of sewers and overflowing into the streets and into the Tigris (which is Baghdad’s only local source of fresh drinking water), which represents a public health risk in case of climate change-induced flooding of the Tigris.”

STEP 2: Intent to Address Vulnerability

The project includes a component on integrated urban water management including resilience and sustainability of water use. Project investments will also contribute to climate change adaptation and mitigation by efficient use and savings of water resources, improvements to the wastewater collection system to avoid the spread of uncollected wastewater during climate change-induced flooding, as well as by reducing GHG emissions.

MENA Water Case study

Baghdad Water Supply And Sewerage Improvement Project (US\$ 210 million, FY18)

ACTIVITIES CONTRIBUTING TO CLIMATE CO-BENEFITS

Institutional strengthening for integrated urban water management

- Development of water security and water conservation plans
- Formulation of Baghdad groundwater strategy and wastewater reuse and storm water reuse system

Reservoir construction

- Financing of reservoir system, including overflow system, pumping stations
- Finances access road development, landscaping and infrastructure (security towers)

Pumping station and main sewerage network rehabilitation

- Replacing old pumps and associated electro-mechanical works
- Rehabilitating main trunk sewer system and associated manholes

Non-revenue water reduction

- Support for reduction of water losses through leak repairs, service connection replacement, etc.

Depending on the type of investment, co-benefits assigned will vary

Incremental cost of incorporating adaptation considerations (22-50%) e.g. network design and planning, capacity building

Dedicated mitigation measure on positive list (100%) e.g. energy efficiency, wastewater

Project management-related activities (Pro-rated)

Examples of DPF Policy Actions with Mitigation Co-Benefits Potential

FISCAL REFORMS

- Policies that promote efficient pricing of fuels and/or electricity, including energy subsidy reform
- Increased taxation on high-carbon activities (e.g. diesel cars) or decrease taxes on low-carbon activities (e.g. hybrid/electric vehicles)
- Introducing a carbon tax or developing carbon markets

COMPETITIVENESS & PRODUCTIVITY REFORMS

- Policies to scale-up renewable energy generation
- Policies to promote energy savings in particular sectors (e.g. energy efficiency improvements in electricity generation, buildings, industry, irrigation techniques, etc.)
- Improving the competitiveness of railway or waterway transport, leading to modal shift away from road/air transport
- Reduction in on-farm energy use and fertilizer use
- Restricting gas flaring/capturing methane emissions
- Improving sustainable management of forest resources/protected areas
- Improving access to climate-smart agriculture technologies

NATIONAL STRATEGIES/STANDARDS

- Establishing vehicle emission standards
- Establishing energy efficiency standards for different industries/sectors
- Supporting the implementation of NDCs and other climate action plans
- Supporting the implementation of REDD+ and other reforestation/afforestation programs
- Designating protected forest areas and ecological conservation zones

POLLUTION MANAGEMENT POLICIES

- Introducing pollution management policies that also lead to reduced GHG emissions
- Introducing GHG emissions monitoring & reporting systems

Examples of DPF Policy Actions with Adaptation Co-Benefits Potential

FISCAL REFORMS

- Addressing fiscal system's exposure to climate change-related risks through dedicated policies and guidelines
- Establishing financial incentives to promote public investment projects that strengthen climate resilience
 - Incorporating appropriate measures to address climate change-related risks to public services (e.g. energy, water, waste treatment, IT, banking, etc.)
- Developing and implementing policies to incorporate climate adaptation measures in planning processes and infrastructure investments to minimize GDP loss.

COMPETITIVENESS & PRODUCTIVITY REFORMS

- Developing and implementing policies that enhance productivity & competitiveness in sectors/industries by incorporating climate resilience measures (e.g. climate-resilient building codes, resilient road works, agriculture productivity strategies, road works, fisheries, health services etc.)

SOCIAL PROTECTION REFORMS

- Developing and implementing policies that provide safety nets to enhance the adaptive capacity of beneficiaries to impacts of climate change (e.g. cash transfer programs, emergency transfers, etc.)

DISASTER RISK MANAGEMENT

- Policy actions to enable provision of loans and/or guarantees to retrofit assets such as buildings against climate change-related risks
- Development of contingency funds or insurance products for climate-related natural disasters.

ENERGY SECTOR REFORMS

- Guidelines for addressing climate change risks in energy infrastructure.

ENVIRONMENTAL REFORMS

- Mainstreaming climate change adaptation policies at the national level
- Setting up agencies and institutions to monitor and address climate change risks.

DPF Mitigation Case study: Macroeconomic, Trade and Investment

TUNISIA INVESTMENT, COMPETITIVENESS AND INCLUSION DEVELOPMENT POLICY FRAMEWORK (US\$ 500 million, FY18)

Project Development Objective:

To help Tunisia (i) remove barriers to investment, trade and entrepreneurship; (b) move towards a more efficient, sustainable and inclusive energy sector; and (c) promote greater economic and social inclusion.

Operation Pillars (11 Prior Actions):

- **Pillar 1:** Removing barriers to investment, trade and entrepreneurship
- **Pillar 2:** Moving towards a more efficient, sustainable and inclusive energy sector
- **Pillar 3:** Promoting greater economic and social inclusion

For assessing climate co-benefits in DPFs, the total commitment is split equally amongst all Prior Actions



DPF Mitigation Case study: Macroeconomics, Trade and Investment

PILLAR 2: Moving towards a more efficient, sustainable and inclusive energy sector

Prior Action 6: *To contain the electricity and gas subsidies, the Borrower has approved an electricity and gas tariff adjustment in line with its Energy Subsidy Reduction Policy Note, pursuant to the Borrower’s Minister of Energy, Mines and Renewable Energy’s Letter addressed to STEG dated May 10, 2018*

The proposed prior action is expected to contribute to climate change mitigation through the optimization of energy consumption.

100% Mitigation Co-benefits

(MDB Category 9.1)

[100% * 500/11 = US\$ 45.5 million]

Prior Action 7: *To improve the performance of the STEG through actionable performance contracts, and greater accountability, the Executive Board of STEG and the Borrower’s Minister of Energy, Mines and Renewable Energy have approved a commercial action plan for STEG to reduce losses and improve collection of bills in line with the objectives of STEG’s performance contract for 2016-2020, pursuant to Borrower’s Minister of Energy, Mines and Renewable Energy’s Letter dated April 18, 2018.....*

The commercial performance action plan includes several measures to reduce technical losses, including reinforcing distribution grids, installing capacitor banks and autoregulators, and managing energy use among large consumers.

25% Mitigation Co-benefits

(MDB Category 9.1)

[25% * 500/11 = US\$ 11.4 million]

(25% mitigation co-benefits assigned for ½ of results indicators)

Prior Action 8: *To improve the energy mix, the Borrower has adopted a decision to scale up and accelerate the implementation of Tunisia’s Renewables Plan through private sector owned renewable energy capacity, pursuant to Borrower’s Council of Ministers’ Decision dated February 28, 2018.....*

By encouraging private investment in renewable energy, the proposed prior action is expected to contribute to shifting energy production toward low-carbon technologies and reduce greenhouse gas (GHG) emissions

100% Mitigation Co-benefits

(MDB Category 9.1)

[100% * 500/11 = US\$ 45.5 million]

TOTAL CLIMATE CO-BENEFITS (Mitigation): US\$ 102.4 million (20.5%)

Challenges in maximizing Climate Co-Benefits in PforRs

Climate co-benefits for PforRs are assigned at Disbursement-Linked Indicator (DLI) level

TYPICAL CHALLENGES IN ASSIGNING CLIMATE CO-BENEFITS TO PforRs:

- Difficulty in mapping activities to Results Areas and DLIs, leading to under or over-estimation of climate co-benefits.
- Financing amounts assigned to DLIs do not reflect the financing dedicated to undertaking climate-related activities.
- Insufficient information on eligible project activities and associated standards/requirements that will be financed under a specific results area.
- Challenge in estimating/allocating financing among sub-project types.
- Difficulty in teasing out the indirect contribution of activities towards climate change adaptation or mitigation.

Solutions for maximizing Climate co-Benefits in PforRs

POSSIBLE SOLUTIONS TO CONSIDER: *Illustrative examples*

In Program Design:

- Identify climate-related activities in the client's program and their potential to support the implementation of the client's NDCs:
 - *The energy efficiency initiative supported will contribute towards the client's commitment to reduce carbon intensity by 33-35 percent by 2030.*
- Support the client in developing selection/eligibility criteria for investments:
 - *Water utilities need to include a performance indicator on energy savings in their annual performance assessment to be eligible for program grants;*
 - *20% of financing under the results area should be used for investments in non-motorized transport.*
- Specify standards /requirements for eligible investments, as applicable:
 - *All civil works financed under the results area will be screened for climate risks and will incorporate risk mitigation measures where needed;*
 - *Aged-care homes will be powered by renewable energy using roof-top solar panels.*

In Project Documents:

- For Results Areas that support physical investments, provide an investment menu and specify which DLIs will track its implementation:
Within the investment menu, provide an estimate of expenditure (%) for larger activity types (e.g., civil works, equipment, etc.)
- For Policy, Institutional Strengthening & Capacity Building, explicitly state how these activities will result in adaptation or mitigation outcomes.

Snapshot of Climate Co-Benefits Assessment Shared with Task Teams

PROJECT	P166302		
TITLE	Strengthening Disaster Risk Management in Romania		
COUNTRY, BA FY, & GP	Romania	FY18	Social, Urban, Rural & Resilience
IBRD/IDA FINANCING (US\$ million, in 2 dec.pt)	IBRD US\$ 61 million		
Total Financing (US\$ million, in 2 dec.pt)	US\$ 61 million		

Component/ Prior Action (PA)/ Disbursement Linked Indicator (DLI)	Total financing (US\$ million)	Adaptation co-benefits (US\$ million)	Mitigation co-benefits (US\$ million)	Reason for assigning CCB	Potential to Improve CCB
Subcomponent 1.1: Reconstruction of Buildings	13.35 (53.4/4)	03.34	04.45	<ul style="list-style-type: none"> Adaptation co-benefits can be assigned for reconstruction of buildings, since these buildings are part of the emergency and disaster response system, and the reconstruction will include climate change adaptation investments. Energy efficiency investments in buildings are eligible for mitigation co-benefits under <i>3.5: Energy efficiency in new commercial, public and residential buildings</i> of the MDB List of Eligible Mitigation Activities. 	<p>DESIGN IMPROVEMENTS</p> <p>Adaptation & Mitigation: Any activities that can incorporate further adaptation or mitigation considerations</p> <p>NARRATIVE IMPROVEMENTS</p> <p>Adaptation : Any of the three steps that may be missing Mitigation : Link activity to the Eligible Activities List Cost of specific mitigation activities, Net GHG emissions reduction</p>
Subcomponent 1.2: Retrofitting of Buildings	13.35 (53.4/4)	03.34	04.45	<ul style="list-style-type: none"> Adaptation co-benefits can be assigned for retrofitting of buildings since these buildings are part of the emergency and disaster response system, and the retrofit will include climate change adaptation investments. Investments in energy efficiency improvements are eligible for mitigation co-benefits under <i>3.2: Energy efficiency improvements in existing commercial, public and residential buildings</i> of the MDB List of Eligible Mitigation Activities. 	
Subcomponent 1.3: Technical Documentation	13.35 (53.4/4)	03.34	04.45	Pro-rated based on Sub-Components 1.1 and 1.2	
Subcomponent 1.4: Communications	13.35 (53.4/4)	03.34	04.45	Pro-rated based on Sub-Components 1.1 and 1.2	
Component 2: Enhancing Technical Capacity for Risk Reduction Investment Planning	05.50	02.75	0	Adaptation co-benefits can be assigned for enhancing technical capacity since it will accelerate climate risk reduction interventions.	<p>CATEGORY III (b) MITIGATION: Design Potential</p> <p>Potential for assigning mitigation co-benefits for financing consulting services under <i>9.1: Support to national, regional or local policy, through technical assistance or policy lending</i> if they will include technical assistance on incorporating energy efficiency investments in reconstructed and retrofitted buildings.</p>
Component 3: Project Management	02.40	00.66	00.73	Pro-rated	
Component 4: Contingent Emergency Response Component	0	0	0		
TOTAL	61.30 SR: 61.00	16.77 Pro-rated: 16.69	18.53 Pro-rated: 18.44	<p>TOTAL CLIMATE FINANCE:</p> <p>US\$ 35.3 million (58%)</p> <p>Pro-rated: US\$ 35.13 million</p>	

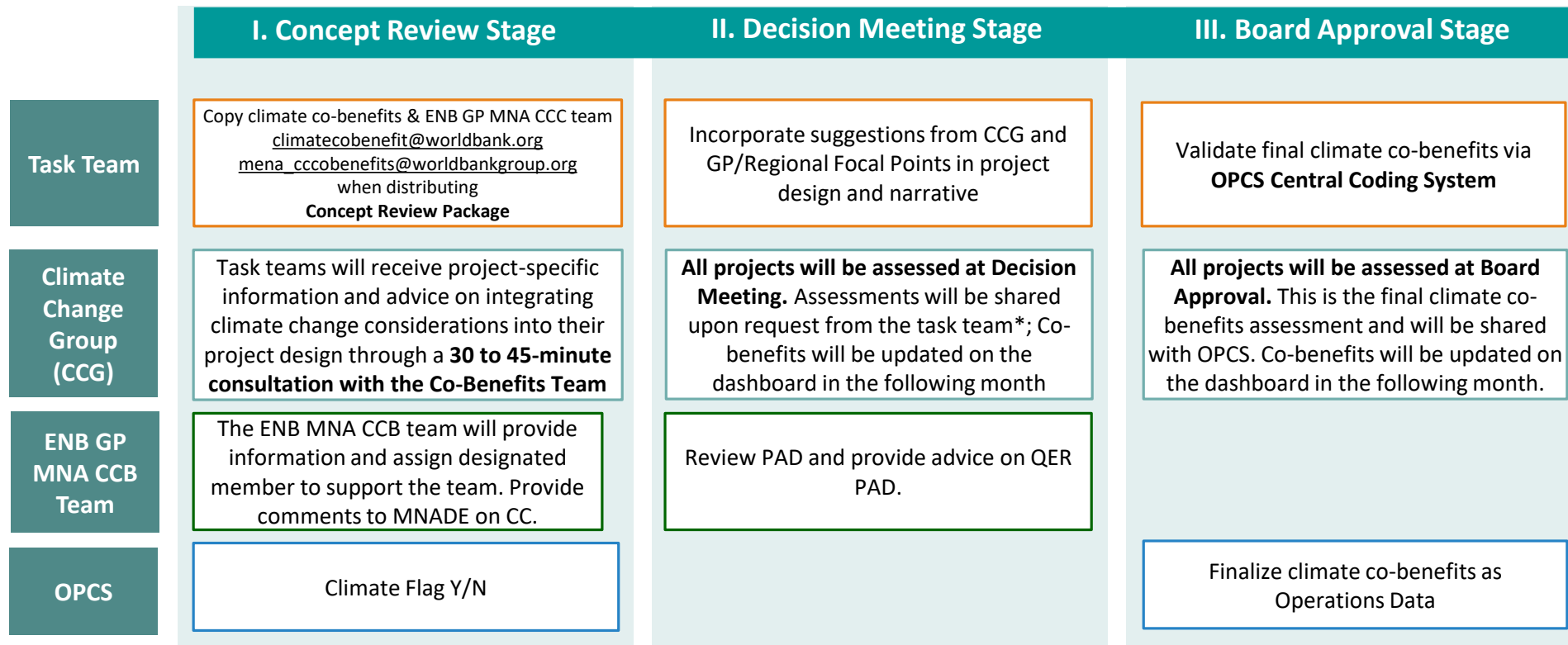
DESIGN IMPROVEMENTS

Adaptation & Mitigation: Any activities that can incorporate further adaptation or mitigation considerations

NARRATIVE IMPROVEMENTS

Adaptation : Any of the three steps that may be missing
Mitigation : Link activity to the Eligible Activities List
 Cost of specific mitigation activities, Net GHG emissions reduction

Climate Co-Benefits Assessment Process



KEY MESSAGES

The **MNA ENB GP Climate Support Team** provides all pipeline operations, FY20-FY21, with four forms of optional support

- Vet project documentation for climate change narrative
- Deliver targeted guidance to maximize adaptation and mitigation co-benefits.
- The support aims to ensure that best practice in climate **smart design** of lending projects is available to task teams.
- Supply tailored resources like NDCs and 'model PADs' from similar projects
- Review guidance with TTLs
- Service is channeled through climate co-benefits monitoring, pipeline review, analysis & report to CMUs, trainings (climate clinics) in HQ & country offices, one-on-one meetings with task teams, etc.

What we offer – MNA ENB and CCG

OPERATIONAL DESIGN SUPPORT

- Provide all Pipeline Operations with Tailored Guidance on Climate-Smart Project Design
- Hands on support on compliance with climate commitments

CAPACITY BUILDING & KNOWLEDGE TRANSFER

- Offer frequent climate clinics on: climate and natural disaster risk screening, climate co-benefits, GHG accounting, and shadow price of carbon.

UPSTREAM ENGAGEMENT

- Contribute climate change content to strategic engagement documents (CPFs, SCDs, PLRs)
- Assist MNA clients with NDC implementation
- Help embed CC risks & opportunities in flagship analytics and advisory

REPORTING AND TRACKING COMPLIANCE

- Track implementation of MNA Climate Action Plan (CAP) including progress towards FY20 co-benefit and adaptation finance targets
- Deliver regular reports and updates to RMT and CDs including 'stoplight' analysis of pipeline

Teams Supporting Climate Change Co-benefits

**ENB MNA
Climate Co-
Benefits
Support Team**



Helena Naber



Shafick Hoossein



Anabella Palacios



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**Climate
Change
Group**



Adeel Abbas



Sohee Gu



Viviane Clement



Jenny Dattoo

Email: climatecobenefit@worldbank.org

Climate Change
 Corporate
 Commitments -
CCKNOW

**Climate and Disaster
 Risk Screening**

Identify climate and disaster risks


**Climate
 Co-Benefits**

Identify climate mitigation and/or adaptation co-benefits


**Greenhouse Gas
 Accounting**

Determine ex-ante gross and net GHG emissions, and, later, value these emissions in the economic analysis


**Shadow Price of
 Carbon**

Account for carbon externalities in project economic analyses


Climate Indicators

To measure the results of World Bank's climate-related interventions

Purpose
**Benefit for Task
 Teams & Clients**
**Applicable
 Projects**
**Guidance and
 Tools**
**Contact
 Information**

"Climate proof" projects and better account for future conditions

Get "credit" for contributing to WBG 28% climate finance target

Gain knowledge of emissions sources and opportunities to design lower carbon projects

Gain knowledge of the costs and benefits of carbon emissions/reductions of a project and its alternatives

Monitor and track the progress of a mitigation and/or adaptation activity

Required for IBRD/IDA operations

Applicable to all projects. (Only IBRD/IDA lending projects count towards the target 28%)

Required for IBRD/IDA IPFs led by SD & INF GPs for which GHG accounting methodologies are available

Required for IBRD/IDA IPFs subject to GHG accounting and with PCNs approved on or after July 1, 2017

Required for all IBRD/IDA operations with 20% climate co-benefits, effective FY21

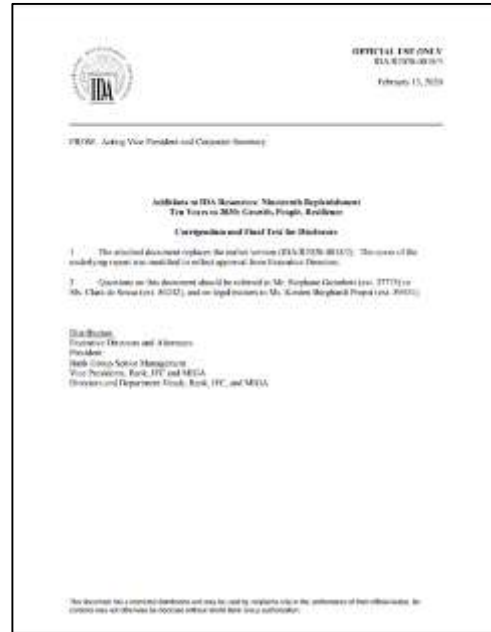
**FURL:
 CCSCREEN**
**FURL:
 COBENEFITS**
**FURL:
 GHGACCOUNTING**
**FURL:
 SHADOWPRICEOFCARBON**
**FURL:
 CCINDICATORS**
climatescreeninghelpdesk@worldbankgroup.org
climatecobenefit@worldbank.org

 Contact the GHG Accounting GP focal point or ghgaccounting@worldbank.org
climateindicators@worldbank.org

Commitments and Targets



WBG 2025 Targets



IDA 19 Report

- Incorporate at least **ONE climate-related results indicator** in the results framework
- Operations with over 20% climate co-benefits – over one fifth of the project's financing is targeted toward climate interventions
- Effective July 1, 2020
- Increase the focus on climate outcomes

Where to Get Climate Indicators Support?

- ✓ **Stay tuned to the Climate Indicators website for updates**
 - ✓ **FURL: [CCINDICATORS/](https://climateindicators.worldbank.org/)**

- ✓ **Available Guidance:**
 - ✓ **FAQ note**
 - ✓ **More guidance coming soon, including illustrative sector-specific examples**

- ✓ **Write to us:**
 - **Climate Indicators Help Desk**
climateindicators@worldbank.org



Q&A



Annex

Resources and Tools

Climate Co-Benefits Methodology

Elaborate MDB methodology of tracking climate mitigation and adaptation co-benefits.



Reference Guide on Adaptation Co-Benefits

Comprehensive guide to capture adaptation co-Benefits generated by World Bank projects.



Climate Knowledge Portal

A central hub of information, data and reports about climate change vulnerability, risk reduction and adaptation to climate change profiles.



NDC Platform

The NDC Platform contains one of the most comprehensive reviews of submitted Nationally Determined Contributions or NDCs.



Tracking and Reporting

Climate Co-benefits Tracking Dashboard

The dashboard is designed to track progress on climate targets including 28% goal.



Climate Co-benefits Tracking Dashboard

Climate Co-benefits Tracking Dashboard (FURL: [ClimateDashboard](#))

The dashboard is designed to track progress on climate targets including 28% goal.

Climate Co-Benefits Dashboard

Corporate View

GP View

Region View

CMU View

Country View

Pipeline View

Monthly Report

Projects View

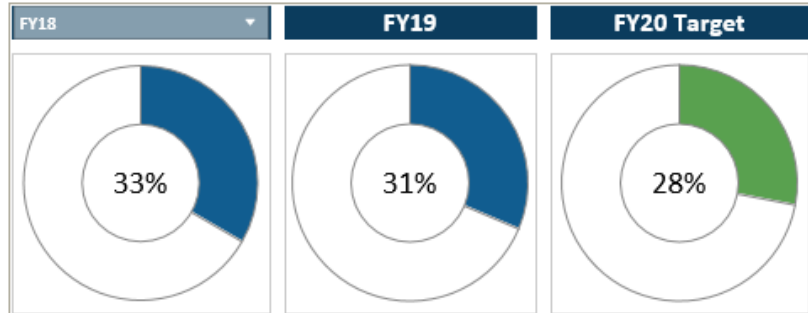
User Guide and Contact Info

Corporate View

The dashboard displays climate co-benefits related data for the last eight years (FY11-18) and projects currently in the pipeline and approved by the Board as of Jul 17, 2019. The data for projects in Pipeline that have not yet been approved is preliminary and will be updated on a monthly basis.

Goal Progress

YTD = Year-to-Date (approved projects subject to validation by TTLs).
 PYE= Projected-Year-End: Consists of Year-to-Date and Pipeline (A and B FY probability) projects that have been assessed for climate co-benefits thus far.



Key Data

Fiscal Year	IDA/IBRD Commitment (\$M)	IDA/IBRD Climate Co-Benefits (\$M)	IDA/IBRD Adaptation (\$m)	IDA/IBRD Mitigation (\$M)	% IBRD	% IDA	% IDA/IBRD	% IFC	% MIGA	% WBG
FY11	43,088	8,763	2,050	6,713	24%	14%	20%	17%	29%	20%
FY12	35,393	10,233	3,812	6,421	30%	28%	29%	13%	36%	26%
FY13	31,583	5,896	2,732	3,164	16%	21%	19%	18%	29%	19%
FY14	40,895	8,794	2,848	5,945	20%	23%	22%	19%	16%	21%
FY15	42,595	6,497	2,812	3,685	15%	16%	15%	22%	39%	18%
FY16	45,966	8,480	3,373	5,107	19%	17%	18%	18%	7%	18%
FY17	42,147	9,252	3,890	5,362	22%	22%	22%	25%	12%	22%
FY18	47,099	15,707	7,652	8,055	39%	28%	33%	34%	17%	32%
FY19	45,113	14,180	7,021	7,159	31%	31%	31%			

Greenhouse Gas Accounting Case Study

P160224 – Greater Beirut Public Transport Project

Project Objective

To improve the speed, quality and accessibility of public transport for passengers in Greater Beirut and at the city of Beirut's northern entrance.

Baseline

It is assumed that without BRT expected traffic demand will be met based on existing and predicted share of transport modes

Results

Gross Emissions: +9,441,186 t CO₂e
(t CO₂e, economic lifetime)

Net Emissions: -1,211,808 t CO₂e
(t CO₂e, economic lifetime)

Net Emissions: -60,590 t CO₂e
(t CO₂e/year, annual average)



*Net emissions
= gross emissions
– baseline emissions*

*-1.2 m tCO₂e
= 9.4 m tCO₂e
– 10.6 mtCO₂e*

*Annual net emissions
= net emissions over
economic lifetime
/ lifetime*

*-60,590 tCO₂e/year
= -1.2 m tCO₂e
/ 20 years*

Shadow Price of Carbon Case Study

P160224 – Greater Beirut Public Transport Project

Project boundary and baseline
Same as for GHG accounting

Carbon Price	EIRR	NPV
Without SPC	38.7%	919 USD million
Low SPC	39.4%	944 USD million
High SPC	40.1%	968 USD million

Results of economic analysis

The project is viable under all three carbon price scenarios. The inclusion of the global benefits from the emission reductions of 1.2 Mt CO₂e over the lifetime of the project increases the EIRR and NPV.



Multiply annual net emissions by annual shadow price of carbon for each year over the lifetime of the project

DPF Adaptation Case study: Urban, Resilience, and Land

MOROCCO DISASTER RISK MANAGEMENT DEVELOPMENT POLICY LOAN WITH CAT-DDO (US\$ 275 million, FY20)

Project Development Objective:

“To support the Government of Morocco in (a) strengthening the country’s institutional capacity to deal with the adverse financial impacts of disasters and climate-related shocks, and (b) strengthening Morocco's institutional framework for disaster and climate-related risk management.”

Operation Pillars (6 Prior Actions):

- **Pillar A:** Strengthening Morocco’s institutional capacity to deal with the adverse financial impact of disasters and climate-related shocks
- **Pillar B:** Strengthening Morocco’s institutional framework for disaster and climate-related risk management

For assessing climate co-benefits in DPFs, the total commitment is split equally amongst all Prior Actions



DPF Adaptation Case study: Urban, Resilience, and Land

THREE STEPS REQUIRED FOR ADAPTATION:

STEP 1: Climate Change Vulnerability Context

Morocco is already bearing the brunt of climate change, with events such as the severe drought in 2016. Future climate trends include: i) **rising temperatures** of 1–1.5°C by 2050 with a faster rate of warming in the interior of the country; ii) **decrease in average precipitation** by 10–20 percent across the country, with a decrease of 30 percent in the Saharan region by 2100; iii) **reduced snowpack in the Atlas Mountains**; iv) **increased incidence of drought** conditions ; and v) **rise in sea levels** between 18–59 cm by 2100. Climate change will **increase demand on groundwater for irrigation**, which already consumes 90 percent of available water, and reduce the quality of surface water due to pollutants. Extreme events are expected to increase in **frequency and severity with flash floods threatening urban areas**, increased risk of flooding during October-December, coastal erosion and flooding from tidal storms and erratic precipitations patterns... **Shocks created by adverse natural events have regressive distributional effects as vulnerability to climate shocks is higher for the poorest households.** ... the **anticipated increase in frequency and severity of hydrometeorological hazards could threaten to reverse the hard-won development gains of the past years.**

STEP 2: Intent to Address Vulnerability

The proposed development objective of this operation is to support the GoM in: (a) strengthening the country's institutional capacity to deal with the adverse financial impacts of disasters and climate-related shocks, and (b) strengthening Morocco's institutional framework for disaster and climate-related risk management.

STEP 3: Link to Project Activities

Pillar 1 will strengthen Morocco's institutional capacity to deal with the adverse financial impact of disasters and climate-related shocks

Pillar 2 will strengthen the institutional framework for disaster and climate-related risk management through a series of reforms aimed at the FSEC (*Fonds de Solidarité Contre les événements Catastrophiques*)

DPF Adaptation Case study: Urban, Resilience, and Land

PILLAR A: Strengthening Morocco's institutional capacity to deal with the adverse financial impact of disasters and climate-related shocks

Prior Action 1: *The Borrower has registered the FSEC as a public institution and appointed its director.....*

The prior action will contribute to strengthening the capacity of the FSEC to operate under a robust governance structure and sound operational principles to meet its legal obligations of responding to disaster and climate-related shocks.

Prior Action 2: *The Borrower has established a sustained financing mechanism for the FSEC.....*

The prior action will contribute to improved financial sustainability of the FSEC to respond to disaster and climate-related events.

Prior Action 3: *The Borrower has defined the register model and enrollment procedures for the registry of victims of catastrophic events.....*

The prior action will contribute to the increased capacity and readiness of the MoI to carry out victim registration in the event of a natural catastrophe, through its network of local agents

Prior Action 4: *The Borrower's ACAPS has adopted Circulaire No. AS/03/19 amending Circulaire No. 01/AS/19, to establish prudential requirements on insurance companies to strengthen their financial capacity against catastrophic events.....*

The prior action will enable insurance companies to develop financial reserves to adequately compensate claims made in the event of natural disasters.

100% Adaptation Co-benefits for each Prior Action

[100% * 275/6*4 = US\$ 183.32 million]

PILLAR B: Strengthening Morocco's institutional framework for disaster and climate-related risk management

Prior Action 5: *The Borrower has adopted a cooperation framework to strengthen flood management and early warning systems in the country.....*

This prior action will support the creation of a national Flood Risk Management Information System. The Flood Risk Management Information System will support the development of tools and systems for flood risk monitoring, early warning, crisis communication, and prevention at a national level, including hydrological and hydraulic models.

Prior Action 4: *The Borrower has strengthened the human resources management system of its Civil Protection.....*

This prior action improves human resource processes of Morocco's CP, which will contribute to strengthening the country's emergency response capacity.

100%

Adaptation Co-benefits for each Prior Action

[100% * 275/6*2 = US\$ 91.66 million]

Example of maximizing climate co-benefits in Water PforRs

PROJECT EXAMPLE: CO-BENEFITS AT CONCEPT-STAGE	PROJECT EXAMPLE: CO-BENEFITS AT DECISION REVIEW-STAGE
Egypt Sustainable Rural Sanitation Services (SRSS) Program (P166597 US\$ 300 million, FY19)	
<ul style="list-style-type: none"> ▪ The project captured mitigation and adaptation co-benefits linked to project activities. ▪ There was potential for assigning additional mitigation co-benefits to DLI targeting for improving the performance of WSCs under 3.3: <i>Energy efficiency improvements in the utility sector and public services</i> of the MDB List of Eligible Mitigation Activities Program. ▪ There was also potential for assigning additional adaptation co-benefits if more information was provided on how a unified M&E system could improve the resilience of water supply and sanitation systems to impacts of climate change. <p>Total Climate Co-Benefits: 25%</p>	<ul style="list-style-type: none"> ▪ Additional mitigation co-benefits were assigned since higher energy efficiency will be achieved through improved operational procedures, better design of networks to minimize pumping, and purchasing of more energy efficient equipment in pumping stations. ▪ Additional adaptation co-benefits assigned for benchmarking utilities performance for indicators dedicated to climate resilience. <p><i>Adaptation Co-Benefits: US\$ 68.76 million</i> <i>Mitigation Co-Benefits Assigned: US\$ 32.82 million</i></p> <p>Total Climate Co-Benefits: US\$ 101.58 million (33.86%)</p>