

Energy Efficiency and the German “Energiewende” (Energy Transition)

Dialogue on “Energy Efficiency as State Policy”

Aruba, October 29 & 30, 2015
Detlef Loy - Germany


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renewables academy

In cooperation with:


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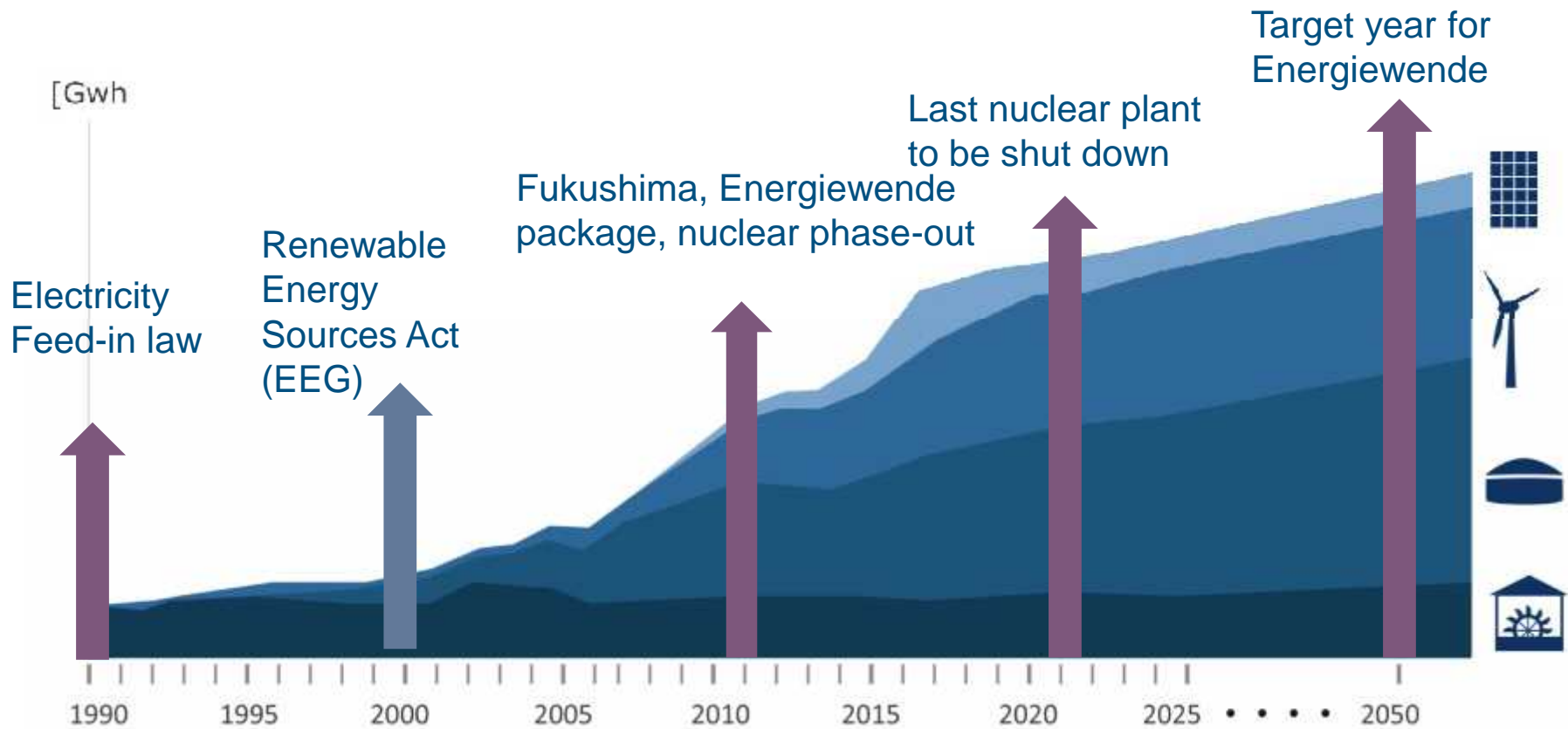


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The Energiewende started decades ago

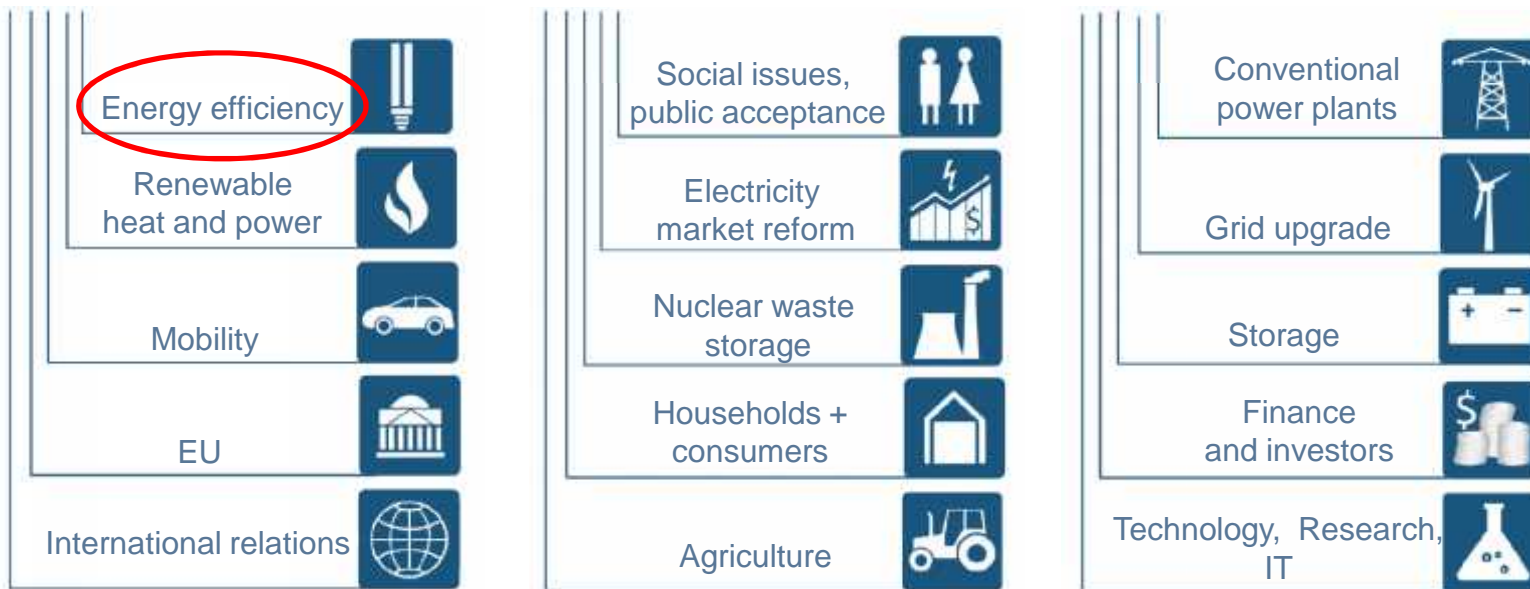


The Energiewende is a medium and long-term process. It started decades ago (in fact in late 70s) and will have impacts beyond 2050.

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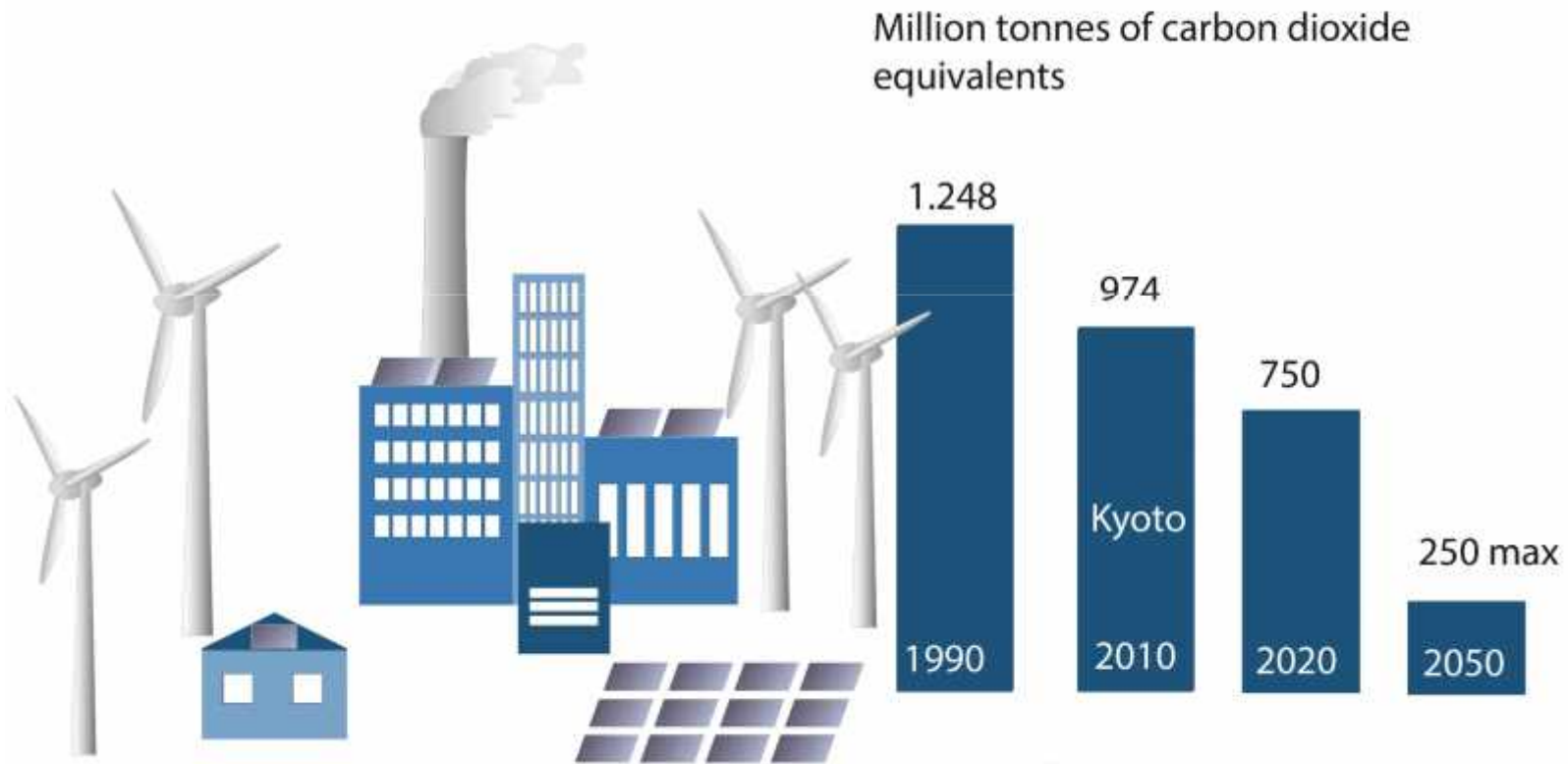
Source: RENAC

The Energiewende is multi-dimensional



The Energiewende is NOT limited to the power sector, but going far beyond. It is multi-dimensional and affects many more interconnected areas.

Drivers of the Energiewende – mitigate climate change

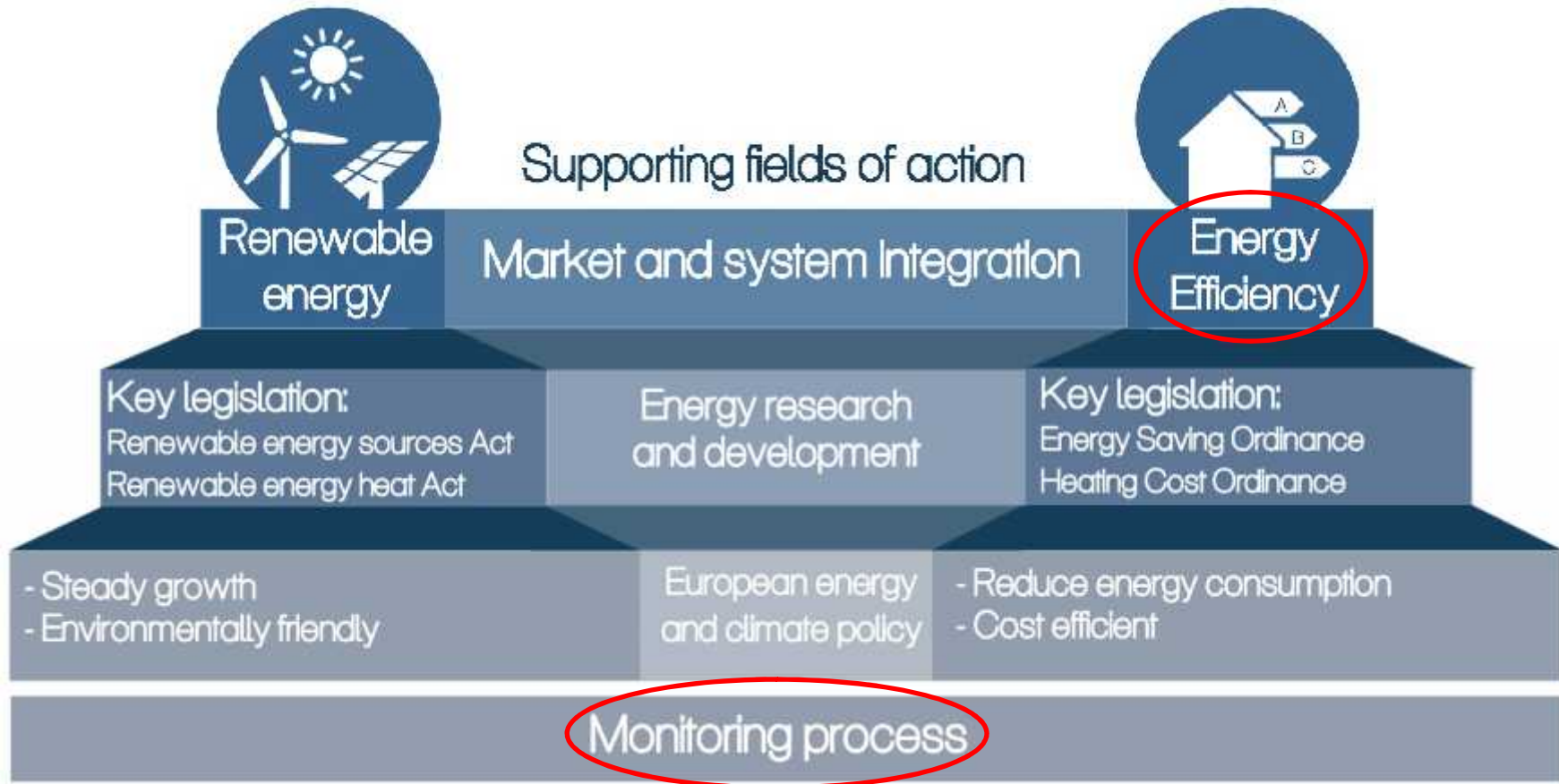


The Energiewende helps to reach climate protection goals

Source: RENAC

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Pillars and action fields of the Energiewende

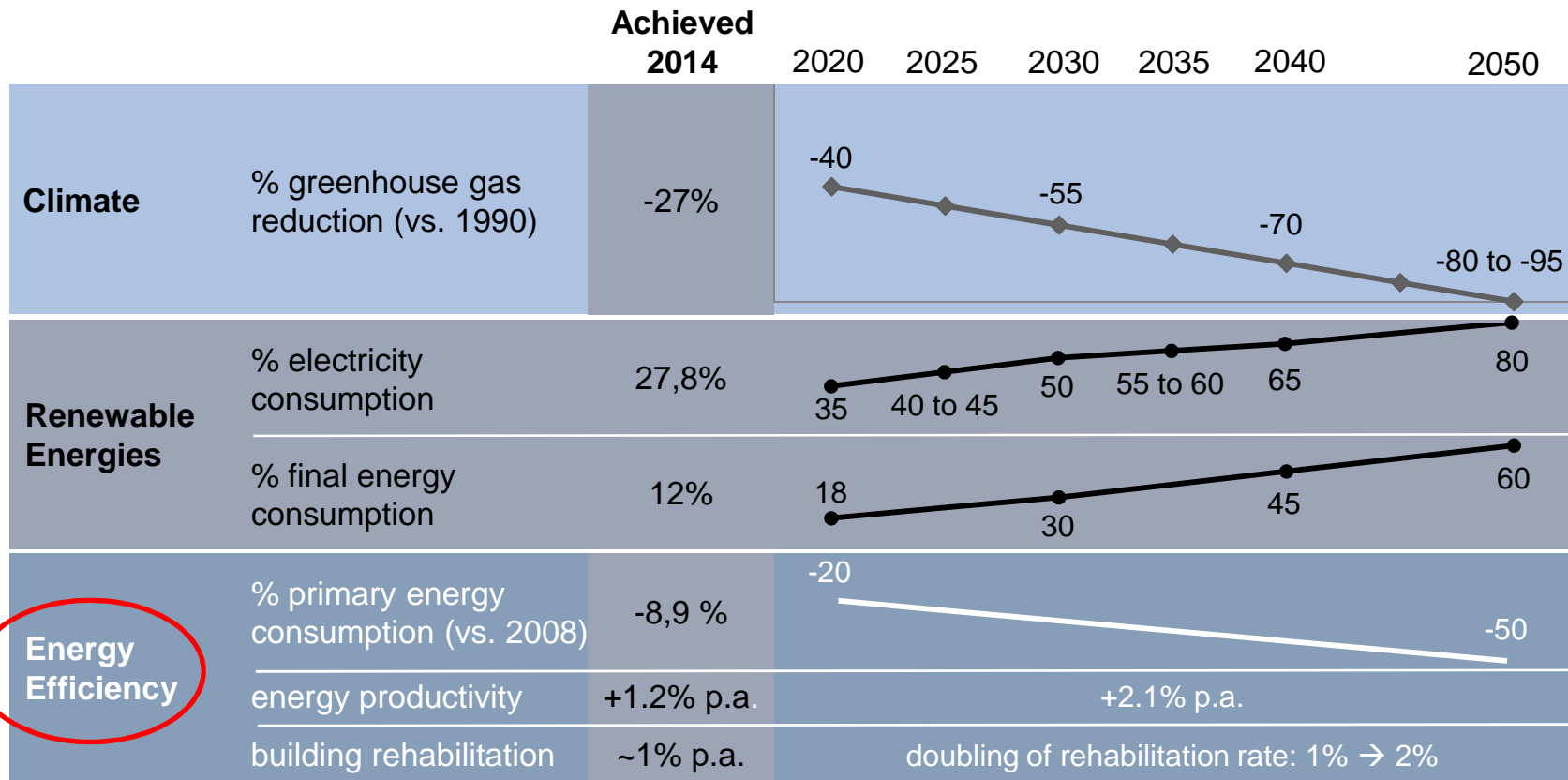


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The energy transition's foundation are renewables and reduced energy consumption.

Source: BMWi 2014

Targets of the Energiewende until 2050



Germany has set ambitious targets in emissions reduction, renewables, energy efficiency and transport

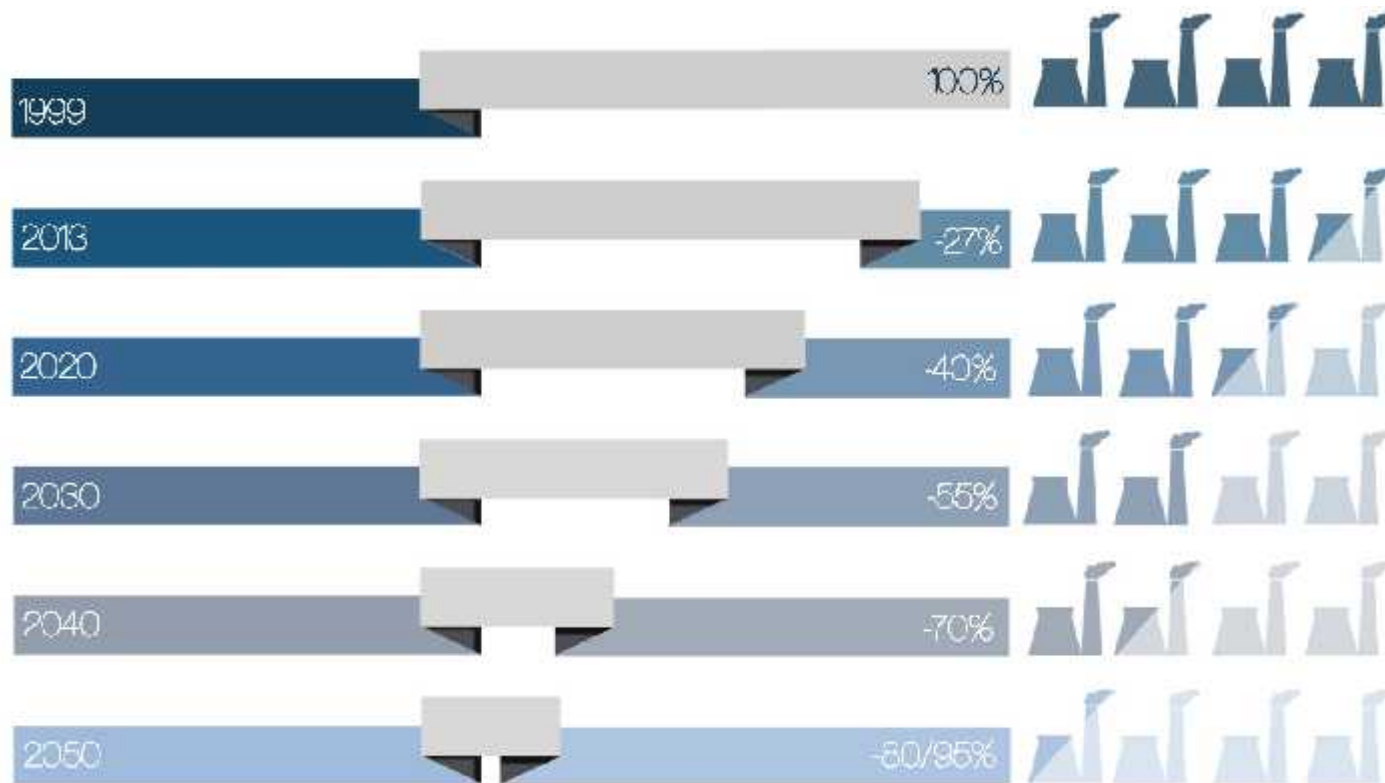
Source: UBA 2015, BMWI 2015

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Targets of the Energiewende – Climate



Reduction of GHG emissions



Germany is on track to meet its emissions reduction targets

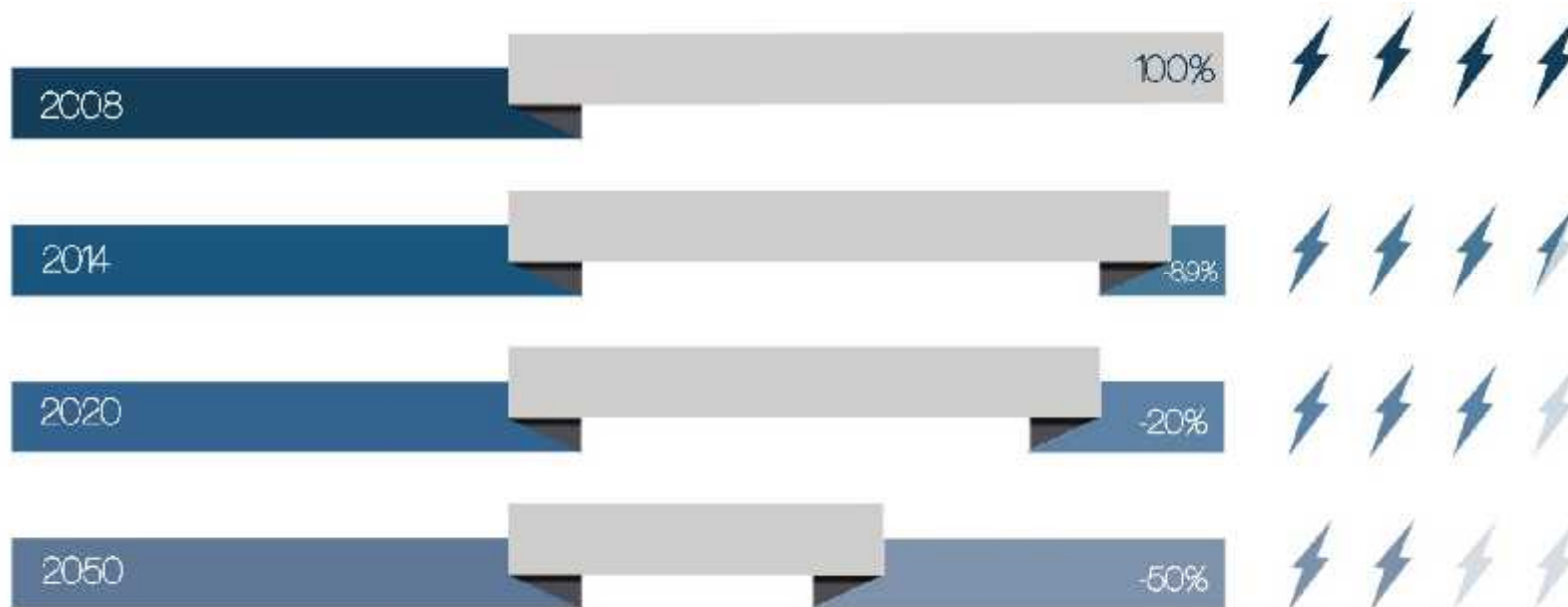
Source: BMWi 2014

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Targets of the Energiewende – Efficiency (I)



Reduction of Primary energy consumption



There is a continuous trend of reduced primary energy consumption, but still work to do

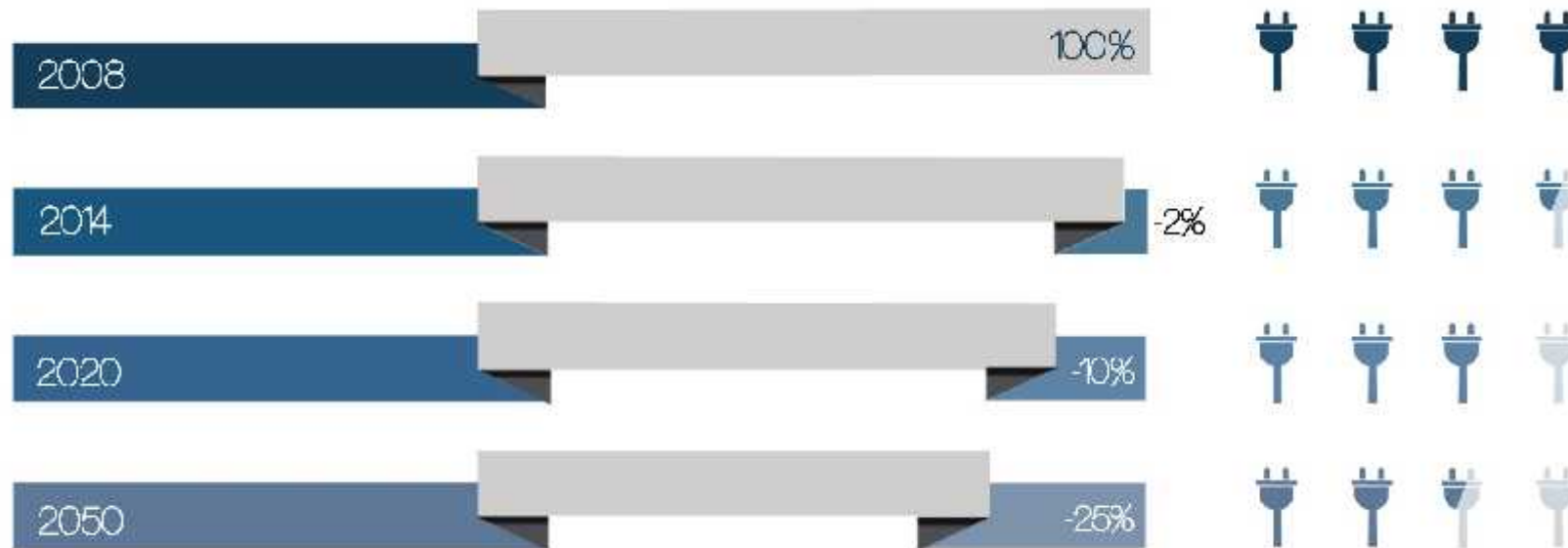
Source: BMWi 2014

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Targets of the Energiewende – Efficiency (II)



Reduction of electricity consumption



The reduction of overall electricity consumption remains a challenge

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Source: BMWi 2014

Policy of the Energiewende EU context: Efficiency



Germany's energy efficiency policy is embedded in the EU framework

Source: BMWi 2015

German Energy Efficiency measures (national level)



Buildings

- Building codes and on-site advisory services for home owners
- Low-interest loans for rehabilitation
- Heat Metering Ordinance
- Energy performance certificates



Appliances and lighting

- Electricity tax
- Energy Efficiency Labelling Ordinance
- Guidance on energy saving
- Campaigns, such as energy saving checks for low-income families



Industry and business

- Grants for cross-cutting technologies
- On-site consultations
- European emissions trading
- Efficiency classification (Ecodesign Directive)



Transport

- Motor vehicle taxation
- Fuel taxes
- Federal fuel strategy
- Strengthening public transport

A balance of incentives and regulations, consultation and information.

Source: BMWi 2015

Important policy documents in Germany



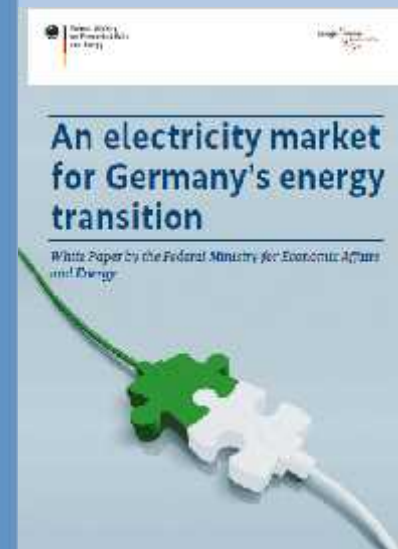
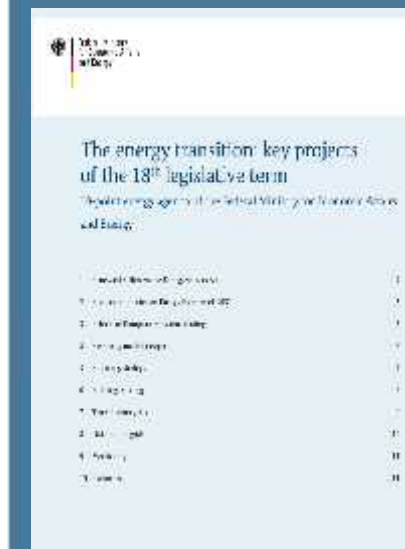
Energy Concept (2010) and Energy Package (2011)

10-Point Agenda
(2014, updated
2015)

Climate Action
Programme (2014)

3rd National Action
Plan Energy
Efficiency (2014)

White Paper
on Electricity Market
(2015)



NAPE – 3rd National Action Plan Energy Efficiency



Released in November 2014

Defines cross-sectoral efficiency measures

The three pillars of the NAPE are

- *Stepping up energy efficiency in buildings*
- *Energy efficiency as a return and business model*
- *Individual responsibility for energy efficiency*

Measures (Examples):

- *Tax breaks for retrofitting of buildings
(still not in place)*
- *Energy efficiency indicators and benchmarks*
- *Energy audits*

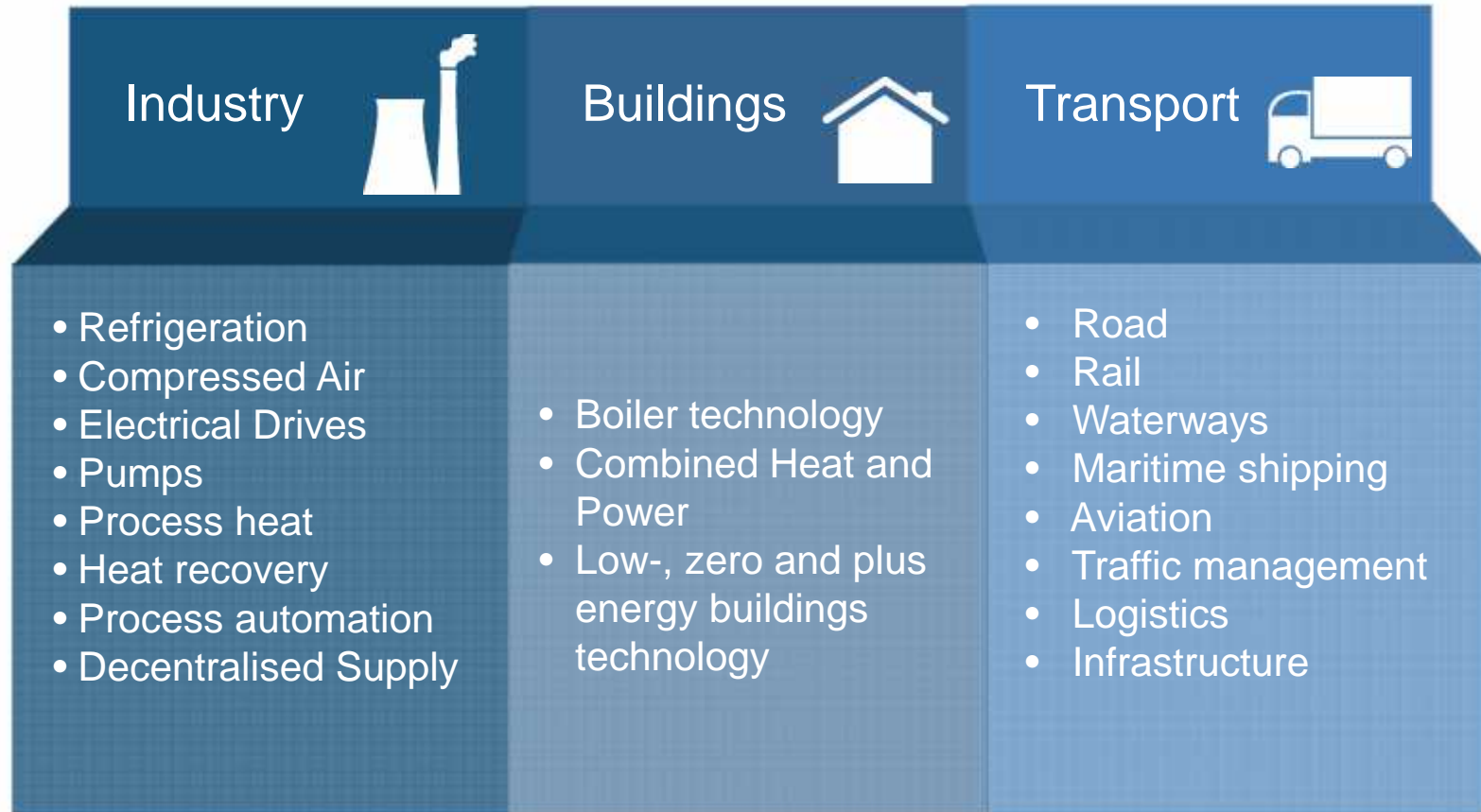
NAPE (2014)



*The realisation of the NAPE could lead to a reduction of around **25-30 million tonnes** CO₂ equivalent by 2020*

Source: BMWi 2014

Energy efficiency – fields of action

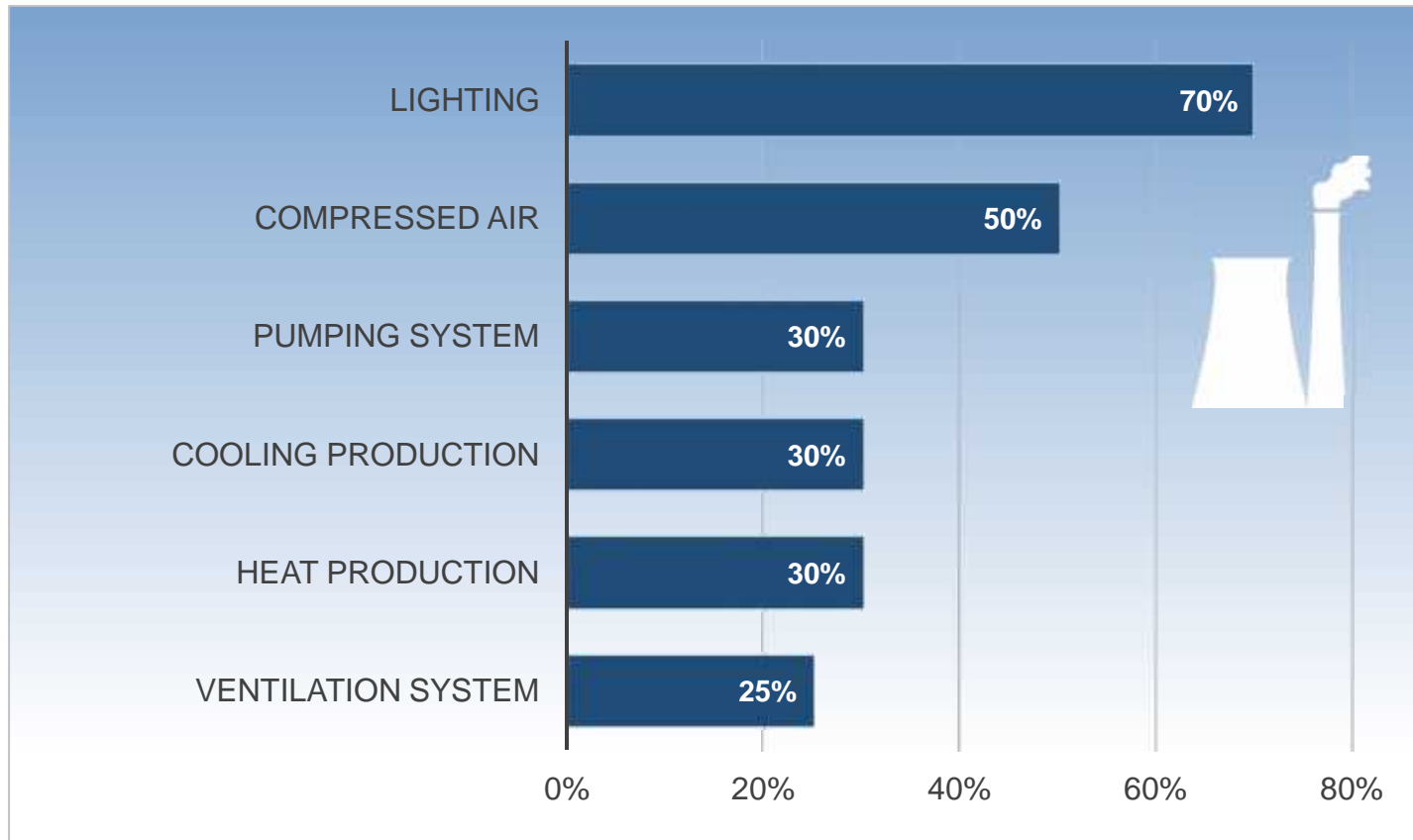


There are different fields of application for energy efficiency measures: industry, buildings and transport sector

Source: dena 2014

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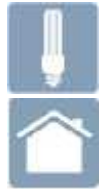
Energy saving potentials in the German industry



In a business-as-usual scenario: the German industry could save €2 billion per year

Source: dena 2014

Energy efficiency – Potential savings



Buildings – Insulation



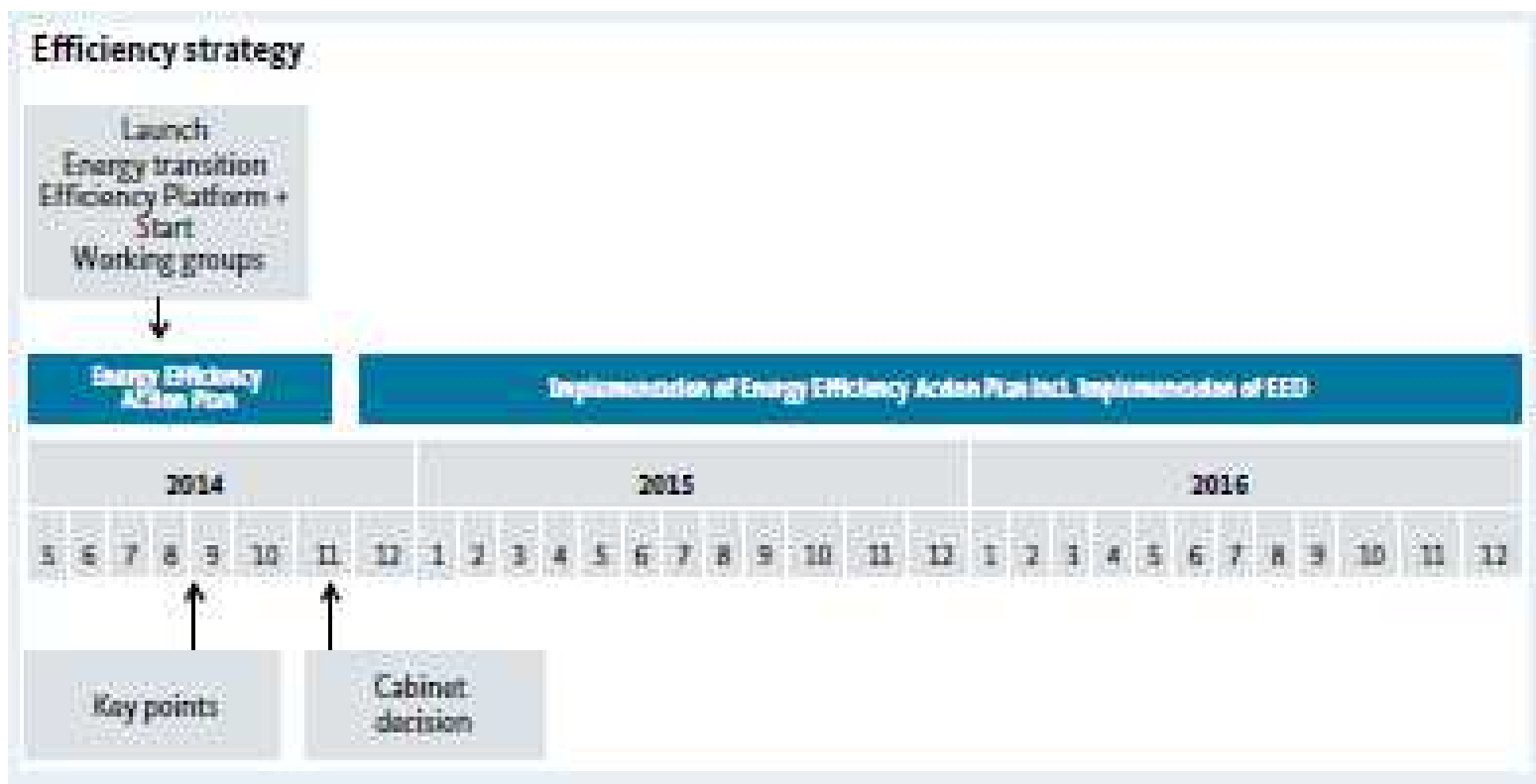
Install solar panels	7 %
Heat protective plazing	11 %
Insulate external walls	30%
Insulate basement ceiling	6 %
Up-to-date heating system	12 %
Insulate roof	11 %

A proper building insulation substantially lowers heat losses in buildings

Source: dena 2014

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Timeline for each sub-programme of the Energiewende



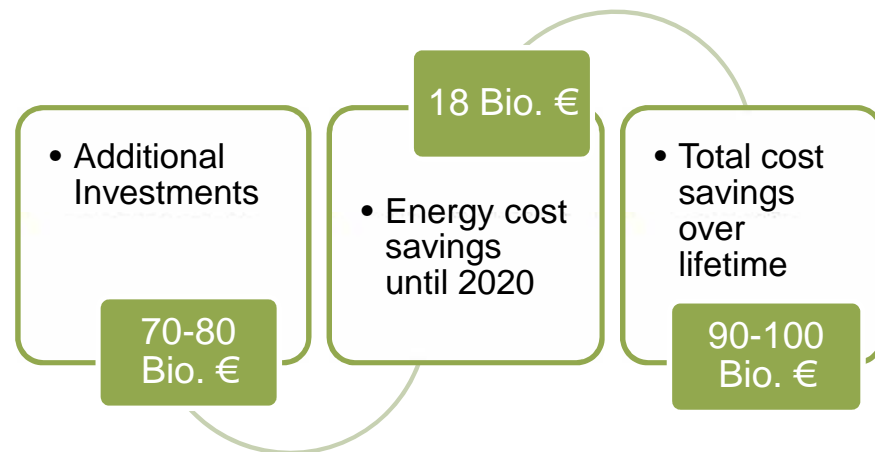
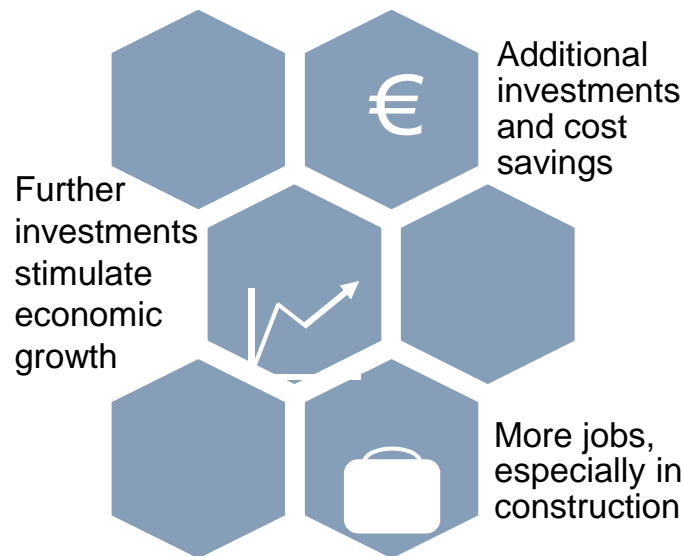
Source: BMWi

1. Through Platforms and Working Groups



2. National Climate Initiative Projects (19,000 so far)

NAPE: Economic effects of additional investments



The strengthening of energy efficiency measures stimulates various economic effects

Source: European Commission 2014, BMWi 2014

Information for General Public

Online Magazine published bi-weekly



Source: BMWi

Information packages



Energiewende is not free of disputes

Example: Digitisation of the Electricity System

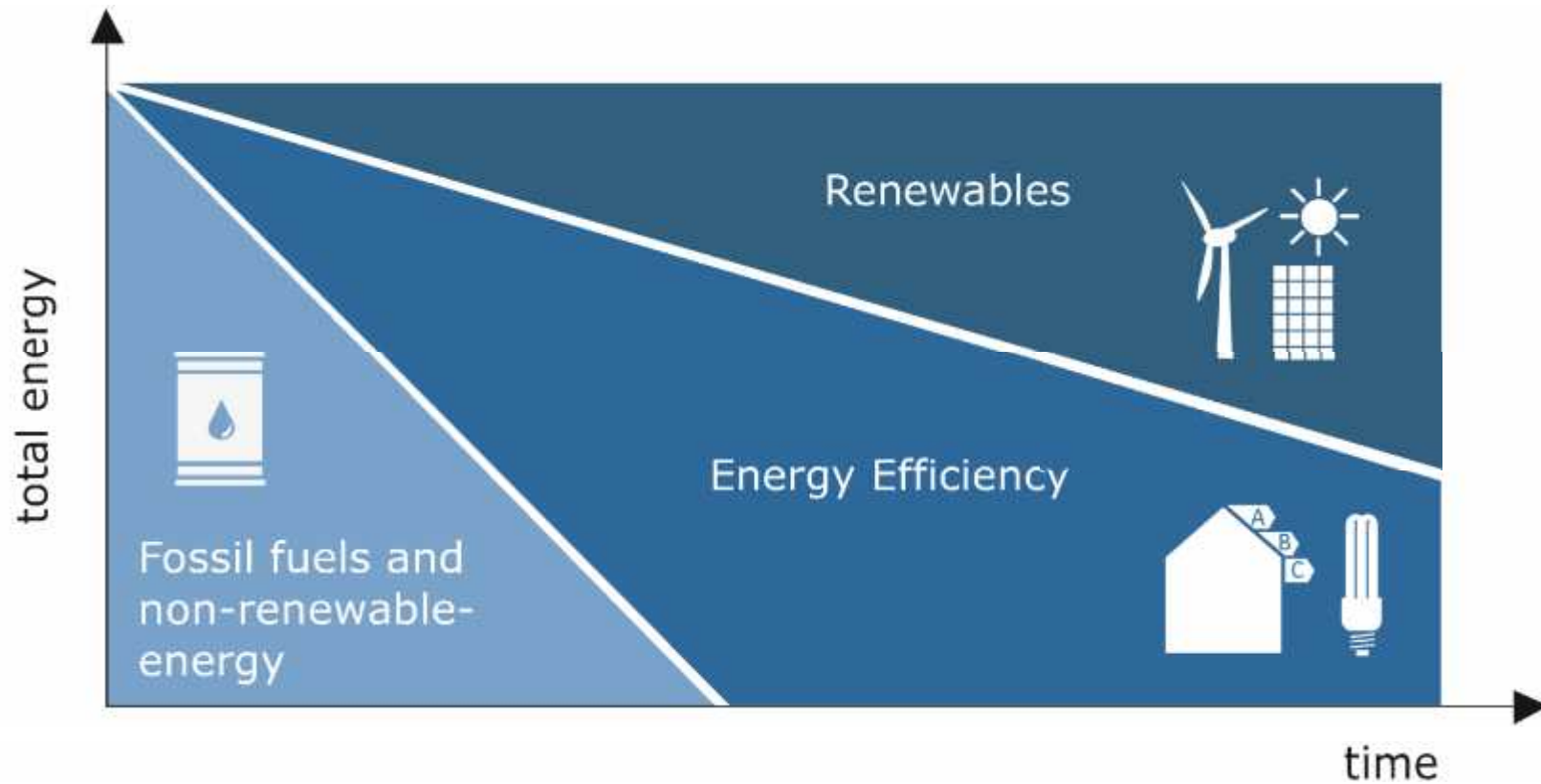


Minister of Energy: „The Electricity Spy“



Source: Die Tageszeitung

The importance of energy efficiency



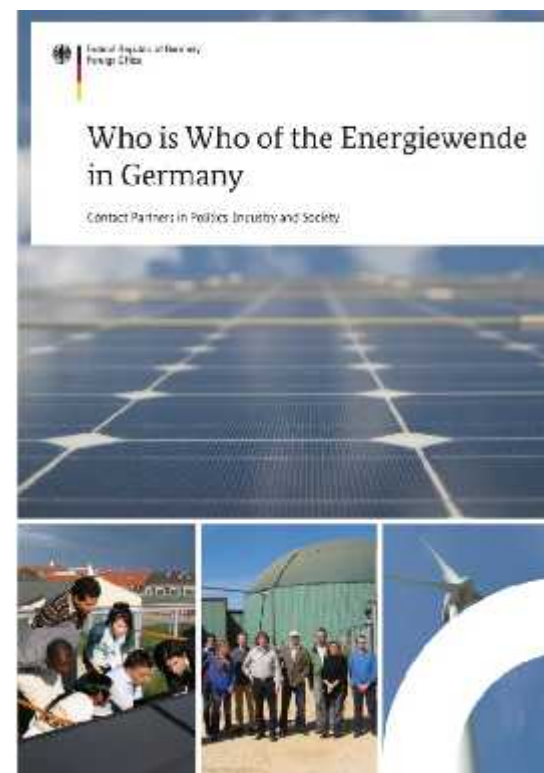
Energy efficiency provides us with the time needed to replace fossil fuels in an ecological, economic and socially responsible manner

Source: RENAC based on www.eceee.org

Actors: Information brochure: „Who is Who”



- **Profiles, activities, positions** of major actors of the Energiewende in Germany
- **Contacts in politics, industry and society**
- Further information and weblinks
- https://www.auswaertiges-amt.de/cae/servlet/contentblob/701026/publicationFile/203679/Energiewende_EN.pdf



The Foreign Office has published the information brochure „Who is Who“ of the Energiewende, profiling the relevant actors and contacts in Germany.

Source: Foreign Office 2015

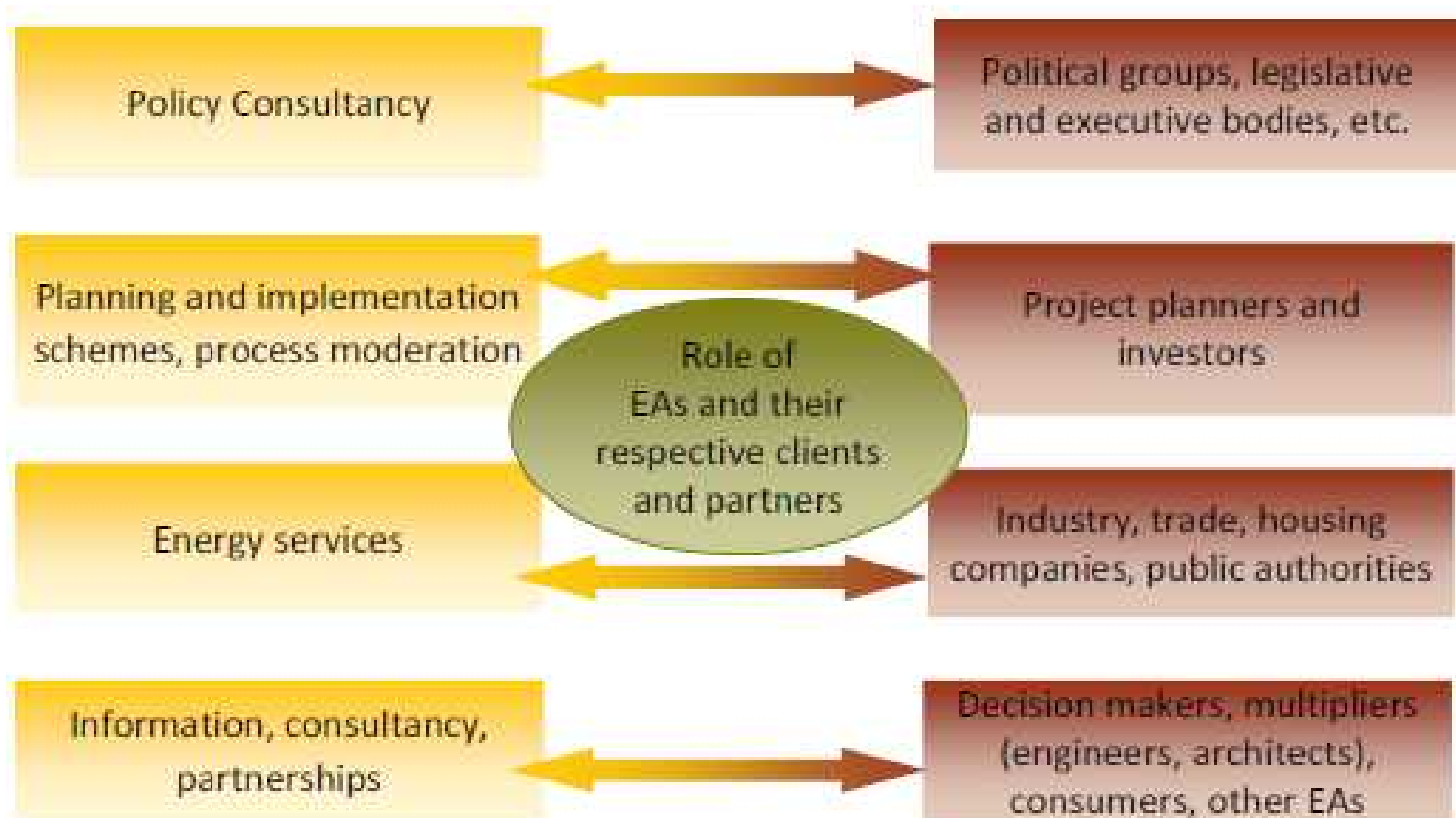
Energy Efficiency Policy in the Caribbean

- Energy Efficiency is key due to high **dependence on energy (oil) imports**, high **energy costs** and limited access to Renewable Energies for full supply coverage on some islands
- GIZ, OAS, IADB and others have supported **National Energy Policies** and **Action Plans** in a number of Caribbean countries
- All Energy Efficiency Policies are based on:
 - Status-quo analysis (baseline)
 - Identification of saving potentials
 - Economic assessments
 - Determination of targets and timelines
 - Options for policy intervention (legislation, standards, financing, campaigns, etc.)
 - Time-bound action plans
 - Tracking/Monitoring of achievements

Energy efficiency actions in the Caribbean

- Making energy-related **building standards** mandatory:
 - Insulation of roofs
 - Installation of shading devices on E/W facades
 - Use of double-glazed windows
 - Use of solar thermal systems for water heating
 - Installation of high-efficient mini- or multi-split ac systems
- Model function of the **public service**, e.g. by establishing guidelines for the purchasing of energy-efficient equipment
- Introduction of region-wide mandatory **energy efficiency labels** for major products, such as refrigerators/freezers, air-con, washing machines, lamps (see approach done by ECELP in OECS)
- Improved **information and advisory service** for all consumption sectors, including **energy audits** for commerce and industry
- Provision of **fiscal and financial incentives**
- **Capacity building** from technical planning to installation

Client/partner relationship

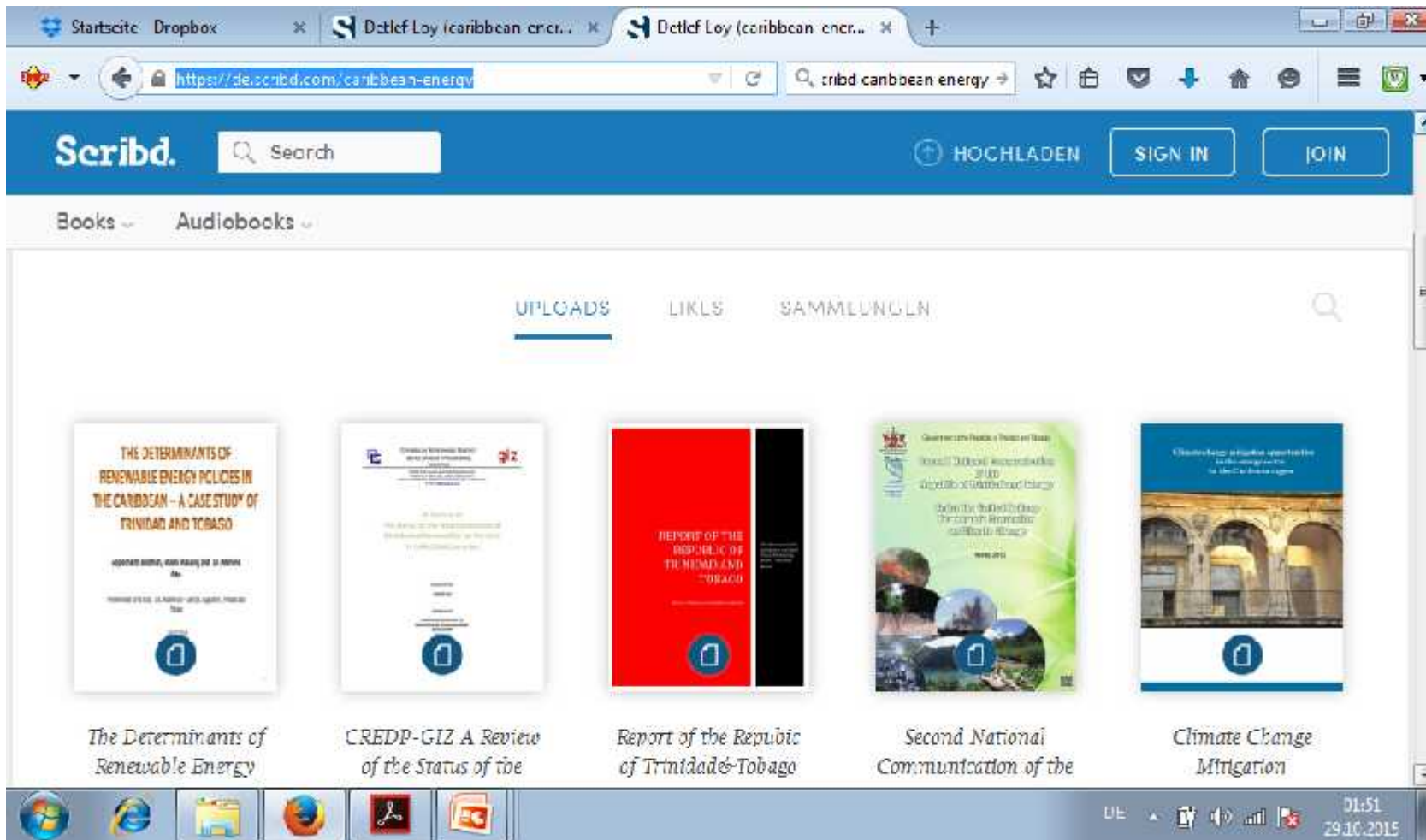


Source: FEDARENE

Caribbean Energy Agency – Possible activities

- Information, awareness raising and motivation services for energy consumers
- Consultancy /energy audits for public and private sector
- Demand-side-management programmes for/with utilities
- Assistance for governments in funding programmes, normativity, model projects, planning for long-term energy supply, statistical services on energy supply and consumption
- International relationships (OLADE, ECLAC, IRENA etc.)
- Attracting international funding and financing, carry out cooperation projects
- Assessment of energy resources
- Advise for public sector in purchasing energy-efficient equipment
- Assistance in preparing and implementing climate change projects

„Library“ on Energy in the Caribbean



Source: Detlef Loy

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Thank you!

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<https://de.scribd.com/caribbean-energy>

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