



Federal Ministry
for Economic Affairs
and Energy



MITTELSTAND
GLOBAL
ENERGY SOLUTIONS
MADE IN GERMANY

GIZ supports energy efficiency in Vietnam and gateway for German companies

Tobias Cossen

Project Development Programme (PDP)

Facilitator

Agenda

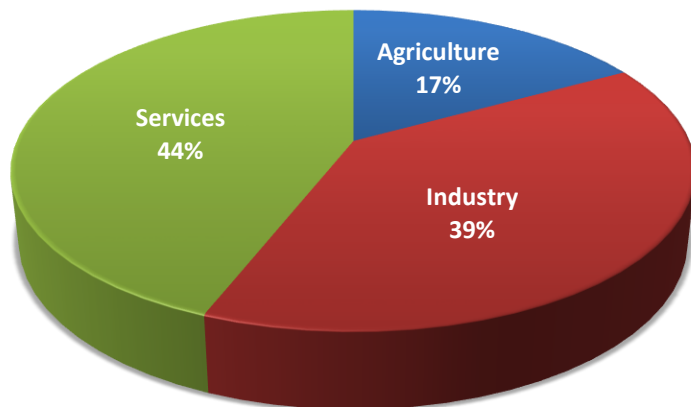
Energy demand in Vietnam's industry

- Industrial sectors
- Challenges & opportunities for energy efficiency

GIZ support activities for energy efficiency in Vietnam

Vietnam economic sectors

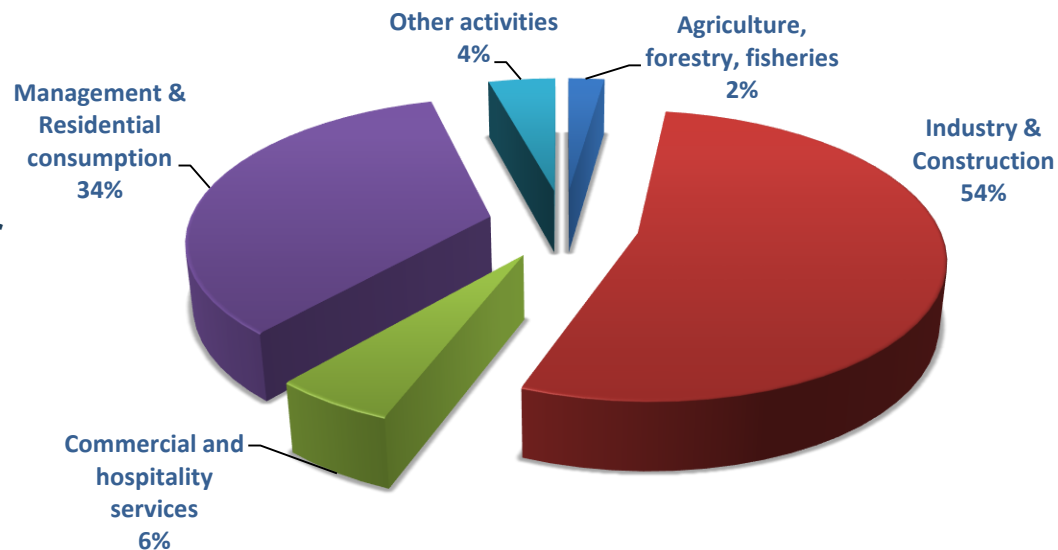
GDP by sector (2016)
Total: \$219.38 billion



Growth rate until 2020: ~ 6.5% per year

Source: Wikipedia

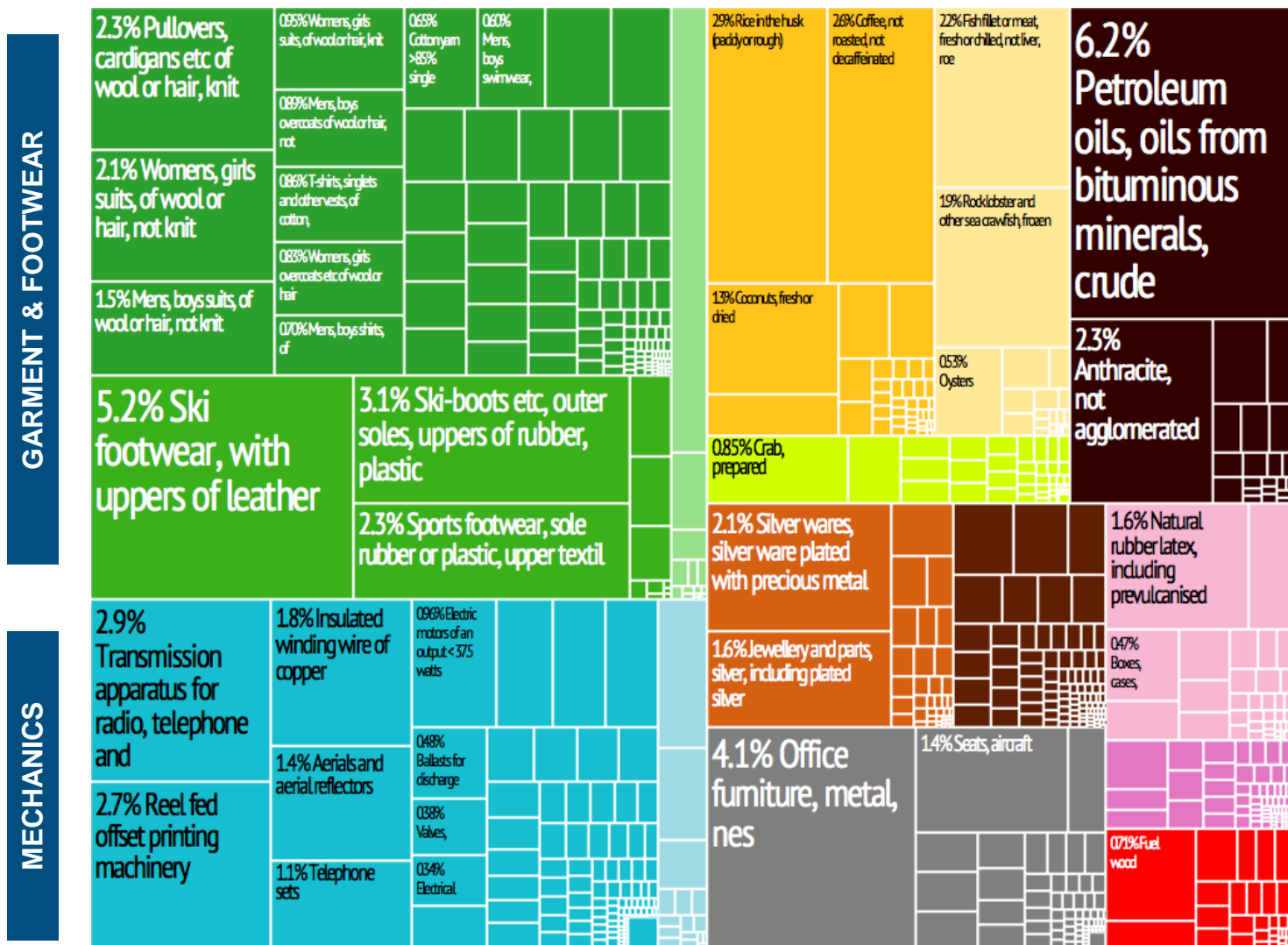
Energy consumption by sector (2016)
Total: 153.3 billion kWh



Growth rate until 2020: ~ 10% per year

Source: EVN NLDC 2017

Major export industries



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WOODEN PRODUCTS

Source: Wikipedia



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Potential for energy efficiency

Industrial operations

Agriculture

Transportation

Construction & public
lighting

Households &
commercial business

Key energy users (KEU):

- ❑ Consuming more than 1000 TOE per year
- ❑ **2413 enterprises nationwide**
- ❑ Major areas: Ho Chi Minh (314); Hanoi (303); Binh Duong (238); Dong Nai (150); Quang Ninh (116).

Focused contacts from GIZ networks:

- ❑ Renewable Energy & Energy Efficiency (4E) project
- ❑ Project Development Programme
- ❑ Exporting sectors: logistics, seafood & aquaculture, garment, printing & packaging, paper, etc.

→ *National target: saving approx. 10% total electricity consumption during the period 2016 - 2020*

Energy saving motivations



Lean production:

- ❑ Production costs → Competitiveness
- ❑ Improving resources and business efficiency → productivity



Pressures on local industry:

- ❑ Electricity price to be increased
- ❑ Environmental issues in Vietnam (CO₂ emission)
- ❑ Social image and responsibilities



Entering global markets:

- ❑ Sustainable requirements from clients
- ❑ Achieving international certificates on energy management

Obligations for KEUs

- ❑ Energy audits every 3 years & appointing an energy manager
- ❑ Develop a 5-year energy efficiency plan
- ❑ Monitoring on energy consumption of production machinery



Barriers for energy efficiency implementation

Energy price

- Low electricity price (to attract foreign investment)
- Lack of motivation for energy saving

Capacity

- Limited experiences of local consulting companies (48)
- Lack of confidence in local consultants by local industry
- Lack of ESCO business models for energy services
- Lack of monitoring and analysis capacity from the government

Finance

- Limited investment in improving measures or modern and high efficient equipment & machinery
- Cost-Saving trade-offs

Regulatory frameworks

- Enforceability
- Low quality of regulated energy audit processes and reports (250)
- Lack of monitoring system

GIZ supports energy efficiency in Vietnam

4E project



Legal and
regulatory
framework

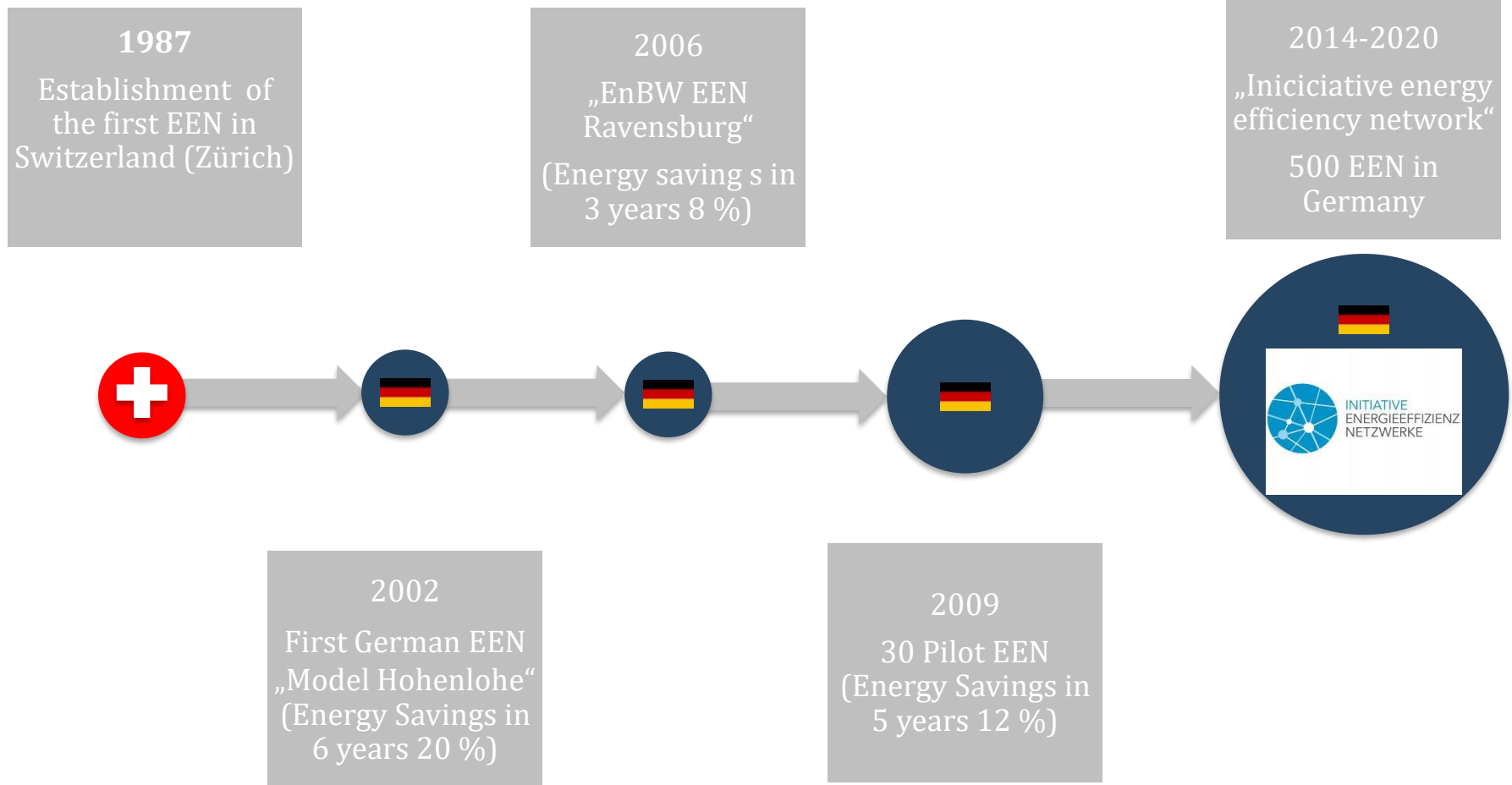
- ❑ Guidebook for energy audit implementation
- ❑ Certification scheme for local service providers
- ❑ Energy performance indicators and sectoral benchmarks



Capacity
development

- ❑ **Energy efficiency network (EEN)**
- ❑ Training for local energy service providers & energy managers
- ❑ Public authority on data monitoring, analysis and evaluation
- ❑ Energy efficiency award for pioneering companies

Energy Efficiency Network idea



Characteristics of an EEN

Moderated process (guidance and structured)

Learning Networks (up-front and continuous technical input)

Fixed member of networks

Initial consulting – getting everybody on the same level

Common goals and monitoring creating common interest and **group dynamic**

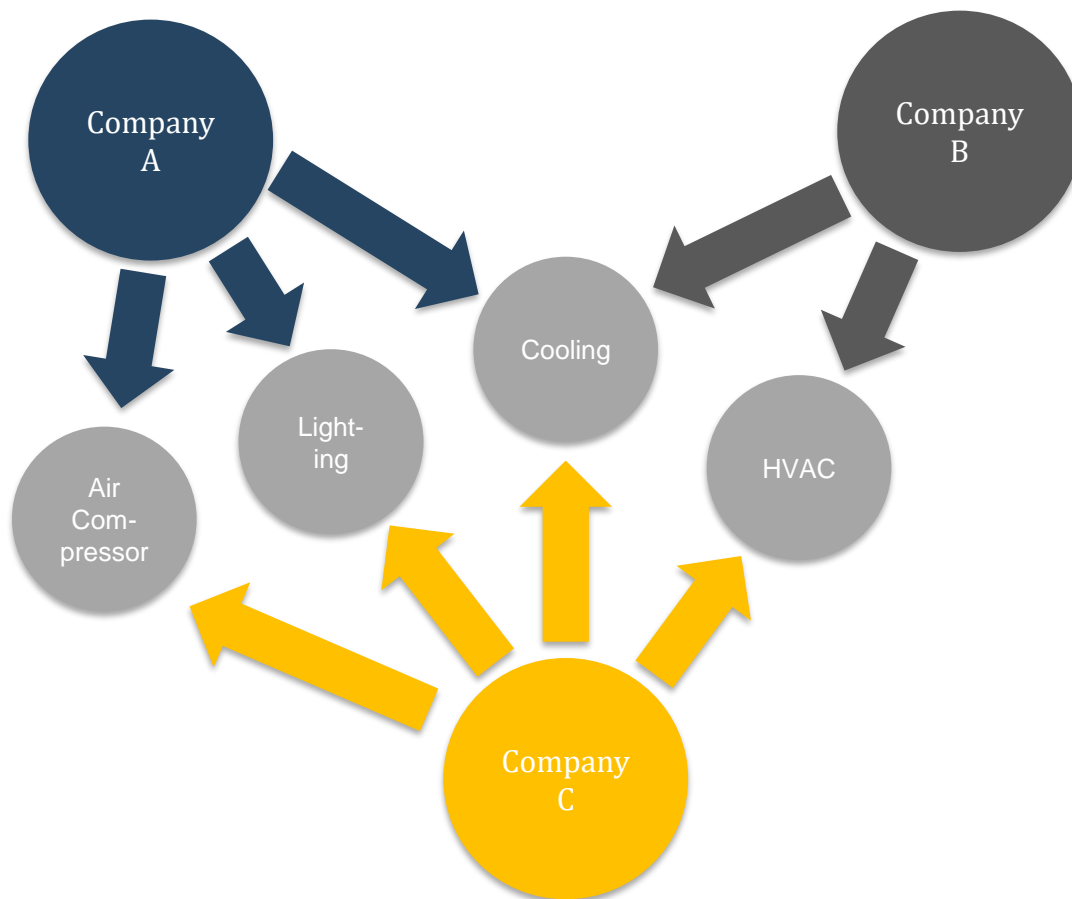
Solution with focus on **cross sectoral technologies**

Public relation for participating companies



Vietnam pilot Energy Efficiency Network

8 members: paper, plastic, textile, rubber, packaging, port & container operations



Benefits

- ❑ Sharing experiences & best practices of cross cutting technologies
- ❑ Increasing EE motivation among participants
- ❑ Provided international consultancy for energy audits & saving measures
- ❑ Results monitoring and evaluation
- ❑ Public relation/ outreach activities for participating companies

Detailed implementation

Phase 1 a (Q2-Q3/2017)

Official start of the EE Network

Kickoff Meeting, General
Introduction (Organization,
Process, Costs)

Conduct the initial energy audit;
Site Inspection, Identification of
economic feasible energy
efficient measures

Phase 1 b (Q4/2017)

Finalize the energy audit

Agreement on joint targets
1. Energy saving targets
2. CO₂ Reduction

Installation of the intelligent
Metering system

Completion
• Results publication
• Decision, network continue ?

Phase 2 (2018/19)

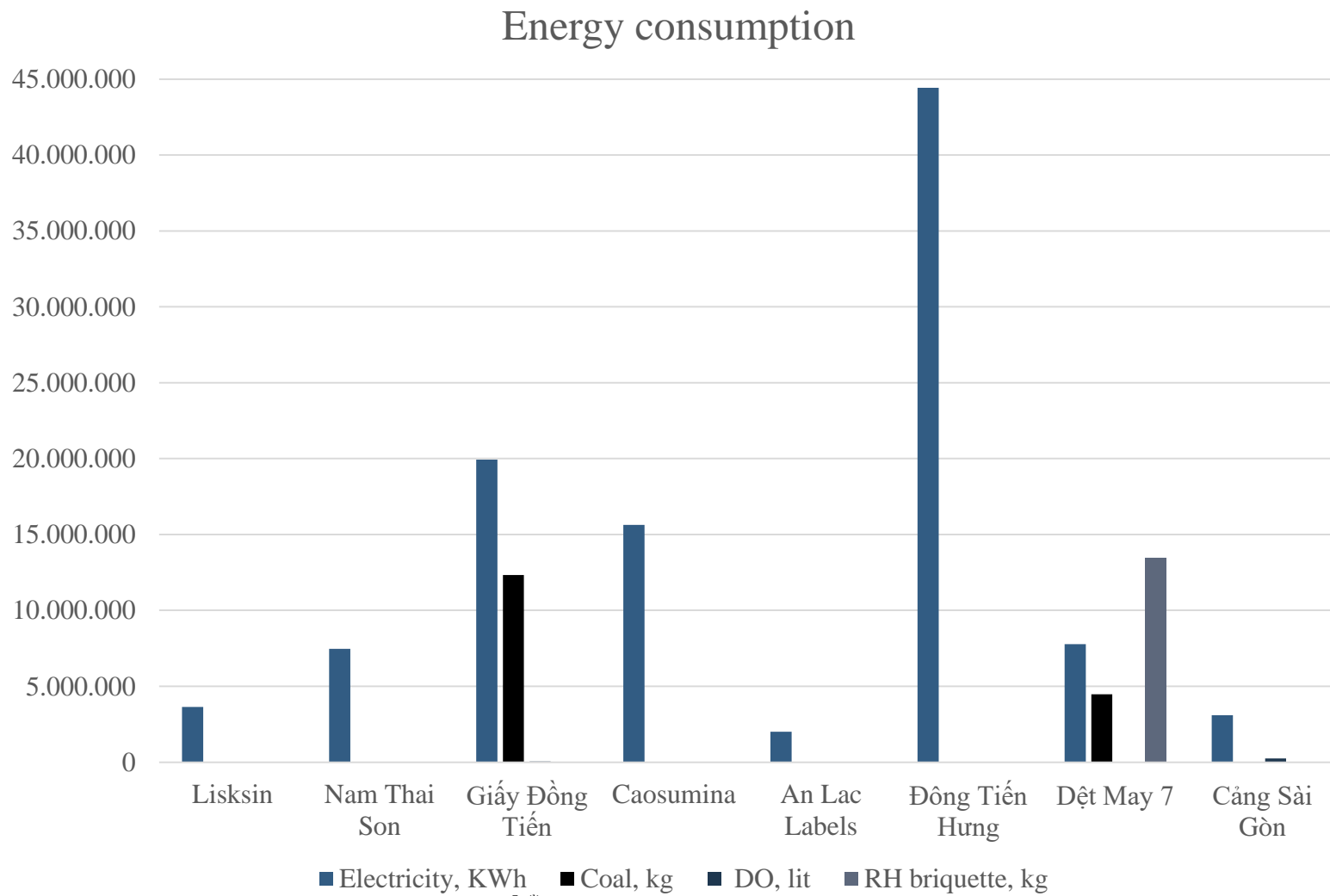
Regular Network Meetings
(3-4 meetings per year)

- Specific technical presentations
- Exchanging experience about implemented measures of members
- General exchange of experiences

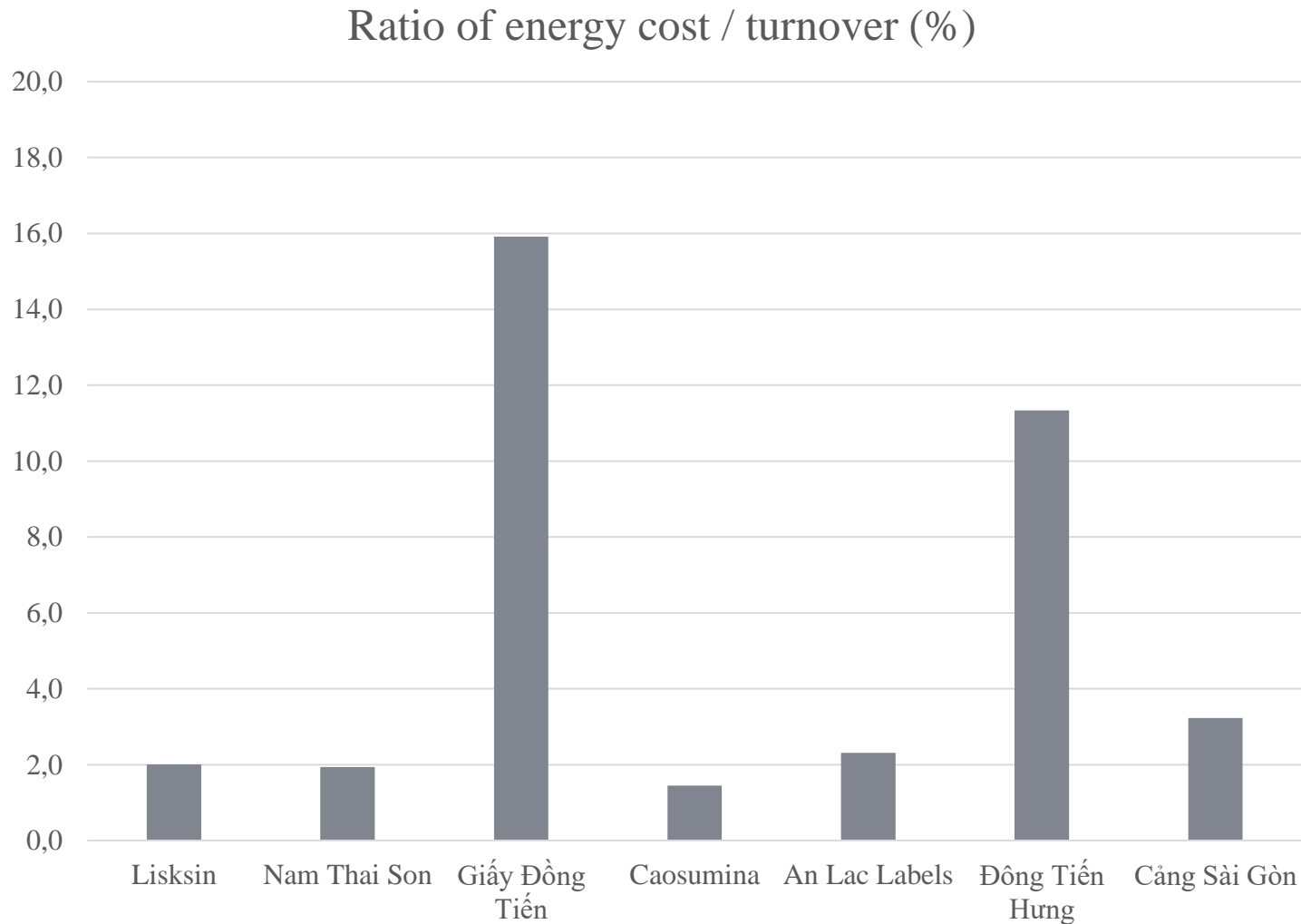
- Visiting the other's sites



Energy consumption at EEN companies



Energy consumption at EEN companies



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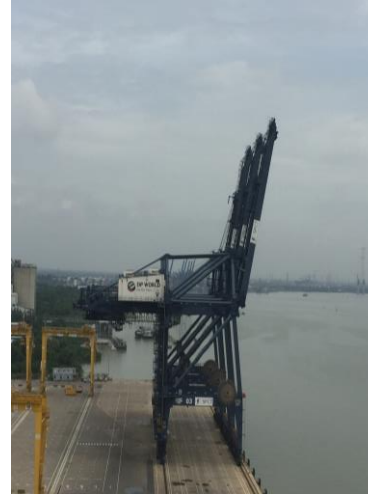


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Energy audit visits at the EEN companies



Energy audit results

No	Operation	Electricity consumption (2016, kWh)	Saving energy (kWh)	% saving	Saving cost, Million VND	Investment cost Million VND	Payback period (yrs)
1	Packaging	3,634,455	254,798	14,67%	492	1,418	1-5
2	Plastic	7,473,233	2,155,814	28,8%	3,605	4,079	0,5-3,2
3	Paper	19,940,000	199,411	1,00%	303	1,738	0,5-2
4	Rubber	15,629,660	1,474,183	9,43%	2,240	450	1,2-3
5	An Lac Labels	2,014,204	209,661	10,98%	512	1,741	0,7-4,7
6	Textile	44,438,600	1,907,093	4,3%	2,896	8,076	2,5-3,4
7	Garment	7,774,074	57,840	1,31%	173.1	1,938	0,37-2,4
8	Port & container	3,100,832	558,355	18,01%	917	1,738	0,4-3,1
	Total	104,005,058	6,519,322		10,582.1	21,486	



Project Development Programme

We offer:



Market information



Support pilot projects & capacity development



Facilitate networking & business partnership

PDP Projects in Vietnam:

Rooftop solar for cold storage



Source: GIZ

PV application for shrimp greenhouses



Source: Viet Uc Group

On-going support on RE & EE to:

- ☐ Logistics
- ☐ Garment & Textile
- ☐ Aquaculture
- ☐ Other industrial operations

Kind Invitation!

Energy Efficiency Business Trip: 19-23 March 2018

Conference:

- Legal framework
- Introduction of German services
- Networking with local stakeholders

Match-making:

- AHK: Individual B2B meetings with interested companies
- PDP: meeting industrial companies through EE network meeting



Source: GIZ



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Thank you for your attention!

For more information, please contact:

PDP Berlin - Simon Bittner: simon.bittner@giz.de

PDP Vietnam – Tobias Cossen: tobias.cossen@giz.de

PDP Vietnam - Trang Nguyen: trang.nguyen1@giz.de

Facilitator