

GEF Innovative Approaches to Financing Energy Efficiency in Industry and GEF-7 Programming Directions

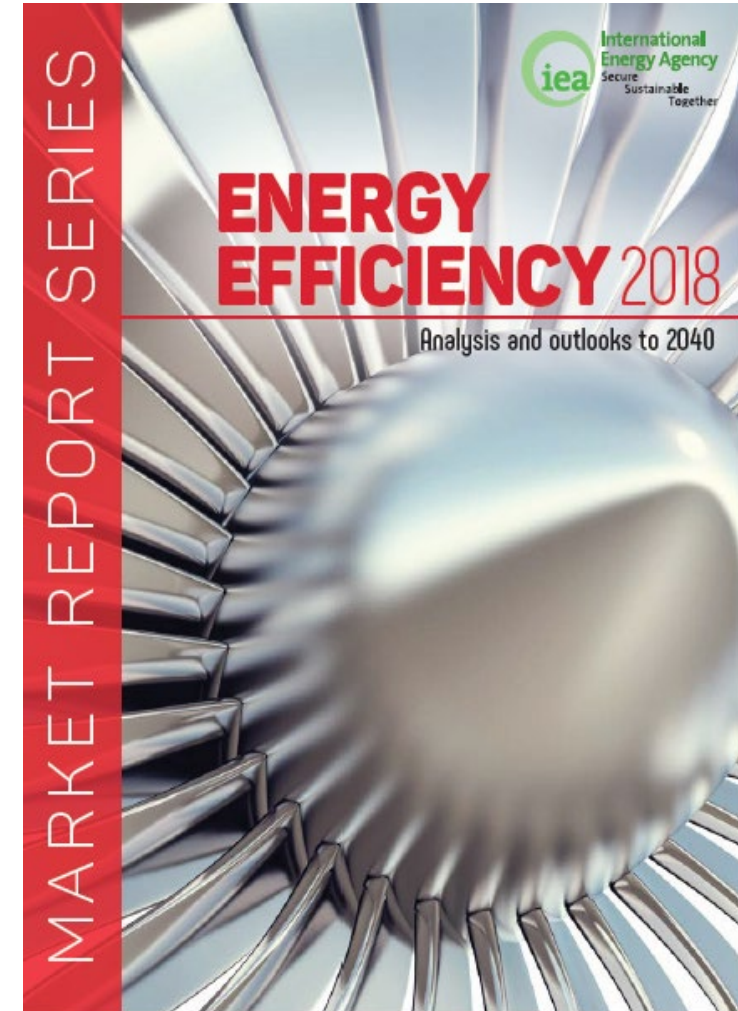
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Challenges and Opportunities in Global Industrial Energy Efficiency

- 65% of industrial energy use was NOT covered by mandatory energy efficiency standards
- Industrial energy intensity can be reduced by 50% in 2040
- Strengthened standards for industrial equipment (heat pumps and electric motors) are necessary
- Recycling of scrap metals presents a very important opportunity to raise efficiency in metal manufacturing
- Increased private financing is essential



GEF's Portfolio of Industrial Energy Finance

	Number of Projects	GEF CCM investment (\$ million)	Co-finance (\$ million)	CO2 Reduction (million tonnes)
Pilot Phase (1991-1994)	1	1.70	-	1
GEF - 1 (1994-1998)	3	14.10	32.59	81
GEF - 2 (1998-2002)	2	9.09	12.32	35
GEF - 3 (2002-2006)	4	18.57	61.39	43
GEF - 4 (2006-2010)	19	79.20	616.40	123
GEF - 5 (2010-2014)	3	35.86	1,307.80	179
GEF - 6 (2014-2018)	1	4.40	22.00	3
Grand Total	33	162.92	2,052.49	465

Total in Clean Energy Financing

1,362

4,776

49,853

15,491



GEF/World Bank Energy Efficient Industrial Boilers Project in China (1995-2004)

- 1) GEF financing: US\$ 31.9 million
- 2) Co-financing: US\$ 212.1 million
- 3) GHG emission mitigation: 160 million tCO₂e
- 4) Technology transfer: 9 patents
- 5) Sales of GEF-supported boilers: 9,230 tons/hr



China Utility-Based Energy Efficiency Finance Program (CHUEE)

- 2006, \$16.9 million GEF grant, \$200 million IFC loan for EE marketing, development and financing services
- 2012, leveraged \$800 million local bank loans for 170 plus EE/RE projects
- Mitigates over 19 million tCO₂/Yr, = total annual emissions of Mongolia



GEF7 Programming Framework

	Biodiversity Focal Area	Climate Change Focal Area	Land Degradation Focal Area	International Waters Focal Area	Chemicals and Waste Focal Area
Programming Areas to be addressed through Focal Area Investments					
	<ul style="list-style-type: none"> Biodiversity mainstreaming Wildlife for sustainable development Natural capital Agrobiodiversity Inclusive conservation Invasive species Protected areas Preventing species extinction Biosafety ABS Ena 	<ul style="list-style-type: none"> CBM Enabling Activities Technology Transfer NDC preparation and implementation Sustainable energy 	<ul style="list-style-type: none"> Creating Enabling Environments for LDN Enabling Activities LDN Target setting 	<ul style="list-style-type: none"> Strengthening Blue Economy Opportunities Improving Governance of ABNJs Enhancing Water Security in Freshwater Ecosystems 	<ul style="list-style-type: none"> Industrial Chemicals Agricultural Chemicals LC/SIDS support Enabling Activities
Impact Programs					
Food, Land Use, and Restoration Impact Program	<ul style="list-style-type: none"> Marine protected areas Harvesting sustainably 				<ul style="list-style-type: none"> Replacement of POPs and persistent HHP's used in the agricultural food supply chain, including agricultural plastics contaminated by these chemicals with alternatives, preferably non-chemical alternatives. Disposal of obsolete agricultural chemicals that are POPs.
Sustainable Cities Impact Program	<ul style="list-style-type: none"> Integrating biodiversity and ecosystem values in urban planning 	<ul style="list-style-type: none"> Urban-related GHG emissions avoidance 	<ul style="list-style-type: none"> Sustainable management of production systems in urban and peri-urban areas 	<ul style="list-style-type: none"> Decreased pollution of rivers, deltas and coastal areas Advance efficient water use and re-use 	<ul style="list-style-type: none"> Reduction of POPs, ODS, and Mercury in built infrastructure, industry and products and materials used in cities.
Sustainable Forest Management Impact Program	<ul style="list-style-type: none"> Protection of HCV forests Manage biodiversity in forest landscapes 	<ul style="list-style-type: none"> Protection of carbon-rich stocks Forest related GHG emissions avoidance 	<ul style="list-style-type: none"> Sustainable management of dryland landscapes 	<ul style="list-style-type: none"> Integrated land and water management 	<ul style="list-style-type: none"> In forests where ASOM that uses mercury occurs, reduction or elimination of mercury in these areas.

GEBs

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Climate Change Mitigation Focal Area

I. Promote innovation, technology transfer for sustainable energy breakthroughs

- de-centralized renewables with storage (for Energy Access);
- electric mobility;
- accelerating energy efficiency; and
- cleantech innovation

II. Demonstrate mitigation options with systemic impacts
(through impact programs)

III. Foster enabling conditions for mainstreaming mitigation concerns into sustainable development strategies, including CBIT, NDCs, Enabling Activities





Impact Programs

- I. Address drivers and promote systemic change
- II. Deliver impact and results across Focal Areas
- III. Open access but proactive engagement with key countries

GEF-7 Sustainable Cities Impact Program (IP)

- Integrated approach to invest in cities to generate global environmental benefits.
- Multi-scale partnerships– *Global Platform, National level frameworks, Cities / Municipalities* for scaled up results
- Cross-sector engagement to ensure results at all levels and for all stakeholders
- Energy efficiency is one of the core pillars to support sustainable cities



E.g. Integrating EE, RE, Energy Access, & Food System



Background

A rural village in Nigeria:

1. 200 residents
2. No power access
3. Two diesel engines for food processing
4. Using charcoal in bakery house

The Project

Installed 45 kW off-grid solar PV;
 Electrified 200 residents;
 Replaced diesel engines with e-motors;
 Powered shops
 Enabled water pumps
 Mitigated CO2

Results

Integrated EE, RE and food production and processing
 A pilot in Nigeria for a program to cover 10,000 villages in energy access

Remaining Challenges

Tariffs: \$0.4/kWh
 Government charges GST
 ESCOs pay import duties for spare parts

Key message: Policy is needed to remove barriers to private investments



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