

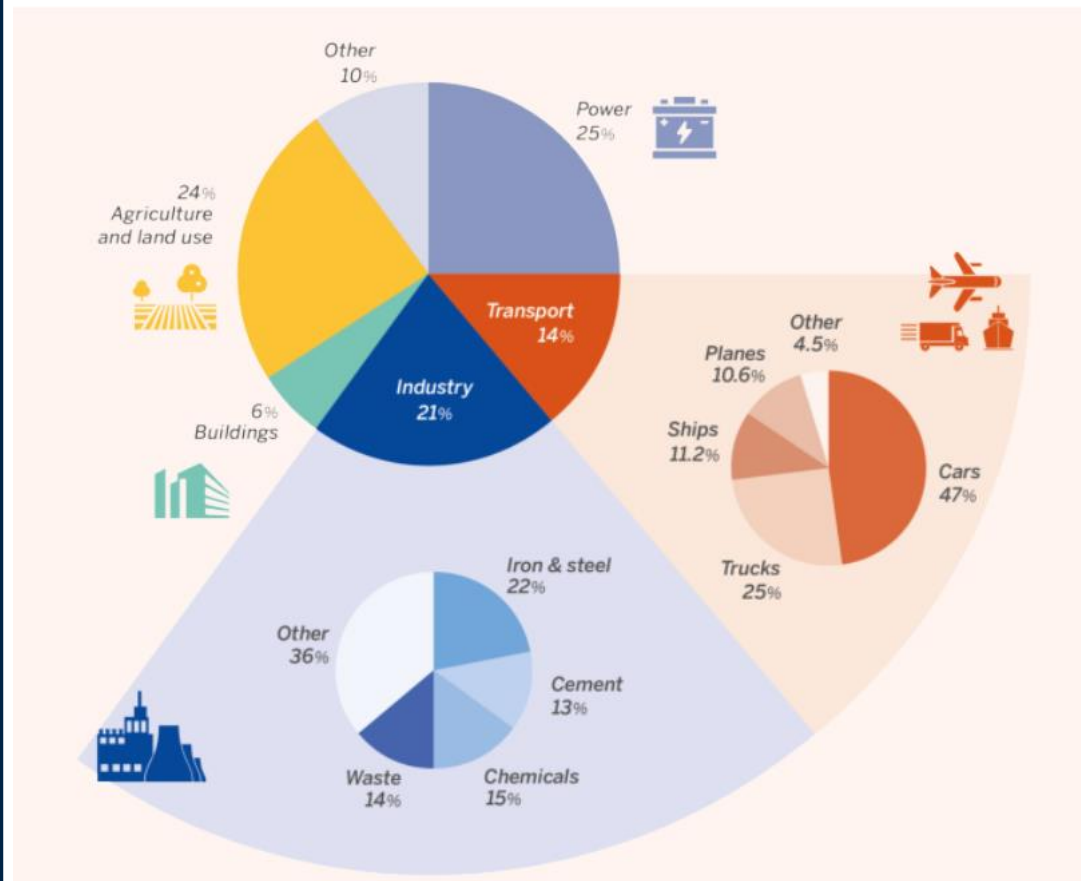
ACCELERATING DECARBONIZATION

ESMAP BUSINESS PLAN FY21-24

PROBLEM STATEMENT

About 75% of global GHG emissions are generated by sectors outside of power

Global Emissions by Sector



Source: Energy Transitions Commission based on IPCC data

Deeper actions on decarbonization across sectors of the economy are required, including actions beyond the power sector

- The world is not on track to achieve climate change goals
- Choices made today will lock in emissions trajectories for years to come and leave communities vulnerable to climate impacts
- Strategies and actions need to include:
 - Shifts to electrification
 - Increased access to different forms of clean energy
 - Systematic energy efficiency improvements across multiple end-uses
 - A focus on benefits to economy, local communities, and budgets
- In developing countries this must be achieved against a backdrop of increasing demand for energy services as a result of:
 - efforts to achieve universal energy access
 - higher disposable incomes
 - continued urbanization and industrialization
 - higher temperatures as a result of locked-in climate change
- The response requires strong public leadership on policy and planning, funding for innovation and piloting, and 'investing by example'
- Must also ensure equitable decarbonization efforts through development of policies, strategies and investments focused on women's employment; job creation for women entrepreneurs; and increased women's productivity

CONTEXT

External factors:

- Many cost-effective solutions to decarbonization exist but aggregation, viable business models, enabling environments, awareness and local skills are often lacking
 - Given that low cost RE power is now possible in most countries, rapid electrification of end uses makes sense where this is possible
 - Despite EE being essential for meeting climate change targets and large cost-effective EE potential available, global EE improvements have slowed down in recent years
 - As highlighted by the Energy Transitions Commission, the world needs to turn its attention to the 'hard to abate' sectors (particularly industry and transport)
-

Client needs:

- Clients want to take advantage of leapfrogging opportunities that achieve economic development goals without the environmental downsides
 - There is also strong interest in leveraging opportunities from decarbonization pathways to stimulate new industries and jobs
 - Capacity building support and training are needed to implement and sustain decarbonization solutions and ensure equitable change
-

World Bank Group:

- WBG Climate Change Action Plan commits to 36GW of RE, 1.5 M GWh of energy savings by 2025 and deepening climate mainstreaming in WBG operations
 - WBG is also making adaptation and resilience to climate change key priorities for its 2025 climate change targets
 - Deep World Bank engagement in all sectors relevant for decarbonization: agriculture/fisheries, energy, transport, and urban
 - WBG committed to closing gender gaps related to jobs, assets, and productivity
-

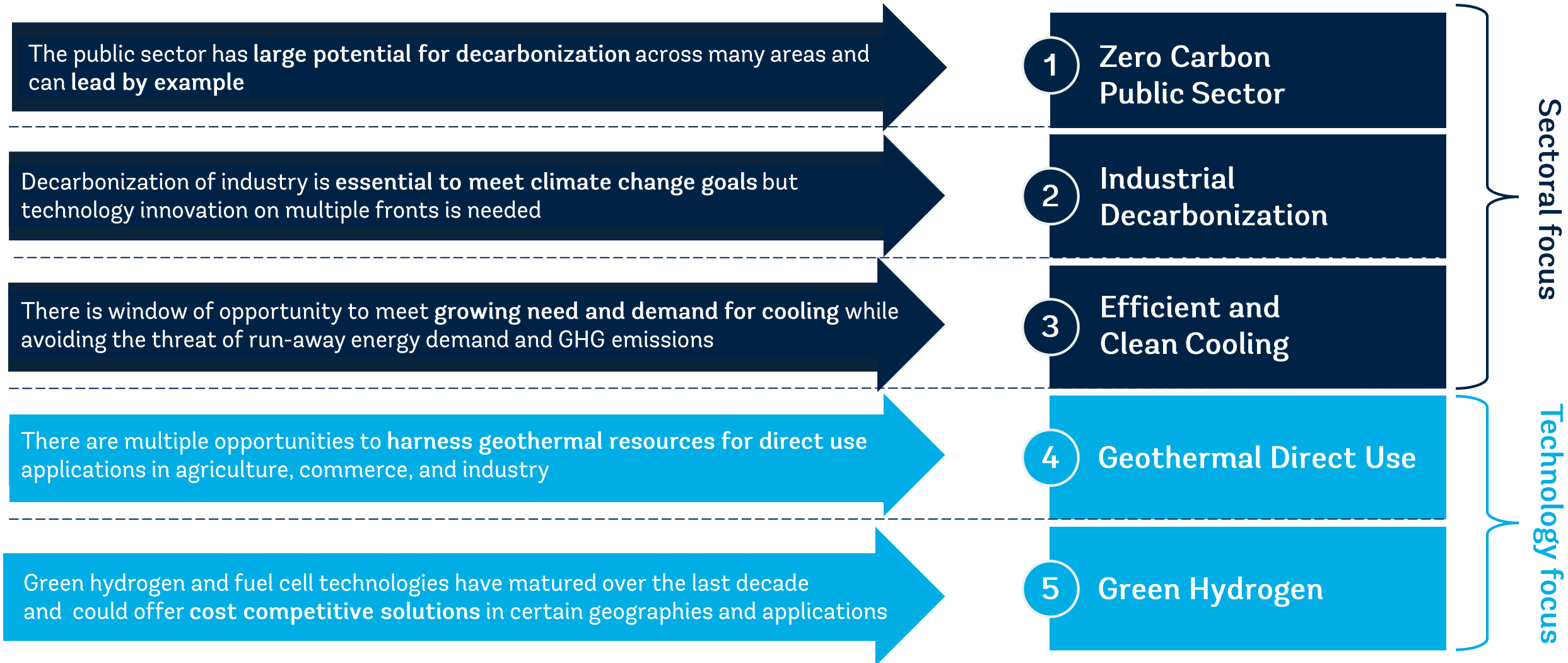
ESMAP:

- Under the last Business Plan ESMAP helped generate a wealth of experience on different types of EE engagements at national and sub-national levels which can be consolidated and built upon; it also identified and facilitated opportunities to integrate decarbonization efforts in Energy and other World Bank Global Practices to help shape WBG investments across sectors
 - ESMAP is helping build the foundation for World Bank strategy & engagements on sustainable cooling – an emerging cross-sectoral development challenge and opportunity
 - This forms the groundwork to tackle ambitious cutting-edge work beyond the power sector that pushes the boundaries of the WBG Climate Change Action Plan
 - ESMAP, through the GGDP, has established a unique position to work with existing and new clients to further geothermal power generation and develop geothermal direct use.
-

Lessons learnt to date:

- From external evaluation: consider ESMAP's strategic positioning and potential opportunities to drive the agenda internally and possibly externally, and develop a more coherent strategy
- Upstream support for policy development and strengthening enabling environments, as well as for establishing financing and operational models, is key
- Decarbonization interventions require a cross-cutting approach across sectors, technologies and priorities and fostering of technological innovation
- One-size-fits-all does not work. However, there are similarities between countries (especially within a same region) and knowledge sharing among practitioners, combined with cutting-edge expertise, has proven to be very effective and useful to deal with practical on-the-ground implementation issues, challenges and approaches
- Efforts to understand the political economy are important to deliver relevant outputs and outcomes that can be sustained; strategic partnerships can be very valuable for maintaining momentum

ESMAP WILL FOCUS ON 5 AREAS TO ACCELERATE DECARBONIZATION



1 Zero Carbon Public Sector

PUBLIC SECTOR LEADERSHIP TOWARDS A ZERO-CARBON FUTURE

WHY:

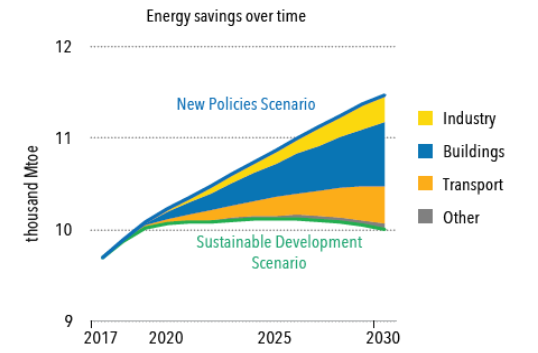
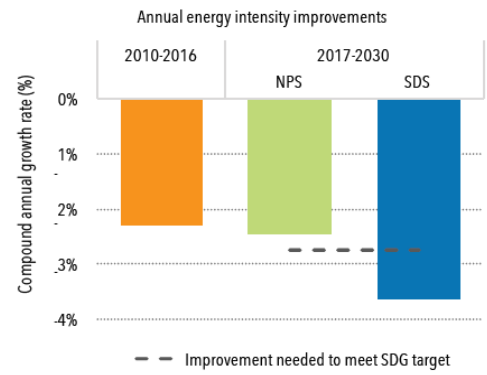
- Governments have an **important role as legislator and regulator** but also through **procurement and investment in the public sector**, e.g., public building stock, transport fleets, street lighting, water supply, district energy supply
- Public sector is a **large energy consumer** in most developing countries. For example, street lighting alone accounts for ~5% of total electricity consumption in Ghana. However, **data on energy consumption of public services is hard to obtain**
- Energy savings potential is **30-50% for public buildings**, >30% in public lighting and >20%, for public transport
- Capital investment from public sector creates **positive returns** (e.g. budget savings, jobs, industries, competitiveness)
- Public sector can also be an effective **early adopter of innovative approaches** and contribute significantly to innovation and market creation through planning, policy, and procurement

WHAT:

- Support governments in formulating actions, starting with **analysis of near-term and long-term opportunities and target setting**
- Seek national, regional, and city **policy commitments towards zero carbon public services across sectors**
- Develop a **pipeline of capital investment projects across sectors**;
 - Public buildings and facilities
 - Public transport services and fleets including e-mobility
 - Public utilities within district energy, water supply, waste-water and waste
 - Types of Interventions: energy efficiency in new and existing public facilities, renewable energy integration in public facilities, efficient street lighting, electric mobility in public transport

HOW:

- Generate **global knowledge** on effective programs, solutions and technologies
- Build awareness and gather **political commitments** at different levels (bottom-up and top-down)
- Technical assistance to develop **roadmaps, design policy and investment actions**, and develop **public procurement and urban planning approaches** working closely with World Bank Transport, Urban, and Water teams
- Build **public sector capacities**, e.g., policy capacity, implementation authority, and operational efficiency
- Support targeted work on **women's employment and leadership** within public sector institutions (e.g. mentorship programs, learning exchanges, HR reform)
- Mobilize **financing for investments**, incl. World Bank lending solutions and Climate Investment Funds



Source: IEA, IRENA UNSD, WB, WHO (2019), Tracking SDG 7: The Energy Progress Report 2019

2 Industrial Decarbonization

TACKLING HARD-TO-ABATE SECTORS THROUGH TARGETED INNOVATION

WHY:

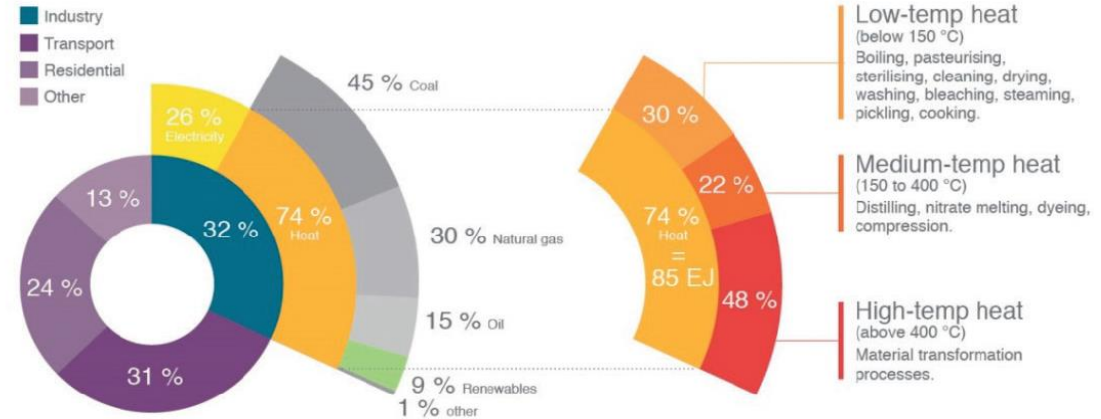
- Industry will become the **primary source of GHG emissions over time** as transport and buildings electrify more and more using renewable power
- 74% of the **energy consumed in industry is for heat production**, which is **hard to decarbonize**, especially for high-temperature heat in the production of cement, steel, and petrochemicals
- Scope for **electrification is lower** in the industrial sector than for other sectors meaning alternative non-emitting fuels are necessary for decarbonization
- Technological solutions for decarbonization of certain industrial processes are not commercialized yet, **fostering technological innovation is crucial for achievement of long-term goals**

WHAT:

- Reduce the demand for carbon-intensive products - **circular economy**
- **Significantly improve energy efficiency** in all industrial sub-sectors
- Deploy **decarbonization technologies** - electrify processes with renewable electricity; use of heatpumps; use renewable solar, geothermal or bioenergy-based heat; deploy green hydrogen and carbon capture use and storage (CCUS)
- Take **holistic approach**, not just deploy standard industrial energy efficiency, but also start to decarbonize sources of energy and other inputs to industrial processes, **to achieve impactful solutions**

HOW:

- Generate comprehensive **global knowledge** on innovative technologies and their applicability to industrial sectors of developing countries and means of scaling up. Identify innovations with highest abatement and replicability potential and provide in-depth knowledge on these options for developing countries
- Pay special **attention to new industrial projects** and not only retrofits due to high relevance in those developing countries that are undergoing industrialization or rapid development (e.g. very relevant for steel and cement demand)
- Organize **knowledge events and study tours** to inspire World Bank teams and clients about opportunities in their local contexts
- Support **piloting of innovative solutions** through TechEmerge approach (with IFC) and recipient-executed grants to World Bank clients.
- Mobilize **financing**, including World Bank and IFC lending and concessional climate finance where appropriate



Source: Solar Payback (2017), based on IEA statistics and calculations by IRENA.

3 Efficient and Clean Cooling

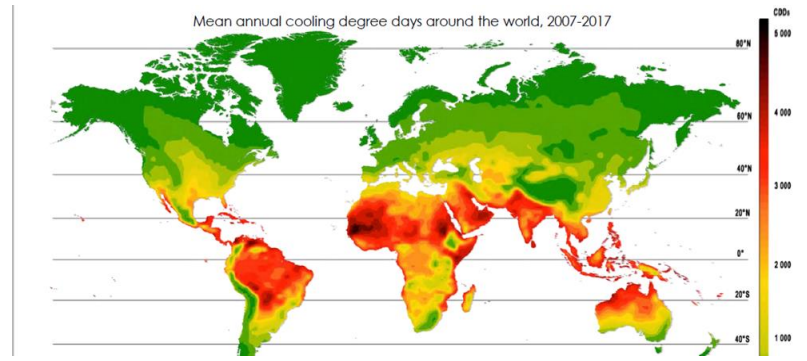
IMPROVING ACCESS WHILST LIMITING CLIMATE IMPACTS

WHY:

- The cooling challenge is large and complex; but the reward of getting on a different, sustainable pathway is huge
- Heatwaves are one of the deadliest natural hazards, affecting disproportionately the poor and vulnerable
- 1.1 billion people are at risk from lack of access to cooling
- 1/3 of food produced annually and 1/4 of vaccines lost due to inadequate cooling
- Urban spaces heating up at twice the global rate
- 19 pieces of cooling equipment (incl. 10 new air conditioning units) added every second to 2030
- Global energy demand for cooling in tropics and sub-tropics projected to grow five-fold by 2050; pressure on expensive peak demand and hamper efforts to curb climate change
- Contribute to multiple SDGs: poverty, hunger, health and well-being, energy, and sustainable cities; as well as both climate mitigation and resilience efforts
- Combining strategies to improve EE and phase-down high GWP refrigerants for cooling has potential to avoid up to 1°C by 2100

WHAT:

- **Support governments** in assessing cooling needs, formulating actions and building enabling frameworks across sectors i) space cooling (buildings and appliances); (ii) cold chains; (iii) urban heat mitigation; (iv) district cooling; and (v) mobile cooling.
- **Mobilize financing**, including climate finance, **catalyze private sector investments** for access to efficient, clean cooling.
- **Develop new World Bank business line to scale-up access** to sustainable cooling, inform client country NDCs, and National Cooling Action Plans (NCPs)
- **Strategic approach** promoting solutions that (i) **reduce or avoid** cooling loads (e.g., passive building design); (ii) **shift** to lower GHG cooling solutions (e.g., solar cooling); (iii) **improve** efficiency (e.g., efficient appliances); (iv) **optimize** cooling loads (e.g., behavior change); and (v) **protect** the most vulnerable populations without access to sustainable cooling



HOW:

- Technical assistance to develop **policy/regulatory foundation and capacity building**, including National/City Cooling Action Plans; support safe recycling and disposal of e-waste
- Establish **Cooling Facility in collaboration with GCF** to co-finance IBRD/IDA investments.
- Develop pipeline of **"cooling-informed" investments**
- **Cross-sectoral approach:** Advancing cooling in operations in Energy, Urban, Agriculture, Health, Fisheries, Transport, IFC; forming **WBG Cooling Community of Practice**
- Advance cooling agenda with **strategic partnerships, collaborations**, eg: KCEP, Cool Coalition
- Generate **knowledge** and facilitate **exchanges**
- Specifically study and address **gender gaps** related to cooling needs for **female business owners and farmers** etc.

4 Geothermal Direct Use

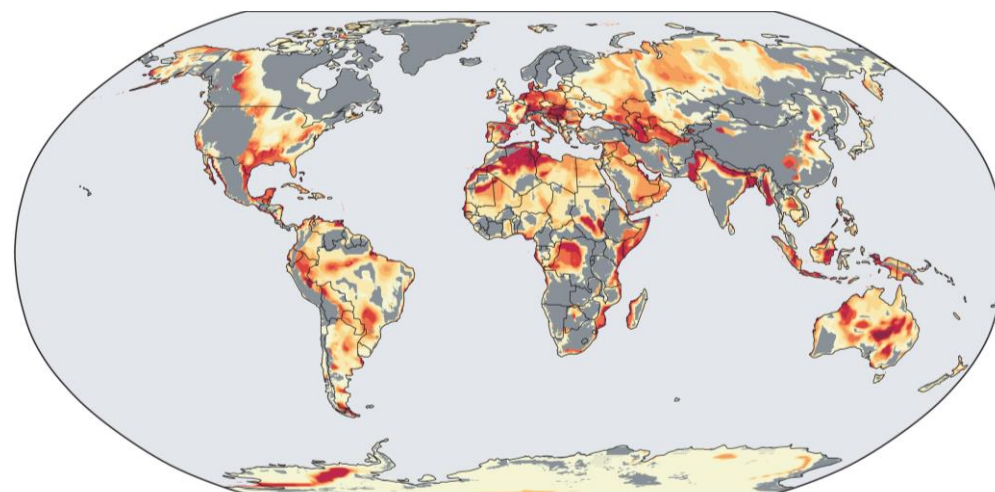
HARNESSING A WIDESPREAD RENEWABLE ENERGY

WHY:

- Geothermal aquifers are widespread (see figure) and suitable for a range of direct use applications
- Direct use can **increase efficiency and commercial viability** of existing geothermal operations
- Direct use has applications in **agriculture** (e.g. food drying), **commerce** (e.g. cement drying) and **industry** (e.g. space heating)
- Opportunities for direct and cascaded use of geothermal energy can contribute to **communities' employment and empowerment**. They can reduce **gender gaps** by enabling women to benefit from direct use
- Building on the Global Geothermal Development Plan, the **World Bank/ESMAP** are in a unique position to engage client countries to explore geothermal direct use opportunities

WHAT:

- Promoting direct use of geothermal resources
- Utilize **wasted resources** (e.g. heat) from existing geothermal power plants
- Identify **geothermal resources** and **match them to markets** to promote sustainable local development.
- **Promote, educate, and encourage women** to establish businesses with direct use geothermal energy



Aquifer temp. in sedimentary basins at 3 km depth

HOW:

- **Global knowledge generation**
 - Technology assessment reports
 - Global knowledge exchange events
 - Country workshops and awareness raising
- **Support clients** with technical assistance
- **Direct use pilots**
- **Mobilize finance** for investments, including concessional climate finance
- Continue support for **women's education in the geothermal sector** by e.g. establishing scholarships for the UNU geothermal training program
- Identify opportunities linked to direct use of geothermal resources to **create jobs for women entrepreneurs**, increase women's productivity, and improve women's overall working conditions

5 Green Hydrogen

A FLEXIBLE CLEAN ENERGY CARRIER TO DECARBONIZE ECONOMIC ACTIVITIES

WHY:

- **Electrolyzers and fuel cell solutions are cheaper today**—with costs halved in the last ten years—, and are more efficient and have longer commercial lifetimes
- The **rapid decline in renewable costs** increases the potential for green hydrogen to be cost competitive with fossil sources in certain geographies and applications
- Domestic hydrogen production from renewables could contribute to:
 - **Decarbonizing** industry, transport and buildings
 - **Reducing reliance** on imported fuels
 - **Producing “future fuels”** (e.g., ammonia, methanol) and enhancing synthetic biofuels
 - **Mitigating the seasonal variability** of renewables
 - **Offering long-term energy storage** for mini grids, and island locations
 - **Providing reliable power** for critical infrastructures

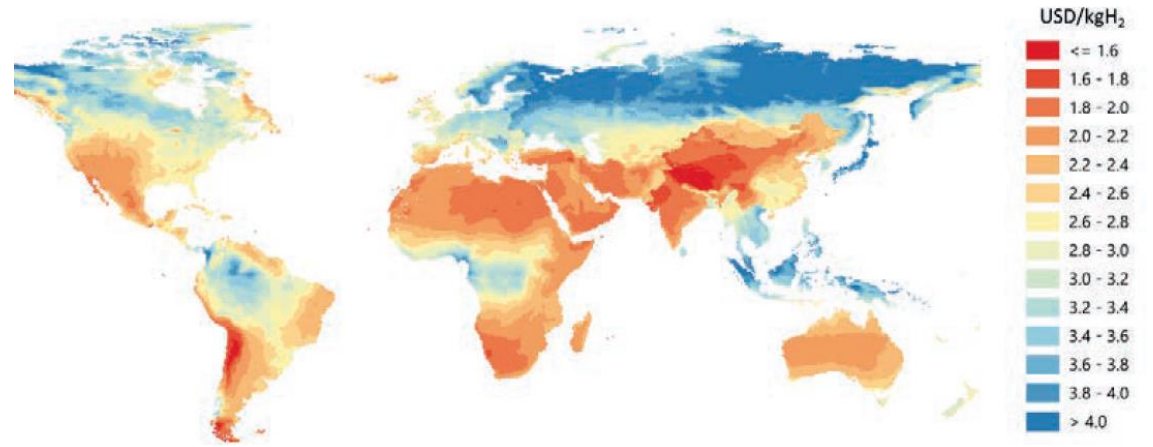
HOW:

- **Increasing awareness** among World Bank client countries through country engagements, technology-focused workshops, and regional exchange events
- **Supporting clients** with technical studies
- **Generating global knowledge** by developing:
 - Technology assessment report
 - Technical guides on safety and project design
 - Economic valuation and social development frameworks
- **Building capacity** for design and operation
- **Raising financing** for grants, as work from WBG-executed country grants will likely generate demand for Recipient-executed grants and lending
- **Identifying opportunities** to enhance the livelihood of local communities and addressing existing gender gaps

WHAT:

- **Address technology risks and implementation challenges** to make green hydrogen and fuel cell technologies bankable
- **Develop a pipeline** of investable projects
- **Focus on countries producing and consuming hydrogen** and its derived products (e.g., ammonia, methanol), using emission-intensive processes
- **Focus on diesel-based power systems, island locations, and critical infrastructures**
- **Explore sector coupling opportunities** via green hydrogen

Hydrogen costs from hybrid solar PV and onshore wind systems in the long term (IEA, 2019)



RESULTS FRAMEWORK: OUTCOMES

Program Development Objective: Accelerated decarbonization of demand-side or end-use energy sectors in WBG client countries

Target (by end of FY24)

OUTCOME 1: Governments have adopted policies and plans to accelerate decarbonization

Outcome indicator 1.1	Estimated GHG emissions reduced or avoided under government policies and plans up to 2030 (lifetime MtCO ₂ e)	1,100
-----------------------	--	-------

OUTCOME 2: Public and private investment to accelerate decarbonization stimulated

Outcome indicator 2.1	Expected GHG emissions reductions under WBG financed projects (lifetime MtCO ₂ e)	360
-----------------------	--	-----

Outcome indicator 2.2	Number of WBG financed projects that reduce or avoid GHG emissions	59
-----------------------	--	----

Of which:	Number of projects financed that target decarbonization in the public sector	22
-----------	--	----

Of which:	Number of projects financed that include use of innovative technologies in industry	10
-----------	---	----

Of which:	Number of projects financed that are “cooling informed”	20
-----------	---	----

Of which:	Number of projects financed that include green hydrogen	4
-----------	---	---

Of which:	Number of projects financed that include geothermal direct use	3
-----------	--	---

Outcome indicator 2.3	Volume of financing leveraged for projects that support accelerated decarbonization	\$3.6 billion
-----------------------	---	---------------

Of which:	2.3.1: WBG financing leveraged	\$2.5 billion
-----------	--------------------------------	---------------

Of which:	2.3.2: Climate finance leveraged	\$300 million
-----------	----------------------------------	---------------

Of which:	2.3.3: Private financing leveraged	\$800 million
-----------	------------------------------------	---------------

INTERMEDIATE OUTCOME 1: World Bank Group has expanded its support to a wide range of client countries to achieve Zero Carbon Public Sector

Intermediate outcome indicator 1.1	Number of countries with WBG engagement on decarbonizing the public sector	20
------------------------------------	--	----

INTERMEDIATE OUTCOME 2: World Bank Group has expanded its support to a wide range of client countries on access and scale up efficient, clean cooling

Intermediate outcome indicator 2.1	Number of countries with WBG engagement on sustainable cooling	18
------------------------------------	--	----

INTERMEDIATE OUTCOME 3: World Bank Group has expanded its support on technological innovation in industrial decarbonization

Intermediate outcome indicator 3.1	Number of innovative technologies that are part of WBG engagements on industrial decarbonization	5
------------------------------------	--	---

INTERMEDIATE OUTCOME 4: World Bank Group has expanded its support on Green Hydrogen and/or fuel cell technologies

Intermediate outcome indicator 4.1	Number of countries including green hydrogen and/or fuel cell technologies in their decarbonization strategies	8
------------------------------------	--	---

INTERMEDIATE OUTCOME 5: World Bank Group has expanded its support to develop Geothermal Direct Use

Intermediate outcome indicator 5.1	Number of countries with WBG engagement for direct use of geothermal energy	6
------------------------------------	---	---

INTERMEDIATE OUTCOME 6: Countries have supported women’s entrepreneurship in the energy sector and productive uses of energy

Intermediate outcome indicator 6.1	ESMAP-funded decarbonization projects that include a significant women’s leadership/employment component/pilot	8
------------------------------------	--	---

Intermediate outcome indicator 6.2	Number of projects with enhanced focus on productivity gaps and livelihoods for women	8
------------------------------------	---	---

RESULTS FRAMEWORK: OUTPUTS

Zero Carbon Public Sector	
Output 1	Flagship report: Opportunities for achieving decarbonization in the public sector
Output 2	Flagship report: The economics of electric mobility
Industrial Decarbonization	
Output 3	Flagship report: Technology innovations for industrial decarbonization in developing countries
Output 4	Events: Two dissemination workshops on results of global studies
Efficient and Clean Cooling	
Output 5	Flagship report: Access to energy and cooling (sustainable cold chains)
Output 6	Report: Brief(s) on innovative sustainable cooling technologies and systems
Output 7	Events: Workshops/exchanges on efficient, clean cooling in developing countries
Geothermal Direct Use	
Output 8	Flagship report: Global market analysis for direct use
Output 9	Development plans: Two regional plans
Output 10	Events: Two regional workshops
Green Hydrogen	
Output 11	Flagship Report: Green hydrogen for multi-sectoral deep decarbonization of developing countries (co-led between industrial decarbonization and green hydrogen programs)
Output 12	Report: Technical safety and project design framework
Output 13	Events: Technology-focused workshops and regional exchange events
ALL	
Output 14	Workshop on women's leadership and employment in decarbonization of public sector and end uses in developing countries.

Note: Outputs listed are for global work programs only

PROPOSED BUDGET

Business Line	Component	SUB-TOTAL	TOTAL
Zero Carbon Public Sector	Global: knowledge generation, exchange and program management	4.00	\$26m
	WBG-executed country grants: Upstream technical assistance (workshops, roadmaps and other upstream studies)	22.00	
Industrial Decarbonization	Global: knowledge generation, exchange and program management	3.00	\$25m
	WBG-executed country grants: Upstream technical assistance, innovation studies	15.00	
	Recipient-executed country grants: pilot projects for innovative technologies	7.00	
Efficient and Clean Cooling	Global: knowledge generation, exchanges, TA program management, and cooling facility development & support	4.80	\$25m
	WBG-executed country grants: technical assistance (cooling action plans and policy; design of cooling elements in WBG operations)	20.20	
Geothermal Direct Use	Global: knowledge generation, exchange and program management:	1.00	\$6m
	WBG-executed country grants: Upstream technical assistance and pilot projects	2.00	
	Recipient-executed country grants: Downstream technical assistance and pilot projects	3.00	
Green Hydrogen	Global: knowledge generation, knowledge exchange, decision-support tools	1.60	\$11.6m
	WBG-executed country grants: upstream technical studies and knowledge dissemination	10.0	

Global own-managed:	\$14.4 million
Country grants WBG-executed:	\$69.2 million
Country grants recipient-executed:	\$10.0 million
TOTAL:	\$93.6 million

INDICATIVE RETF GRANT PIPELINE

Country	Description of activities	Estimated RETF grant	Estimated WB financing	Estimated Delivery
Morocco	Industrial Decarbonization: Replacing Fuel Use in Moroccan Bitumen Industry with Concentrating Solar Heat <ul style="list-style-type: none"> • Matching grants to accompany commercial financing and plant own investment in new concentrating solar heat systems in bitumen plants 	\$ 1 million	\$0	FY21/22
El Salvador	Geothermal Direct Use <ul style="list-style-type: none"> • Resource assessment and market identification; Feasibility study; ESIA; Procurement strategy and transaction advisory; Training and skills development to enhance gender equality 	\$1.0 million	\$20m	FY22/23

Note: Table gives an example of what RETF grants may look like based on the more advanced countries in the existing pipeline

PARTNERSHIPS & INITIATIVES

Partner	Organization/Initiative Description	Role/Purpose	Relationship
IFC	IFC EDGE Green Buildings Program has developed a green building certification has been developed targeting specifically emerging markets; IFC TechEmerge program supports innovation grants in different sectors	EDGE offers a faster and more affordable approach to certification than was previously available. EDGE consists of free design software, streamlined online certification system and the world's largest network of certifiers. TechEmerge is a matchmaking process between innovators and companies seeking innovations to improve their performance.	ESMAP has seed funded the EDGE tool and facilitated linkage with World Bank operations targeting green buildings. ESMAP will continue to collaborate with EDGE in this business plan in the context of buildings work under the Public Sector and Cooling windows. TechEmerge will be used in industrial decarbonization program.
Clean Energy Ministerial (CEM)	The Electric Vehicles Initiative (EVI) is a multi-government policy forum dedicated to accelerating the introduction and adoption of electric vehicles worldwide.	EVI is strengthening the understanding of the opportunities offered by electric mobility to meet multiple policy goals (knowledge) and developing networking to facilitate exchanges and networking between relevant stakeholders also at the level of local administrations.	ESMAP has recently joined the EVI's advisory board. The objective is for ESMAP to access and share knowledge generated, and support the program where it matches with the new business plan.
Mission Innovation (MI)	Mission Innovation (MI) is a global initiative of 23 countries and the European Commission on behalf of the European Union.	MI aims to reinvigorate and accelerate global clean energy innovation with the objective to make clean energy widely affordable.	ESMAP and MI aim to strengthen collaboration on innovation on smart grids, energy storage, sustainable cooling, access, electric mobility and industrial decarbonization.
Action towards Climate-friendly Transport (ACT)	Launched at the UNSG Climate Action Summit 2019, ACT is a coalition that brings together diverse governments at all levels, private sector organizations, civil society, UN entities and other stakeholders and platforms to pursue a bold commitment to decarbonize transport.	The coalition delivers on its goals by connecting innovative approaches with integrated long-term planning, accelerating the deployment of electric vehicles, creating a mass market for zero-emission freight vehicles and fostering global dialogue arenas with the private sector.	ESMAP is one of ACT's founding members and aims to leverage knowledge and synergies with other stakeholders for the decarbonization of public transport systems.
Mobility and Logistics (MOLO)	MOLO is a Multi Donor Trust Fund of the World Bank's Transport Global Practice. It houses global initiatives in different parts of the transport sector.	MOLO / The World Bank's Transport Global Practice works with clients to facilitate the movement of people and goods, enabling access to jobs, markets, and essential services such as healthcare and education to stimulate economic and social development.	ESMAP and MOLO work in close collaboration to cover all aspects of transport electrification. Through this partnership, the objective is for ESMAP to provide full support (including transport) in the design and implementation of e-mobility interventions that are effective across climate, economic, fiscal, technical, institutional, and policy dimensions.
3% Club	The 3% Club is a collaboration of governments and supporting organizations that commit to working together to put the world on a path to <i>three percent annual efficiency improvement</i> .	The coalition leverages the combined global resources of the IEA, the SEforAll Energy Efficiency Accelerators and Hub, Global Environment Facility, UN Environment, the European Bank for Reconstruction and Development, and the EEGA. Key industry partners commit via the Energy Efficiency Global Alliance to provide technical, financial, and project support to the participating countries.	As a member of the 3% Club since 2019, ESMAP's work is in line with the goals of the coalition and ESMAP will actively support collaborations with other members, namely the IEA.
Green Climate Fund (GCF)	The Green Climate Fund (GCF) is a global fund created to support the efforts of developing countries to respond to the challenge of climate change.	GCF uses public investment to stimulate private finance, unlocking the power of climate-friendly investment for low emission, climate resilient development. To achieve maximum impact, GCF seeks to catalyse funds, multiplying the effect of its initial financing by opening markets to new investments.	ESMAP is developing a cooling financing facility with the GCF that will mobilize climate finance for sustainable cooling components in WBG projects. The facility is in line with the goals of the GCF to establish a program dedicated to sustainable cooling.
Kigali Cooling Efficiency Program (KCEP)	KCEP is a philanthropic partnership dedicated to accelerating the implementation of the Kigali Amendment to the Montreal Protocol.	KCEP works with its network of grant recipients to help developing countries transition to energy-efficient, climate-friendly, and affordable cooling solutions. Special focus is on the energy efficiency of cooling in order to double the climate benefits and significantly increase the development benefits of the Kigali Amendment to phase down global warming from cooling.	Funding from KCEP enabled ESMAP to establish the Efficient Clean Cooling Program (ECCP) in 2018. ESMAP's partnership with philanthropy through KCEP helps strengthen capabilities, inform our activities, and broaden reach of efforts to advance access to efficient clean cooling.
Cooling as a Service (CaaS) Initiative	The CaaS Initiative is a global effort launched in early 2019 by BASE and K-CEP to scale up investments in clean and efficient cooling by mainstreaming the CaaS business model.	The initiative is supported by a dedicated group of private sector, MDB and civil society partners to spread the word about the model, build capacity, and implement the model globally.	ESMAP joined the CaaS Alliance in 2019 and is exploring with the lead organization, the Basel Energy for Sustainable Energy (BASE), potential opportunities to develop and support the CaaS model in investment projects in WBG client countries.
Global Alliance for Building and Construction (GlobalABC)	The GlobalABC was launched at COP21 by UNEP and is a partnership of national and local governments, inter-governmental organizations, businesses, and associations. The vision is a zero-emission, efficient and resilient buildings and construction sector.	Mobilizing all actors along the value chain to meet the Paris climate goals by raising the level of ambitions in retrofitting existing buildings and future proofing the investments in new buildings. The aim is to encourage policy frameworks to promote solutions and innovation and to use public procurement as a lever to create markets and investor security.	ESMAP is member of the GlobalABC. Collaboration areas include the development of roadmaps and knowledge products that can support the implementation of policies that leads towards zero-carbon emissions for the building and construction sector.

RISKS

Risk description	Proposed Mitigation
<p>COVID-related risks: Governments' attention and priorities may shift from GHG emission reduction to mitigating COVID-19 consequences and some infrastructure investments may be deprioritized and delayed.</p>	<p>ESMAP will seek to support investment efforts in government priority areas (e.g., construction of new and upgrade of existing health facilities, which would include energy efficiency and cooling measures; investments in cold chain for food and medicine) and investments that provide economic stimulus to kick-start the economy post-COVID-19 (e.g., labor intensive energy efficiency retrofits that support the local economy and SMEs). In terms of policy and regulatory support, ESMAP will support governments setting up enabling frameworks that will stimulate decarbonization investments and – at the same time – contribute to resilience, economic growth, and enhanced welfare (e.g., establishing building codes).</p>
<p>Insufficient funding for proposed interventions, meaning that the outcome indicators would be impacted accordingly. There is a risk that if work is started on all the proposed components then a larger percentage of funding would be required for the global/own-managed work due to a shortage of funding for country grants.</p>	<p>ESMAP would seek to scale back ambition according to the resources already committed, most likely by delaying implementation of one or more components.</p>
<p>Lack of donor appetite for proposed Recipient-executed work or a desire for ESMAP to utilize funding provided through other mechanisms.</p>	<p>ESMAP can support clients and WBG teams to apply for climate finance for some of the recipient-executed activities proposed. However, additional global resources are likely to be required to cover the higher transaction costs of such a strategy, and this is also likely to delay implementation of certain activities.</p>
<p>FCV operating risks, including risk of delayed/canceled implementation, lack of data, sudden change of direction. This could lead to activities being delayed and/or dropped, non-performing activities or an absence of expected results, and/or additional ESMAP resources required to mitigate potential negative impacts.</p>	<p>Specific approaches suitable to different FCV contexts will be adopted, including collaboration with local private sector, non-profit partners and appropriate UN agencies.</p>
<p>Lack of government capacity to overcome the policy/institutional roadblocks preventing the achievement of results. This could require WBG teams to divert additional ESMAP resources towards capacity building rather than implementation; activities could also be delayed.</p>	<p>ESMAP will ensure activities and interventions are planned to an appropriate level according to government capacity. ESMAP knowledge products provide an appropriate baseline analysis to evaluate government capacity for proposed activities.</p>
<p>Lack of client or WBG team interest in new/frontier areas, creating a risk of not meeting the outcome targets, or of doing so outside of the Business Plan period.</p>	<p>Global resources will be dedicated to raising awareness and interest and ensuring that there is a menu of options applicable to multiple clients/teams.</p>

Energy Sector Management Assistance Program
The World Bank
1818 H Street, NW || Washington DC || USA
www.esmap.org || esmap@worldbank.org

