



IFC Infra Climate

Finance for Climate Smart Infrastructure

*There is an opportunity for all in financing climate smart infrastructure
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Definition: Climate smart projects are projects that support development while enabling people anticipate, mitigate, absorb and adapt to climate shocks.



Examples of Climate Smart (Mitigation) Projects



Energy: renewable energy, low carbon hydrogen, waste gas to energy, co-/tri-generation, carbon capture, storage, transmission



Water Supply and Wastewater: energy & resource efficiency, demand management, low-carbon water supply, methane reduction in wastewater management



ICT and Digital Technologies: energy efficiency and renewable energy in data centers and telecom networks



Mining: minerals, ores, metals and alloys prevalently used in or critical for R Energy, Energy Efficiency, and low carbon technologies and materials



Solid Waste Management: waste collection and transport, product reuse, material recovery, anaerobic digestion, composting, waste incineration with energy recovery, landfill gas capture & utilization



Research, Development and Innovation: R&D of renewable energy, energy efficiency improvement, low-carbon technologies, or other technologies instrumental to achieving full decarbonization



Manufacturing: energy efficiency, resource efficiency, electrification, carbon capture, reduction of GHG industrial gases, resource demand management, energy storage



Transport: modal shift, non-motorized transport, inter-urban railway, mass transit, water transport, low-carbon vehicles & infrastructure, transport demand management



Cross-Sectoral Activities: Energy and resource-use efficiency across a supply chain, demand reduction, electronic service delivery, CCS



Agriculture, Forestry Land Use and Fisheries: avoided food losses, energy efficiency, carbon sequestration, more efficient nitrogen fertilizer use, manure management



Buildings and Public Installations: certified green buildings, energy efficiency, on-site renewable energy, energy management systems

Climate Smart Adaptation projects

Climate change adaptation means altering our behavior, systems, ways of life to protect us and the environment in which we live from the impacts of climate change.



Increasing water supply in areas affected by climate-induced drought



producing climate resilient seeds



Upgrade of transport infrastructure to climate-resilient standards



Climate-resilient energy generation in areas affected by climate-related disruptions



Development / commercialization of efficient irrigation systems



Desalination plants in areas affected by climate-related droughts

IFC types of climate specific financing

- **“Target driven”** Sustainability-linked financing
 - Pricing linked to achievement of ambitious (compared to “business as usual” and peers) sustainability targets aligned with the firm’s corporate sustainability strategy
 - Incentives can include an increase (step-up) in the interest rates if target is missed, a decrease (step-down) if it is met, or both
 - Underlying instrument can be any financial product, including bonds, corporate loans, project finance loans, derivatives, and others
 - Targets are typically related to SDGs or corporate ESG metrics and are verified at any agreed point in time.
- **“Use of proceeds”** Green/Social/Blue Financing
 - Standard loans/bonds with dedicated use of proceeds—(i) climate adaption; (ii) climate mitigation; (iii) social; (iv) ocean conservation;
 - Instruments normally priced in the same way as conventional instruments although market demand is leading to a “greenium” for borrowers/issuers.
 - Implementation and validation methodology laid out in a Sustainable Financing Framework. Second Party Opinion usually required.

Examples



Green Transport



Modal shift from a higher carbon mode (or prevention of future shifts to higher carbon modes)

- ✓ Buses, bus rapid transit, tram, cable car, monorail, rail transit, and ferry used in public transport.
- ✓ Non-motorized transport (e.g. bicycles and pedestrian mobility.) or schemes for sharing bicycles
- ✓ Inter-urban railway projects for freight or passengers,
- ✓ Low-carbon inter-urban transport, e.g. bus or coach public passenger transport
- ✓ Transport demand management policy and systems, e.g., transit oriented development (TOD), low- or zero-emission zone, mobile sharing application providing access to alternative modes such as bicycles and scooters, and investments in ICT to increase traffic operational efficiency or enable shared mobility.



Low-carbon vehicles and associated infrastructure; Low-carbon fuels for transport

- ✓ Electric, hydrogen, hybrid, and plug-in hybrid vehicles and associated infrastructure
- ✓ Biofuel blends with significant shares of biofuels or synthetic fuels with low lifecycle GHG emissions
- ✓ Use of waste gas as a transportation fuel



Water transport projects for freight or passengers, or efficiency improvement

- ✓ Inland waterway, short-sea-and deep sea shipping infrastructure and fleets.
- ✓ Potentially eligible efficiency improvements include technical efficiency measures (such as improvements in design, propulsion, machinery and operation), route optimization services, ship-to-ship route exchanges, enhanced monitoring systems, introduction of digitization, and port-call synchronization.



Efficient air traffic management; renewable energy

- ✓ Efficient air traffic management
- ✓ higher operational efficiency of aircraft movements in the airfield and in the landing and take-off cycle
- ✓ energy efficiency improvements in equipment.
- ✓ on-site renewable energy generation
- ✓ ground transport activities (such as bus fleets, car fleets and people-movers) – see category 2 above
- ✓ airport buildings – see eligible activities for energy efficiency, renewable energy, CO2e emission reduction, and carbon sinks in [green] buildings

ADAPTATION: roads (Cordoba infra ii)

Climate risks: Argentina is experiencing increase in frequency and intensity of precipitation extremes in large parts of its territory, resulting in increasing flooding. Future projections show further increases in intense precipitation days.

IFC's Climate Risk Management tools' projection for precipitation for the quadrant of Cordoba confirms that there is likelihood of an increase in the amount of rainfall in 1:25 return periods of 1-day precipitation, more significant for 30 years out, as well as in the number of days with heavy precipitation and changes in the return periods of max. 5 day precipitation.



Adaptation solution (investment): The design of the works has been modified (e.g. increased drainage capacity) taking into account the change in return periods and better manage flooding, increasing its own and urban resilience. E.g., previously a 100 year return period was considered but Caminos de las Sierras, taking into account that there is a tunnel in this segment that could be flooded and the climate change effect, asked to adapt the drainage criteria to the concept of maximum percentile precipitation, which requires around 30% additional section and changing all the drainage element design and relocation of the main drainage pipe due to a lack of space in the originally designed location.

Total IFC investment: USD 300M, (two tranches of USD 150M; second tranche FY18)

Adaptation finance: USD 20.37M (ARS 400 M; 13.6% of the second tranche), for the costs of drainage, earthworks, and other associated works and construction

Mitigation: ports (Mersin International Port)

Mersin International Port is Turkey's largest container port with its transit and hinterland connections with the Middle East and the Black Sea. MIP plans to expand their yard and berth capacities to provide better services with less restrictions to its customers and in a sustainable manner. The project is to be financed by IFC, EBRD and one commercial bank, with a tranche labeled as a green loan.



The expansion projects will lead to several climate mitigation benefits:

- Increasing the overall terminal capacity (yard and berth) will allow future import and export demand increase of the Mersin hinterland to be processed at Mersin instead of Iskenderun (the closest port, approximately 200km away and operating at 50% capacity) and reduce the land transport of 1.1 m TEU by 80km on average, either via rail or via truck.
- Berth extension, dredging and breakwater reduction will lead to increased vessel size and higher marine transport efficiency.
- Increasing average ship to shore crane performance and twin lift capability will reduce vessel loading/ unloading time and vessel turnaround time at the port.
- Increasing stack capacity directly behind the quay, will reduce cycle time for prime moving when loading export containers
- Reducing energy consumption per TEU through upgrade and electrification of equipment
- Providing future provision for shore power (cold ironing) to container vessels while at berth

Other climate components include green buildings, captive solar power, enhancement of drainage system and barrier levels to adapt to rising sea level.