

What kind of measures/market/ regulation is needed if we are to keep nuclear in Sweden?

Mattias Lantz – Analysgruppen

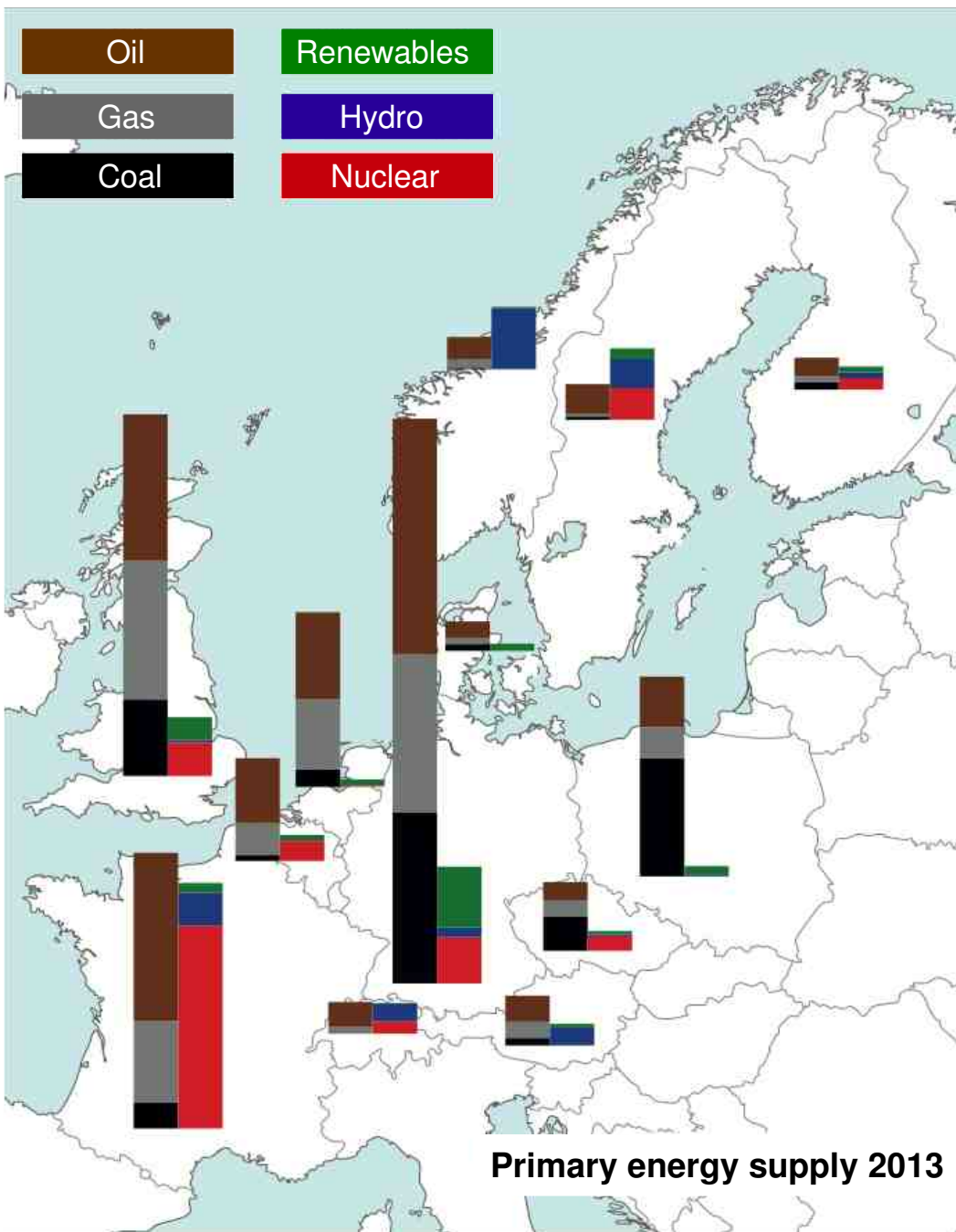


UPPSALA
UNIVERSITET

analys.se

***In Sweden we have clean,
stable and affordable
electricity,
our main problem is how
to get out of this fortunate
situation***

Percy Barnevik, ABB



In Sweden we have clean, stable and affordable electricity, our main problem is how to get out of this fortunate situation

Percy Barnevik, ABB

Source: BP Statistical Review, picture by Carl Hellesen, Uppsala University

Energiforsk Annual Nuclear Conference 2016 | Analysgruppen | 2016-01-20

analys.se

What factors block nuclear newbuild?

Not profitable

- Low electricity price

- Surplus of electricity (subsidized...)

Directed tax (effektskatt)

- Nuclear must have larger margin for profit

- Also on large scale hydro power (property tax)

Political risk

- No long term policy for nuclear (or other means of production...)

- Existing policies may change over time

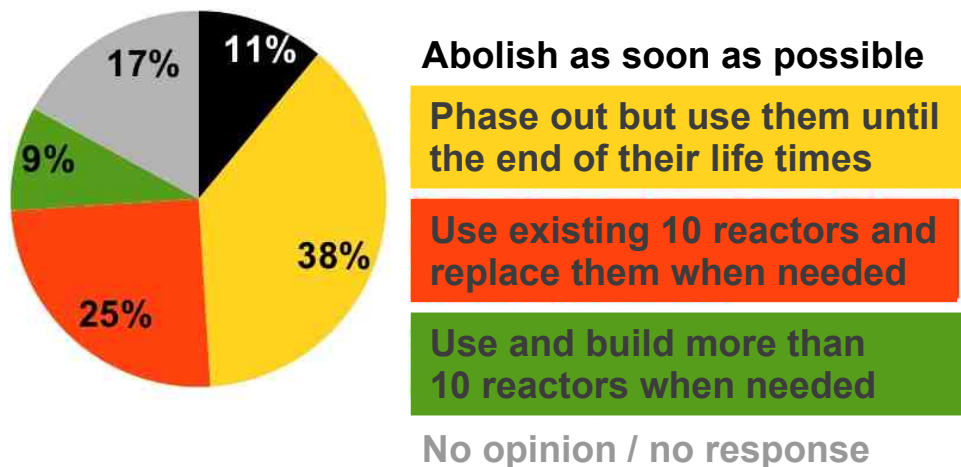
- Sweden: Nuclear phase out, energy transition, 100% renewables...

Political risk vs public opinion: related but not the same thing...

Does society want nuclear newbuild?

SOM institute 2014

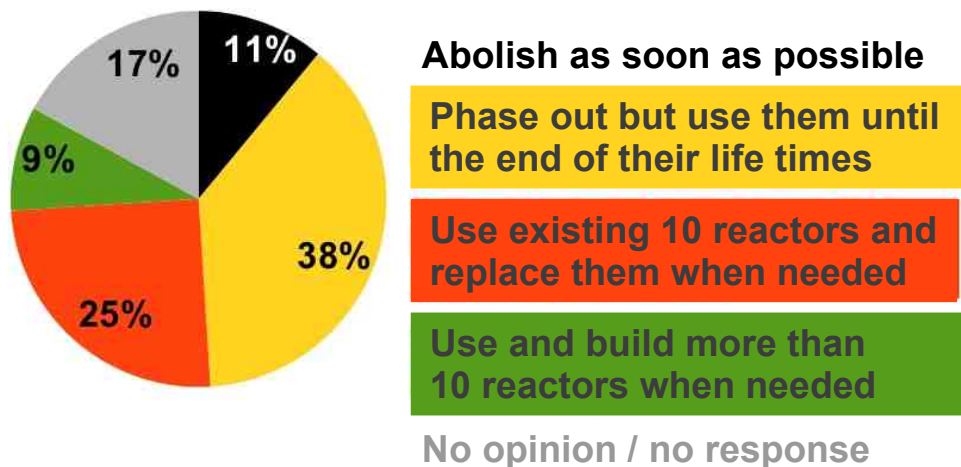
What is your opinion about the long term use of nuclear power in Sweden?



Does society want nuclear newbuild?

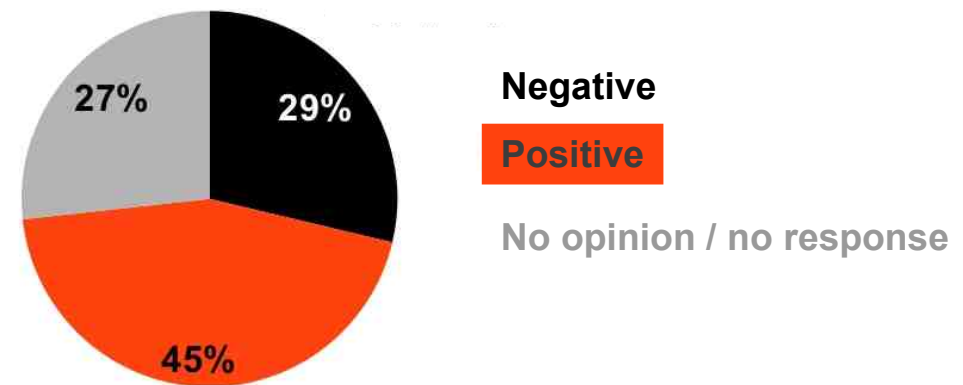
SOM institute 2014

What is your opinion about the long term use of nuclear power in Sweden?



Analysgruppen May 2015

Are you positive or negative to, if needed, replacing old reactors with new ones built at the same sites



What is needed to make new nuclear interesting?

A need for electricity

→ prices corresponding to the costs

Clear and long term energy policies

→ subsidies distort market investments

“No subsidies or subsidize everything” (Mats Nilsson)

→ Level playing field (same for all)

do not subsidize mature technologies

and no penalties for certain technologies

A working market is needed

Investment costs for new nuclear?

Uncertainty drives risk, leads to higher cost

- **Permit process**
- **Regulatory framework, licenses**
 - Harmonized for several countries would help a lot
- **Political risks vs clear political message**
 - Clear politics is NOT a subsidy
- **Interest rate (determined by the risk)**
- **Back-end?**

Different risk analysis for supplier and buyer

The risks have to be accommodated for (somebody has to pay)

Who should be responsible?

Today: Very short time horizons

→ Any responsibility at all?

Depends on your investments, and associated risks

- Electricity producer: Investments, risks
- Electricity trader: No obligations at all?
(make profit today, make profit tomorrow, ...)
- Grid provider (SVK): Have to deal with it
- Electricity user: Pays for electricity, grid, taxes...

Suggested solution

- Level playing field for all, but not enough in itself
- Make long term contracts (20 year time frame)

Put the responsibility on the electricity traders?

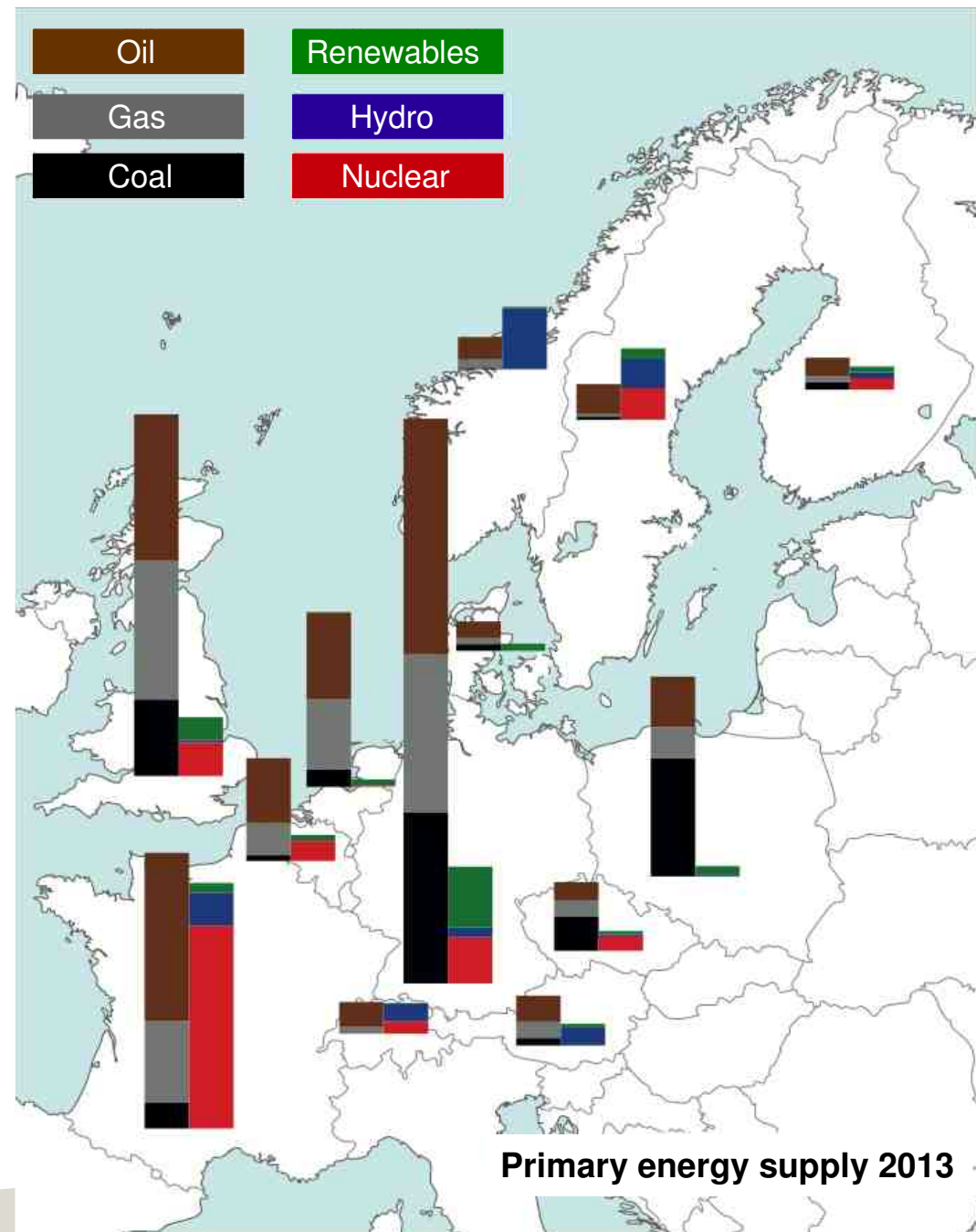
- The electricity producers can focus on doing what they should do best: produce electricity
- The grid provider can plan for long term grid stability
- The electricity user is involved through the trader

But remember...

Any system is part of the regional system, common solutions may be needed

Focus on goals, not on technology

100% renewables is not a goal, solving the climate issue is!



Source: BP Statistical Review, picture by Carl Hellesten, Uppsala University

analys.se