



Federal Ministry
for Economic Affairs
and Energy



MITTELSTAND
GLOBAL
ENERGY SOLUTIONS
MADE IN GERMANY

Energy demand in Cambodian C&I sectors

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Project Development Programme (GIZ)



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für Internationale
Zusammenarbeit (GIZ) GmbH

The Project Development Programme

Business
Development

- Market information on target countries
- **Business partnership for German and local companies**

Project
Pre-development

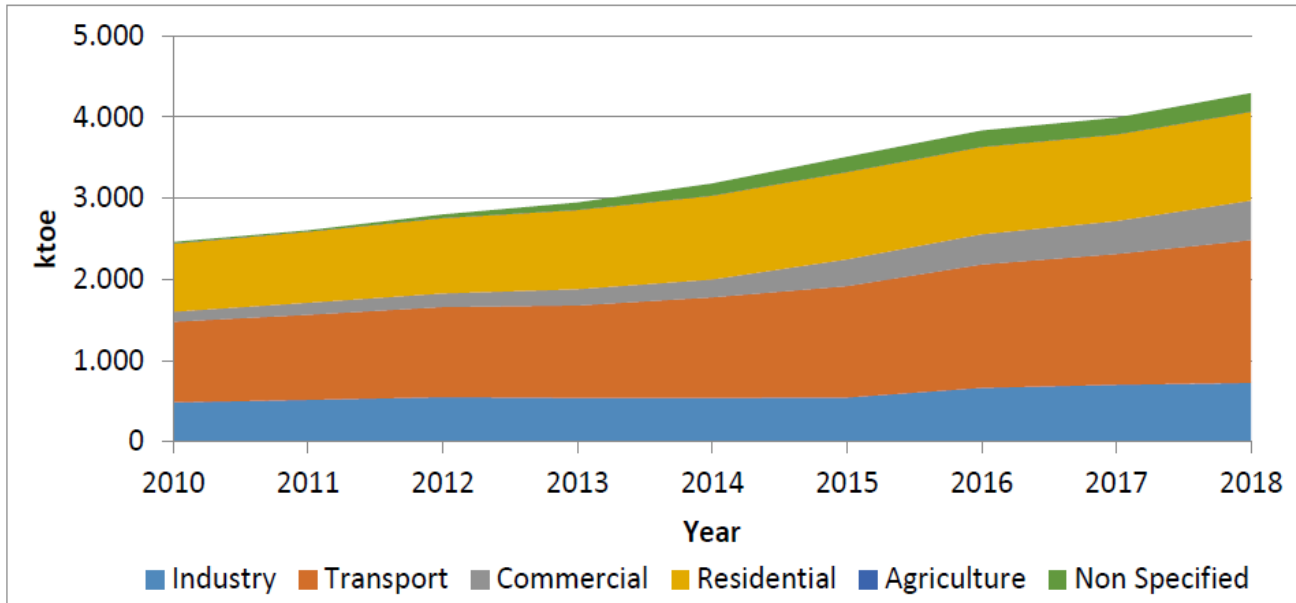
- **Identification of commercially viable and scalable projects – focus on C&I Segment**

Market
Development

- Awareness raising and trainings
- Cooperation with sector associations

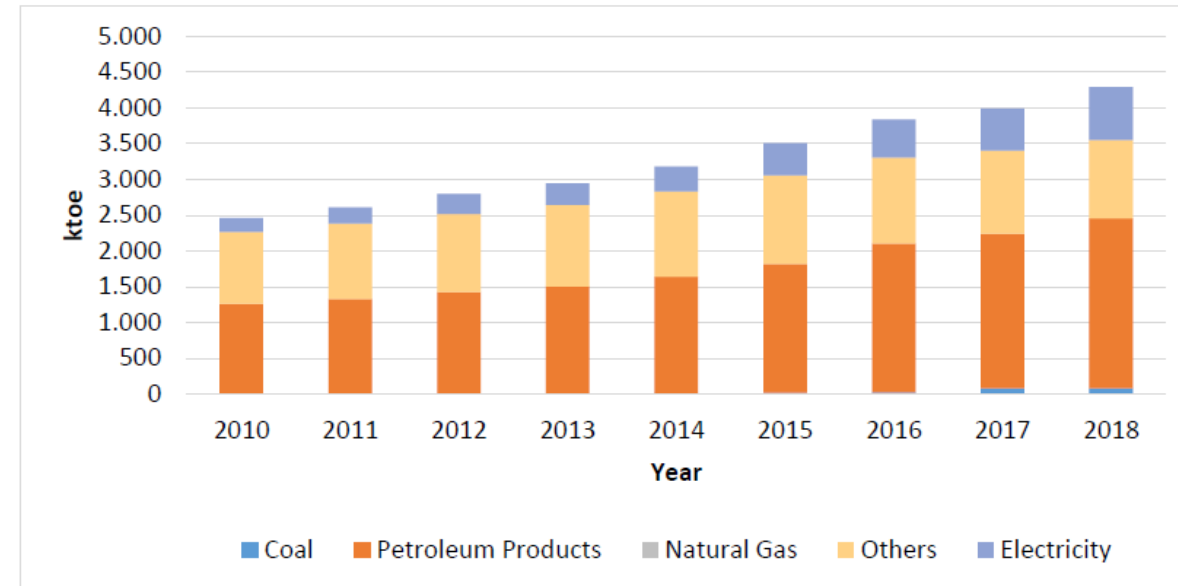
Energy consumption in Cambodia

Total Final Energy Consumption by Sector (ktoe)



Source: Cambodia EBT 2010-2018

Total Final Energy Consumption by Fuel Type (ktoe)



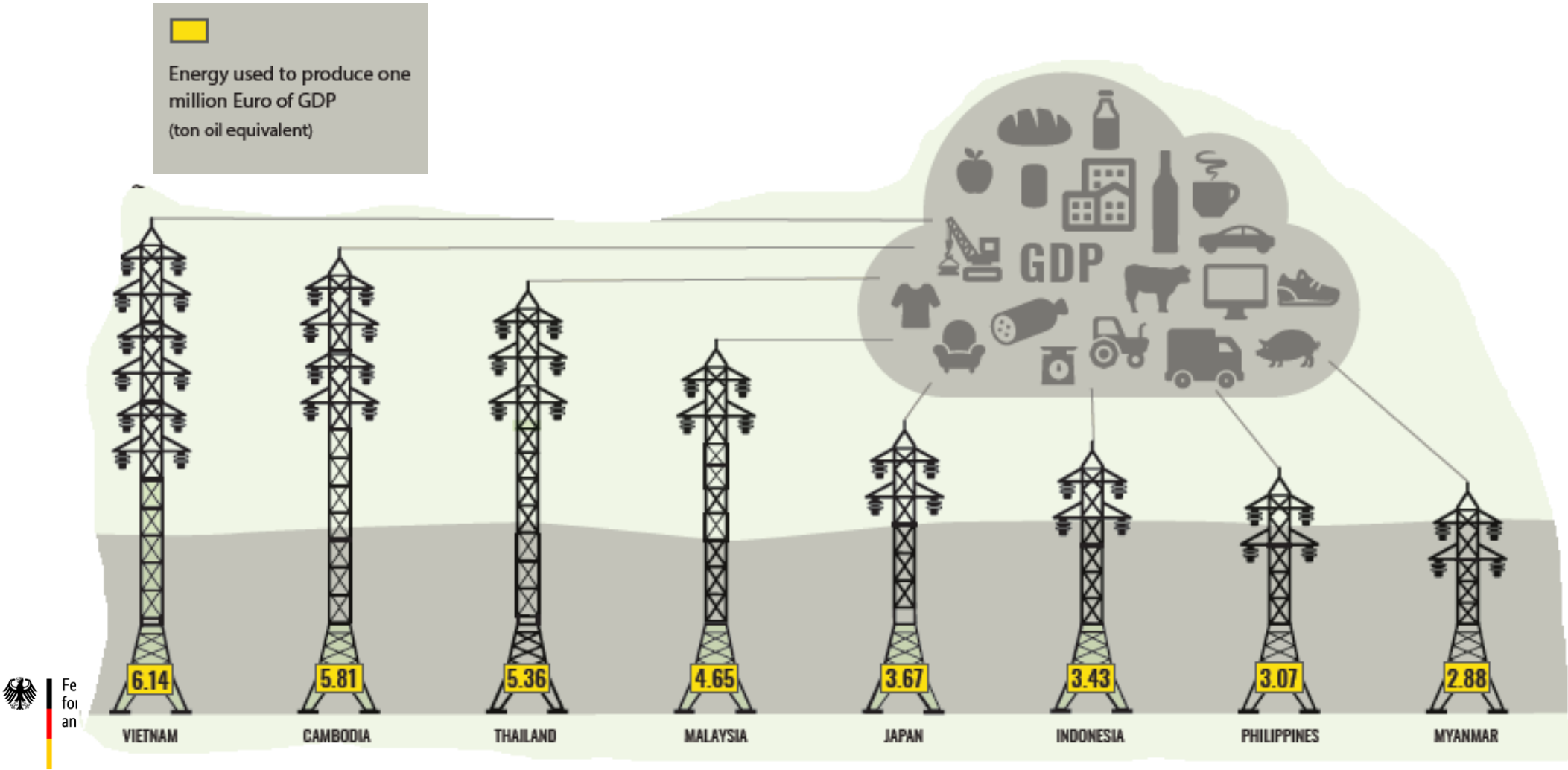
Source: Ministry of Mines and Energy, 2018

EDC forecast electricity demand increase 14%-17% yearly till 2030

Energy intensity

More energy intensive compared to other countries in the region

Government have committed to reducing total energy intensity by 30% by 2025

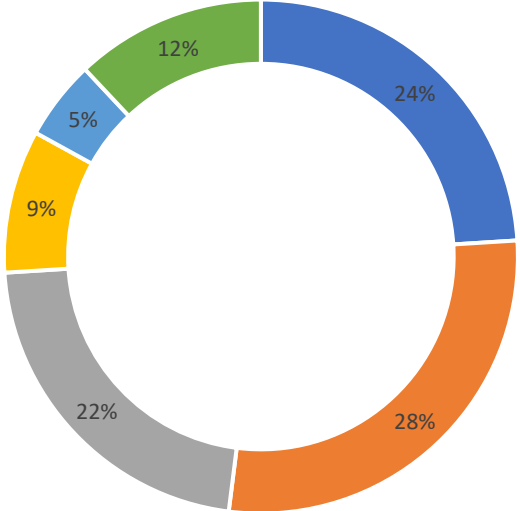


Cambodian C&I sectors

	GDP	Employment	Relative energy consumption	Relative natural resource use	Relative waste production
Food, Beverage and Tobacco	15%	15.8%	+	+++	++
Textile and Footwear	66%	70.6%	++	+	+++
Wood, Paper and Publishing	3%	1.6%	+++	+++	+
Rubber Manufacturing	3%	-	++	+++	+
Non-Metallic Manufacturing	3%	5.4%	+++	++	++
Basic Metal and Metal Products	2%	3.1%	+++	++	++
Other manufacturing	8%	3.5%	-	+	+

Source: Cambodian National Institute of Statistics, 2019

Energy usage in industries

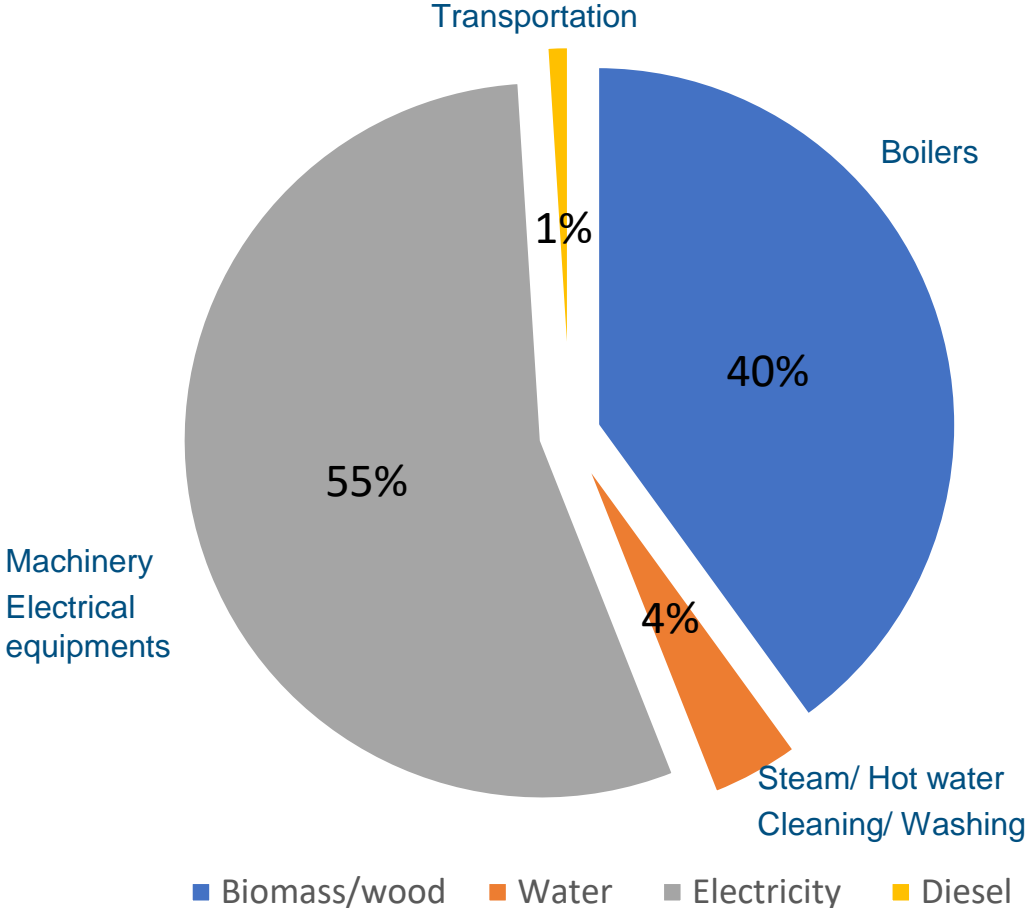


- Lighting
- Air conditioner / Compressure
- Sewing Machine
- Ventilation
- Water pump
- Other

Source: Feasibility study by AFD/MME/GERES



Energy sources



- Biomass/wood
- Water
- Electricity
- Diesel

Common energy efficiency measures

- More efficient motors
- Replace Fluorescent lamps with LED type
- Roofs with skylights
- Proper maintenance of Air-conditioning systems
- Ventilators
- Smart meter on electrical equipments
- Building an envelope insulation
- Improve boiler efficiency through cleaning, supply air control, and dry fuels

Common energy efficiency measures



Most of the boilers using in industry are not EE

Efficiency category	Samples	Share	Average thermal efficiency	Steam cost (\$/ton)
<40% (very poor)	7	41%	35%	28.34
40-60% (poor)	5	29%	46%	15.34
60-80% (reasonable)	5	29%	68%	9.87
>80% (Good)	0	0%	N/A	N/A

Source: Feasibility study by AFD/MME/GERES

Challenges

- No regulation or incentive for EE → foreign/ large companies implement by own initiative
- Most local companies use second hand equipment to save investments
- Lack of awareness and capital to invest in new and energy efficient technologies
- Lack of experience or expertise on energy management
- Limited local experiences in EE services/ products, incl. energy audits

→ Despite high energy prices, EE yet gained little attention from the Government and local businesses

Motivation for energy efficiency in Cambodia

Energy security:

- Lower Cambodia dependence on imported fuel (coal, LPG, petroleum products) and energy (electricity from Thailand, Vietnam, Laos)

FDIs:

- Cambodia energy cost on higher end in the region
- Reducing energy costs → production costs → attract foreign investments

Business security:

- Textile and garment as key sector
- Stricter requirements on GHG reduction and energy savings from global fashion brands
(realized via EE and RE measures)

Sustainability targets by fashion brands



- 35 % cut in GHG emissions by 2030 compared to 2017



- 55% of scope 1 and 2 and 30% of Scope 3 GHG emissions by 2030 compared to 2017



- 100% RE electricity by 2025
- Reduce 30% GHG by 2030



- 100% RE by 2026
- Reduce 40% energy consumption per product by 2026



- 35 % cut in GHG emissions by 2030
- Climate neutral by 2050



- Climate neutral & 100% RE by 2030
- Climate positive by 2040

Government targets on energy efficiency

Targets: 7% GHG reduction via energy efficiency and renewable energy in manufacturing sectors and 1% reduction from building energy efficiency until 2030

Prioritized sectors:

Energy Saving Potentials for Cambodia



BUILDINGS
25 %



INDUSTRY
25 %



TRANSPORT
15 %

Energy efficiency code for new buildings
Energy efficiency performance standard for existing buildings
Labeling program for household appliances

Energy service companies
Trainings on energy audits and accredited auditors
Energy management systems

Enhanced vehicle and road maintenance
Promote public transport
Promotion of bioethanol and biodiesel fuels
Promote fuel-efficient and zero-emission vehicles

Opportunities

- Business partnership with local companies
- Enhance knowledge on energy management and energy audits → identify clear business cases and benefits
- Energy Service Company (ESCO) approach for long term
- Sector approach: expert knowledge and upscaling potential

Thank you for your attention!

Project Development Programme (PDP)

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