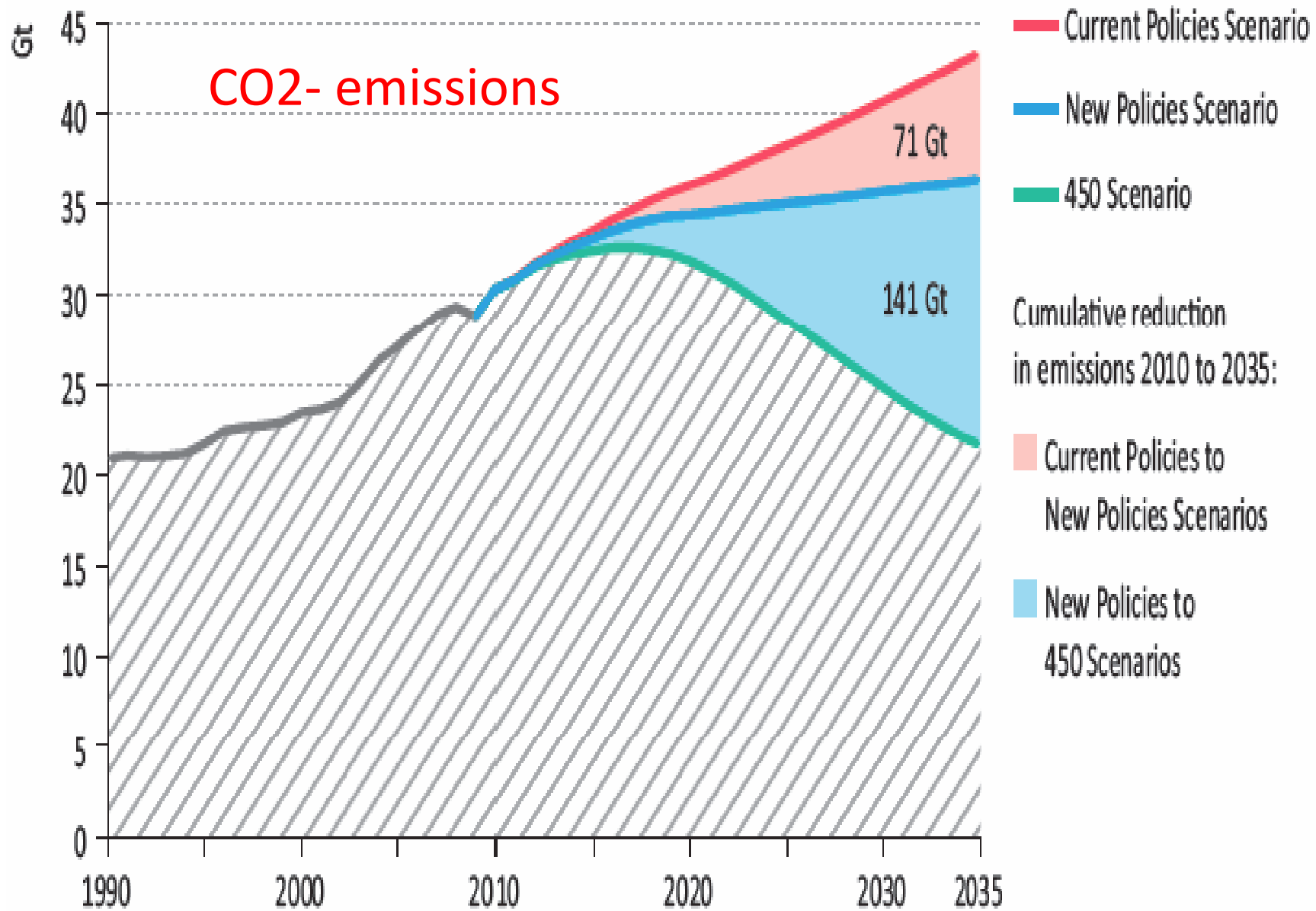
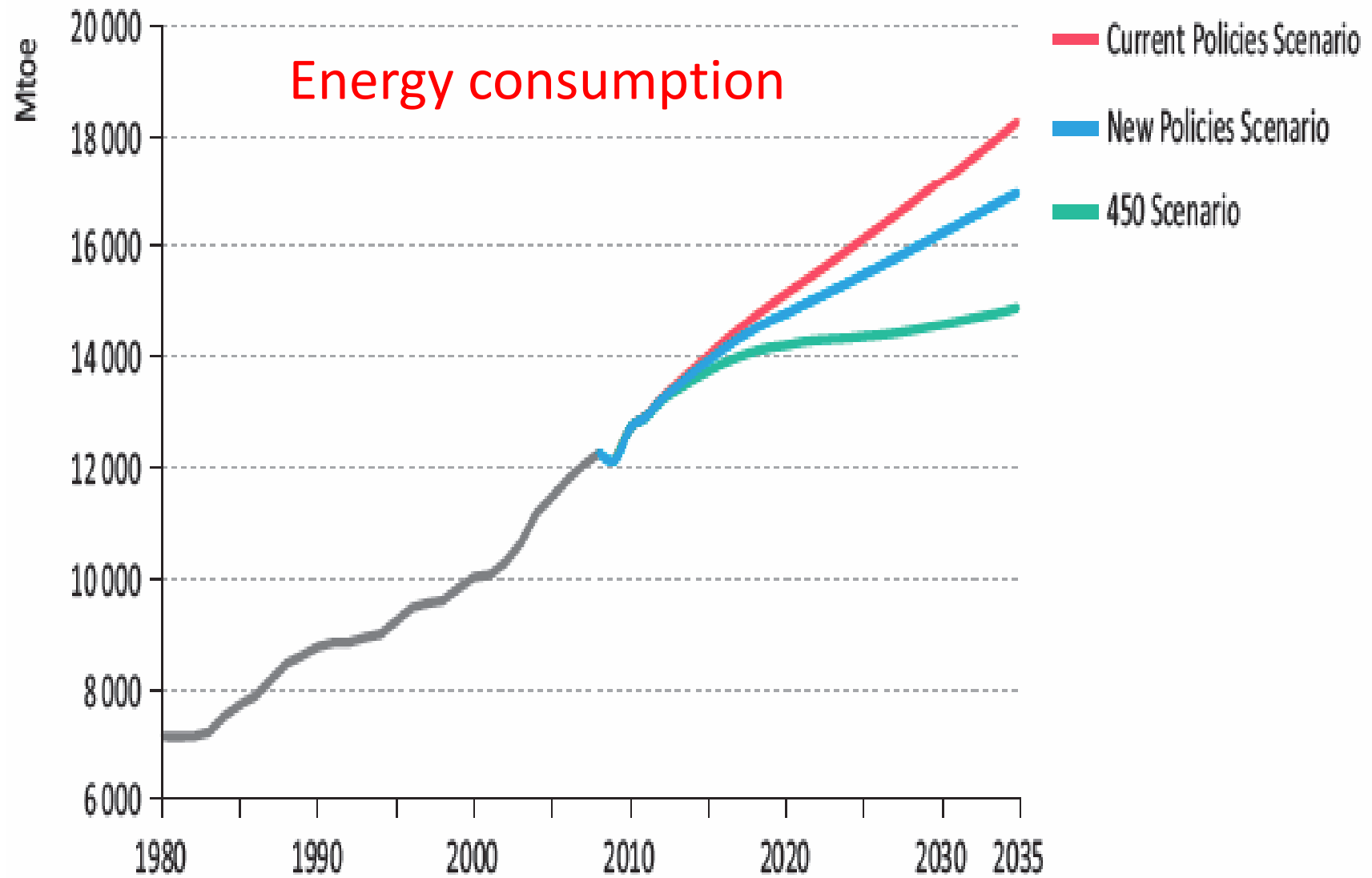


# Civil society, governance and the energy transition

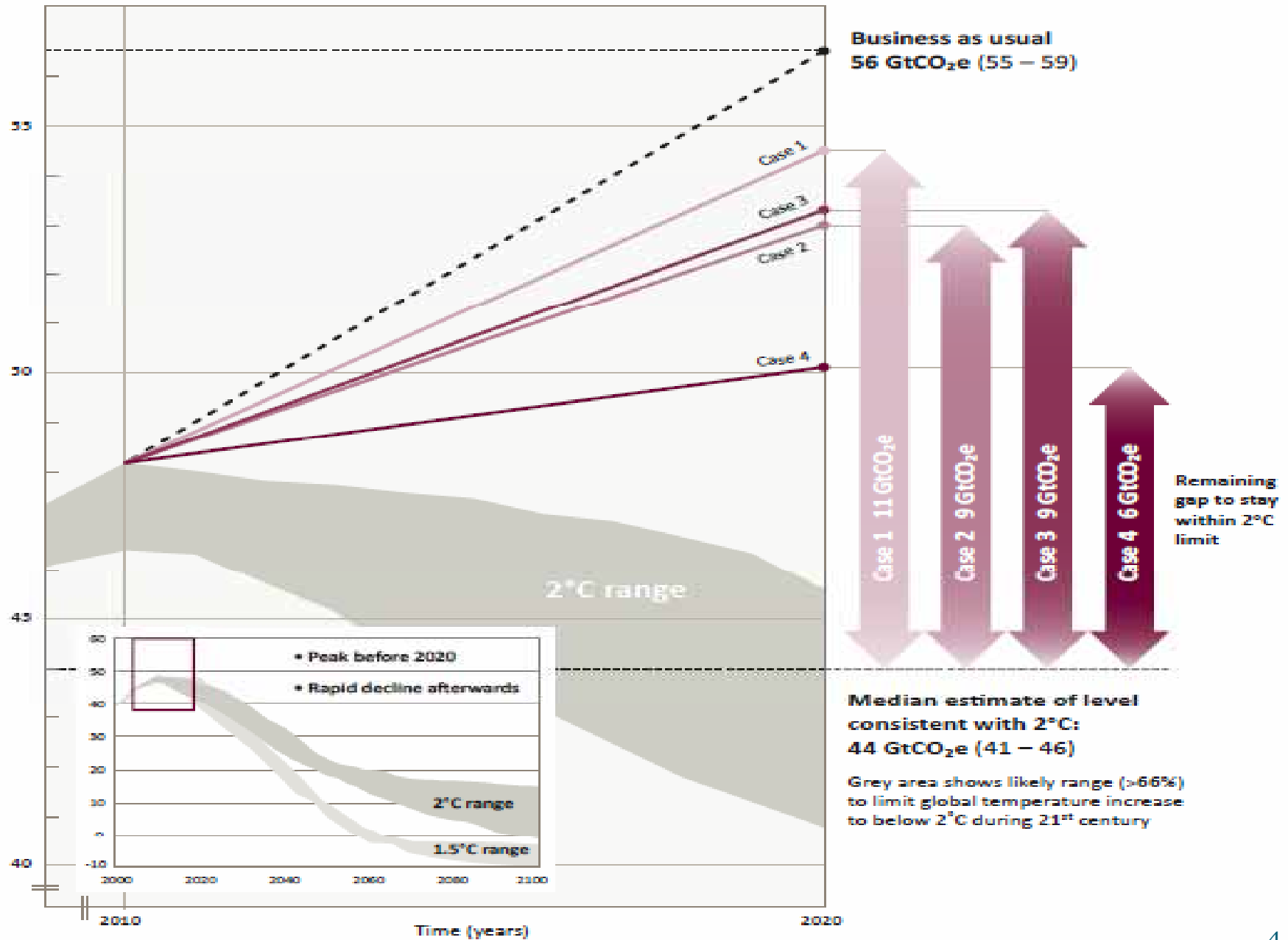
*International Conference on Regional Energy Governance  
and the Nexus Perspective: Challenges in the Asia Pacific  
Region.*

*Jan Andersen Roskilde University Denmark*

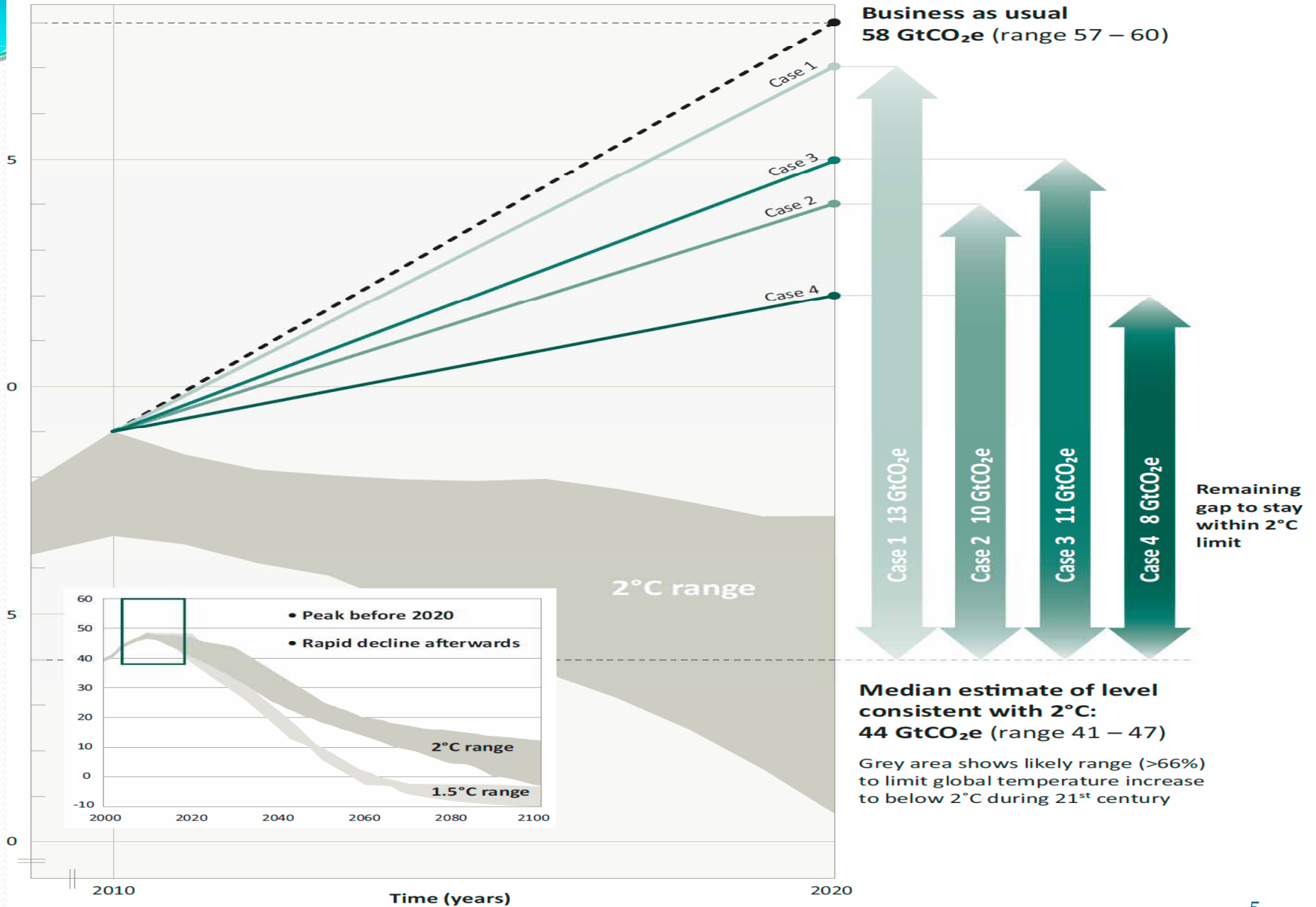




## The emissions gap



# The emissions gap





# Focusing on market or planning

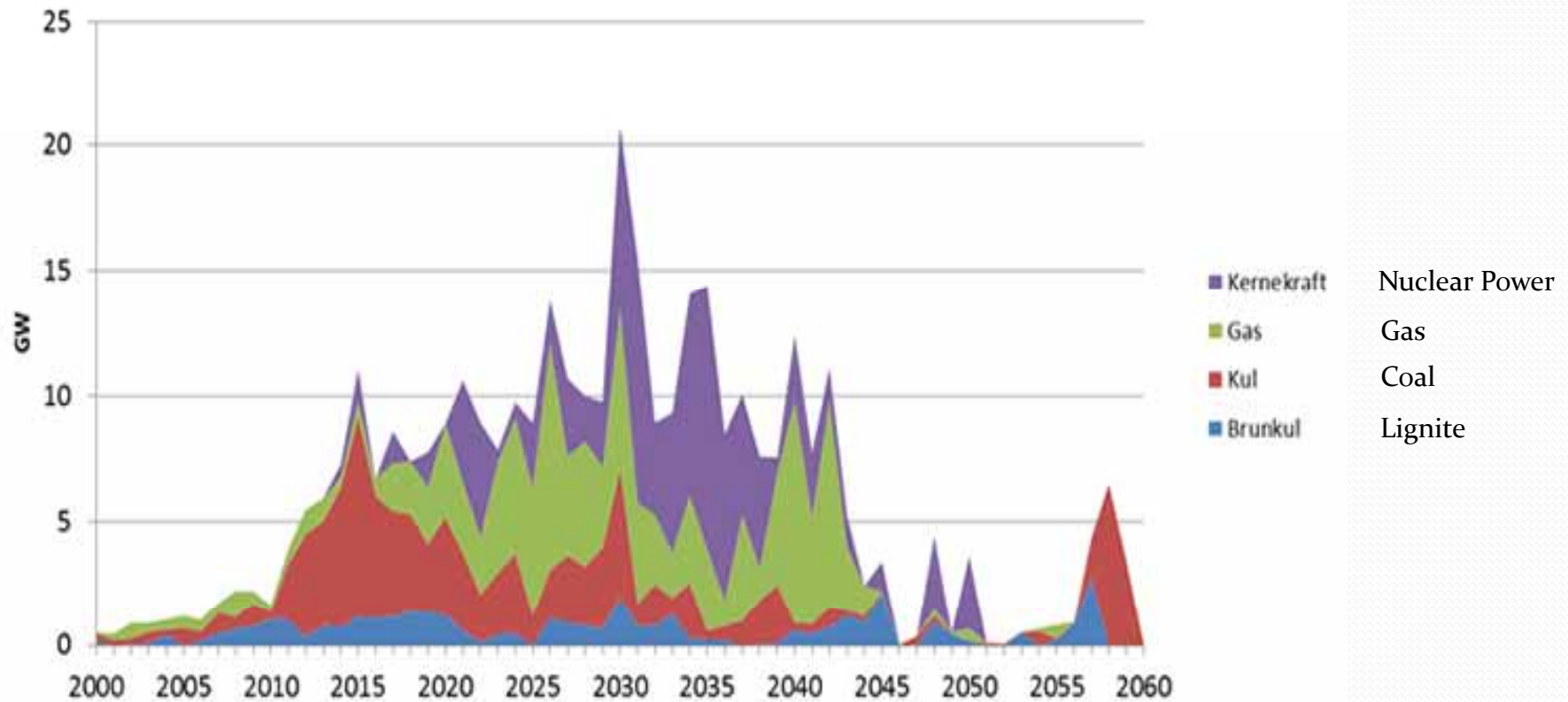
- Earlier most of the institutions in the energy sector were public based
- Today most of the institutions are private hoping to reduce cost's based on increased competition
- But we have many experiences that instead of increased competition we have created private monopolies giving problems in respect of costs and investments
- In europe we need electricity capacity!

# Reduction of Electricity Capacity (GW)

Country/Region	Actual Installed Capacity	Before 2020	Percentage	2020-2030	Percentage Total until 2030
Poland	32	14	43	10	74
Germany	99	30	30	33	64
UK	81	24	30	26	62
Baltic Countries	6	3	51	1	65
Scandinavia + Finland except DK	32	4	12	13	52
Denmark	8	2	20	3	63
Holland/Belgium	43	8	19	14	51
France	82	5	6	17	27
Total 15 Countries	375	90	24	113	54

# Decommissioning of Power Plants in countries of Northern Europe

Dekomissionering af værker i landene omkring Nordsøen og Østersøen





# European Union

- The EU aims to get 20% of its energy from renewable sources by 2020.
- Renewables include wind, solar, hydro-electric and tidal power as well as geothermal energy and biomass.
- More renewable energy will enable the EU to cut greenhouse emissions and make it less dependent on imported energy.
- And boosting the renewables industry will encourage technological innovation and employment in Europe.

# DK Energy Agreement, March 22 2012

- This agreement implies a 12% reduction of gross energy consumption in 2020 in comparison to 2006;
- A share of 35% renewable energy in 2020;
- And 50% wind energy in Danish electricity consumption in 2020.
- The agreement is important for delivering on the political goal that Denmark's **entire energy supply** (electricity, heating, industry and transport) is covered by renewable energy in 2050.



# Other Countries

**In the last year, major energy-consuming countries have announced new measures:**

- China is targeting a 16% reduction in energy intensity by 2015;
- The United States has adopted new fuel economy standards;
- Japan aims to cut 10% from electricity consumption by 2030.

## Fossil fuel energy consumption (% of total)

### Denmark

2003	2004	2005	2006	2007	2008	2009	2010
89.7	85.5	82.2	86.7	82.1	80.5	80.4	79.8

### Vietnam

2003	2004	2005	2006	2007	2008	2009
43.0	49.3	49.4	50.2	52.3	53.7	56.2

### Malaysia

2003	2004	2005	2006	2007	2008	2009
94.2	94.0	95.1	95.0	95.3	95.1	94.7

# Economic Development

- Growth is a very important driver for increasing use of energy.
- Between 2000 and 2009, Vietnam exhibited a **four-fold increase** in total national GDP from 22.6m USD to 85m USD
- The country has recognized a decrease on the poverty rate from 18.1% in 2004 to 12.3% in 2009

# GDP per unit of energy use in Vietnam

2003	2004	2005	2006	2007	2008	2009
3.3	3.2	3.5	3.8	4.0	4.1	4.1

(PPP \$ per kg of oil equivalent)



## Import of Energy Vietnam

2003	2004	2005	2006	2007	2008	2009
-24.3	-31.3	-36.8	-38.4	-31.4	-20.7	-19.7

## Import of Energy Malaysia

2003	2004	2005	2006	2007	2008	2009
-52.0	-62.9	-46.3	-41.2	-29.6	-27.5	-34.2

# Vietnam

## Energy situation and Energy Policy

- One of the key elements in the Vietnamese energy policy is **security of energy supply**.
- Over the course of two decades Vietnam has emerged as an **important regional producer of oil and natural gas** in Southeast Asia.
- **Domestic consumption** of these resources has also **increased** as a result of rapid economic growth.
- 50% of Vietnam's domestic energy consumption **comes from oil**, with **hydropower (20 percent)**, **coal (18 percent)**, and **natural gas (12 percent)** supplying the remainder.
- According to the national energy development plan, in the 2010-2020 period, the energy demand will be larger than the production of energy
- Therefore, the country will start importing energy and the amount of the import will increase steadily while the energy sources will become scarce.



# Biomass Energy Resources

- Potential of biomass energy in Vietnam including **firewood, straw, agricultural residues** etc. was estimated about 43-46 millions TOE/year.
- 60% (26-27 mill TOE) is from firewood,
- 40% (17-19 mill TOE) is from other sources.
- Biogas energy potential was preliminarily estimated about 0.4 mill TOE/year.
- But if the total potential of biomass should be used **it could fulfill about 30%** of the total energy demand in Vietnam.

# Biomass

- Wood chips and rice straw are used locally in the households in the provinces for cooking.
- But cooking is taking place with very low energy efficiencies.
- Therefore it is important to have a program for replacing the old cooking stoves with new stoves with high energy efficiencies.
- In larger scale biomass is used by incineration of rice husk to produce electricity and steam.
- Also bagasse from sugar production is used to produce electricity and steam.

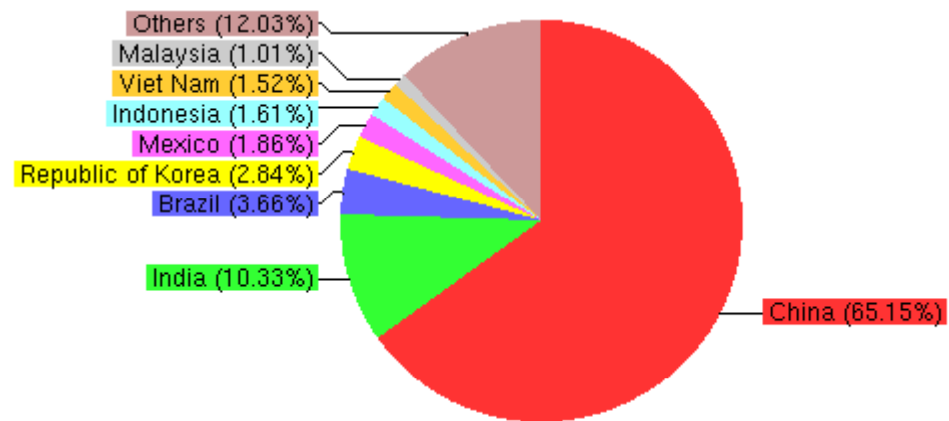
# Barriers

- **Low quality energy technologies** producing energy based on biomass
- **Lack of strong policy and regulatory framework** for encouraging biomass electricity production
- **Lack of reliable data on biomass energy sources**, making difficulties in planning projects and programs
- Biomass resources are widely distributed in the country results in the difficulties in management, collection and transportation
- Costs for biomass conversion technologies are still high
- Pricing of electricity generation from biomass are still high
- There is also a lack of knowledge in respect of relevant biomass technologies especially in small scale.
- Most of the biomass conversion technologies **are still imported** and are therefore expensive
- The electricity prices are low

## Local Energy office in Quang Nam Industry & Trade Department

- A project proposal of **using pellets of wood to produce electricity and heat has been developed**. Due to **lack of financing possibilities** the project has not been implemented yet.
- Other similar projects are in the same situation
- The staff in the Department is **very interested in using the CDM-mechanism** to overcome the investment problems when implementing new biomass projects,
- But there is a **lack of knowledge of the objectives** and the needed administrative procedures when using the CDM mechanism.
- There is also a **lack of knowledge in respect of relevant biomass technologies** especially in small scale.

Expected average annual CERs from registered projects by host party. Total: 701,497,078



<http://cdm.unfccc.int> (c) 23.11.2012 14:55

# Elements in a strategy

- Energy planning should be carried out to **specify the amount, type and distribution of surplus biomass resources**
- A program for **production of relevant types of biomass technologies** should be started
- A subsidizing arrangement for new cooking stoves with a higher energy efficiency should be implemented
- Possibilities of producing **biogas** at local farmers should be investigated
- **Specific tariffs for selling electricity to the grid** from biomass plants should be decided (feed in tariffs)
- **Securing knowledge at provincial level on use of CDM** to help reducing the investments of biomass plants

# Key Issues for National Programs implementation of Renewable Energy

## **Use of sustainable energy planning concept with involvement of the relevant stakeholders**

- Using criteria in respect of local energy resources, economy, environment, biodiversity, poverty.

## **Political commitment**

- Strong and sustained government support is a very important pre-conditions for success. “Nice” elements and targets in the energy policy is not enough.

## **Institutional strength**

- A strong central institution (a lot of capacity) in charge of the renewable energy program is essential.
- Supporting local institutions are also important

# Key Issues for international support

- Support for institutional strengthening
- Support for private sector, local government and community engagement
- Significantly increased grant funding required for institutions, planning and possible subsidy schemes
- Long-term engagement is important