

ESPON Project 2.1.4

TERRITORIAL TRENDS OF ENERGY SERVICES AND NETWORKS AND TERRITORIAL IMPACT OF EU ENERGY POLICY

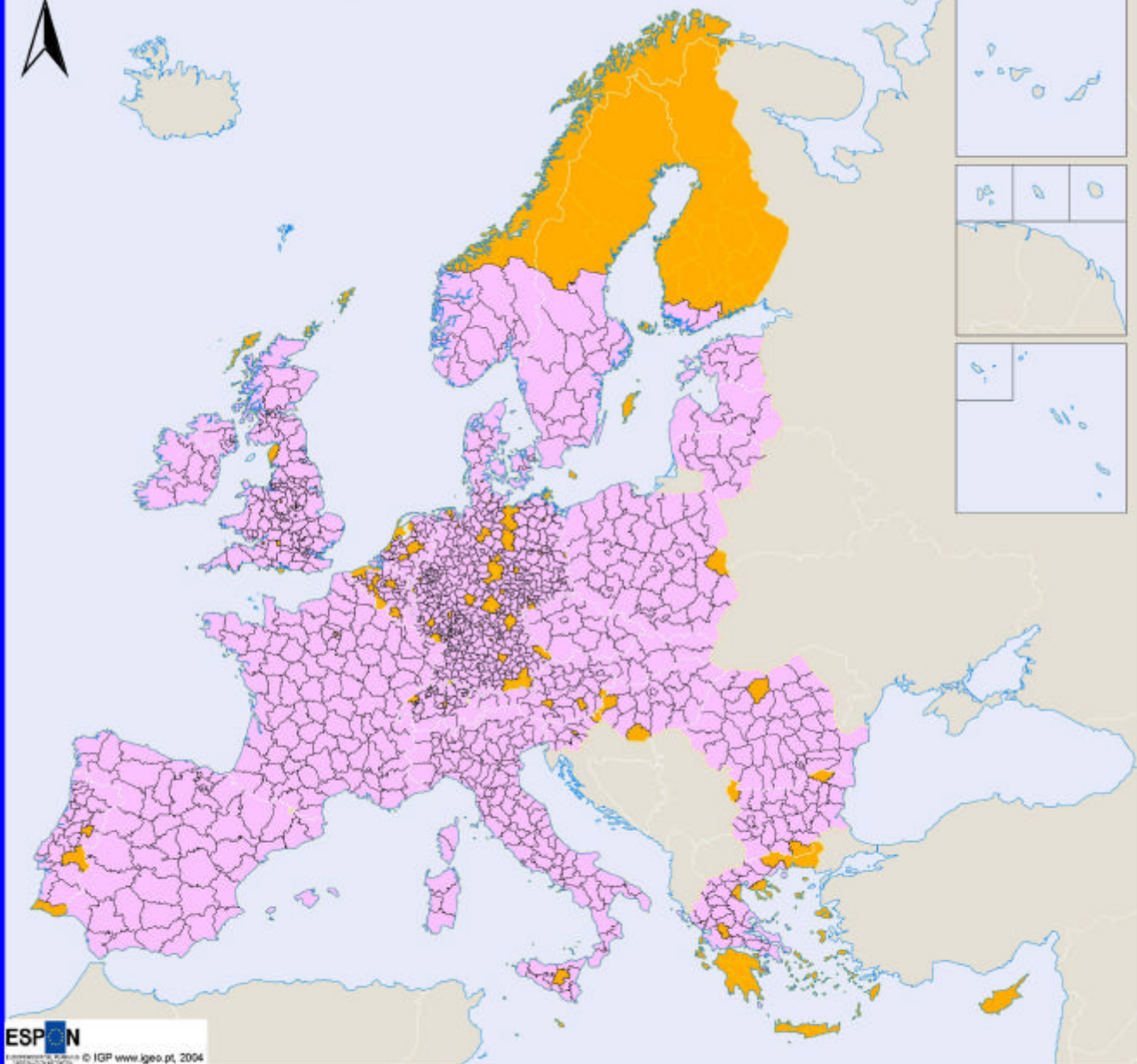


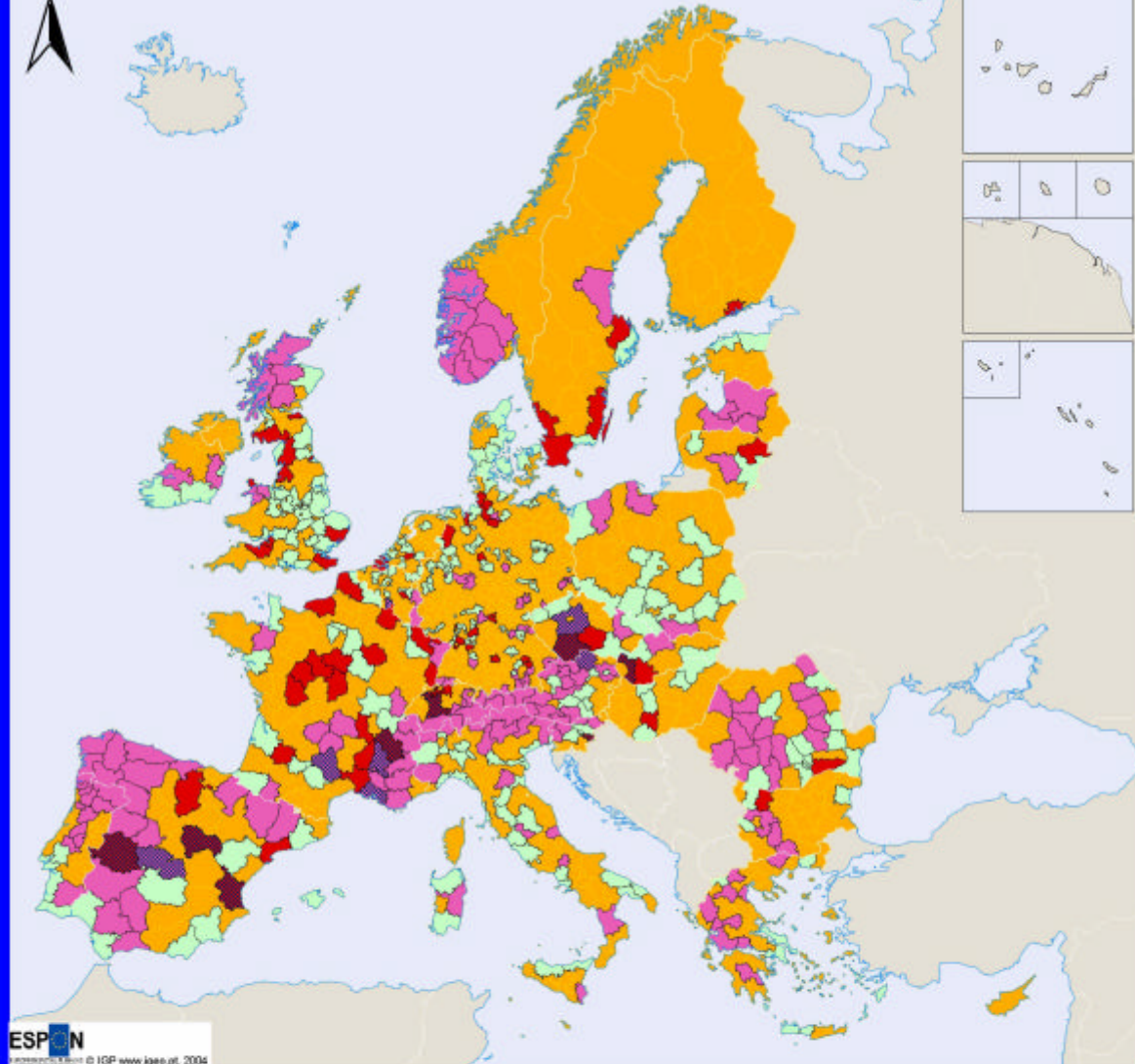
Luis Gomes Centeno

1. Analysis of trends and policy impacts

- Lack of energy data at regional level
- Energy seems ubiquitous

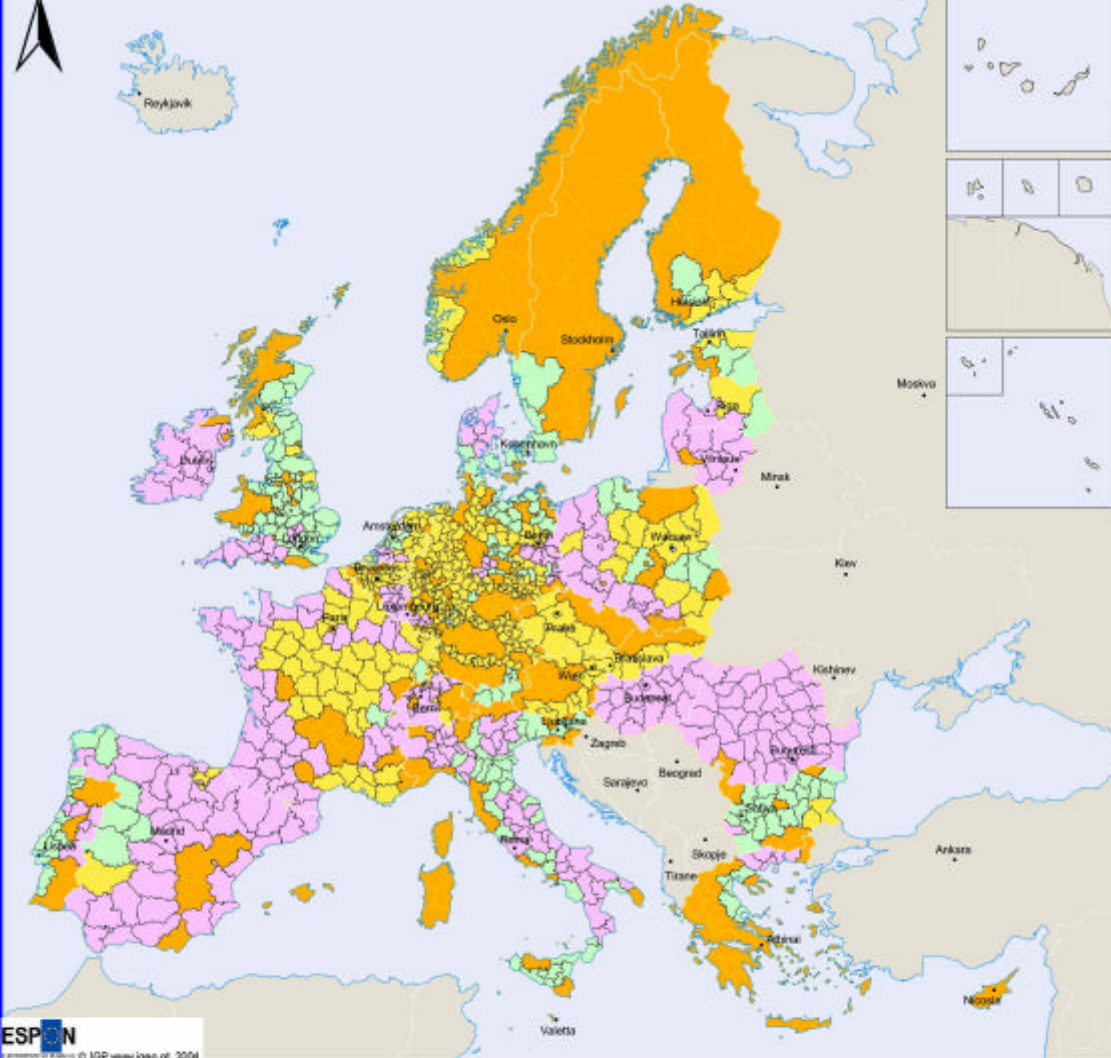






0 400 Kilometers

- Thermal, Nuclear and Hydro-electric Power Station
- Nuclear Power Station
- Hydro-electric Power Station
- Thermal Power Station
- Espo space nuts 3



0 400 Kilometers

- Nut3 Gas Transport by Pipeline under 24"
- Nut3 Gas Transport by Pipeline 24" to 36"
- Nut3 Gas Transport by Pipeline 36" and over
- EspoN space nuts 3

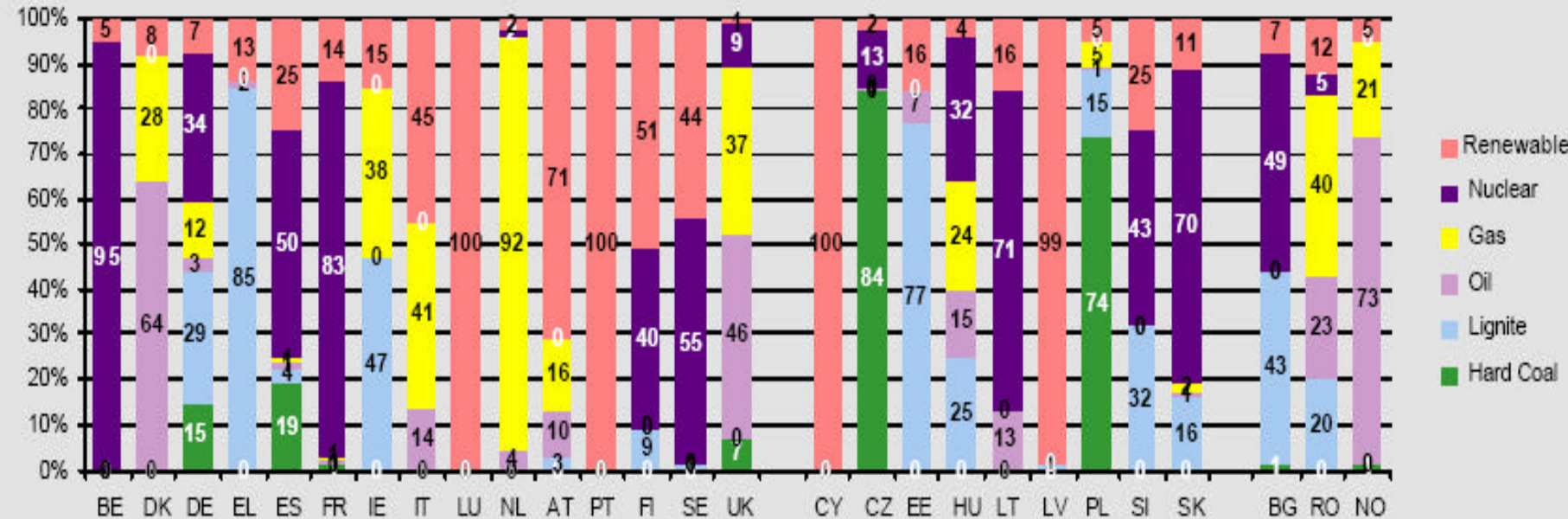
1. Analysis of trends and policy impacts (preliminary results)

- Lack of energy data at regional level
- Energy seems ubiquitous
- Very different energy structures (production and consumption)
 - Energy structures tell a part of countries history and reflect natural endowment

1. Analysis of trends and policy impacts (preliminary results)

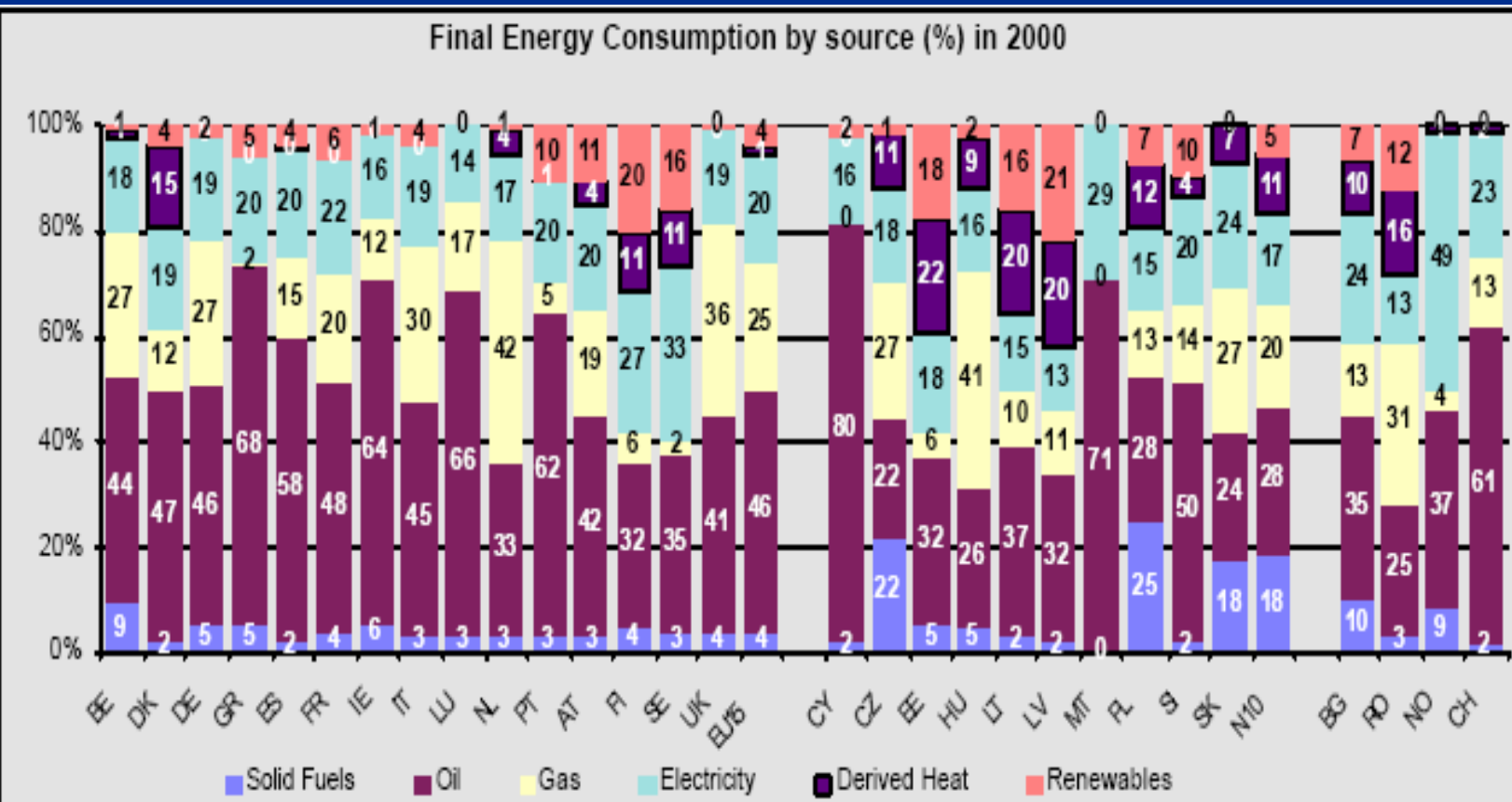
Very different energy structures - production

Primary energy production by source in 2001



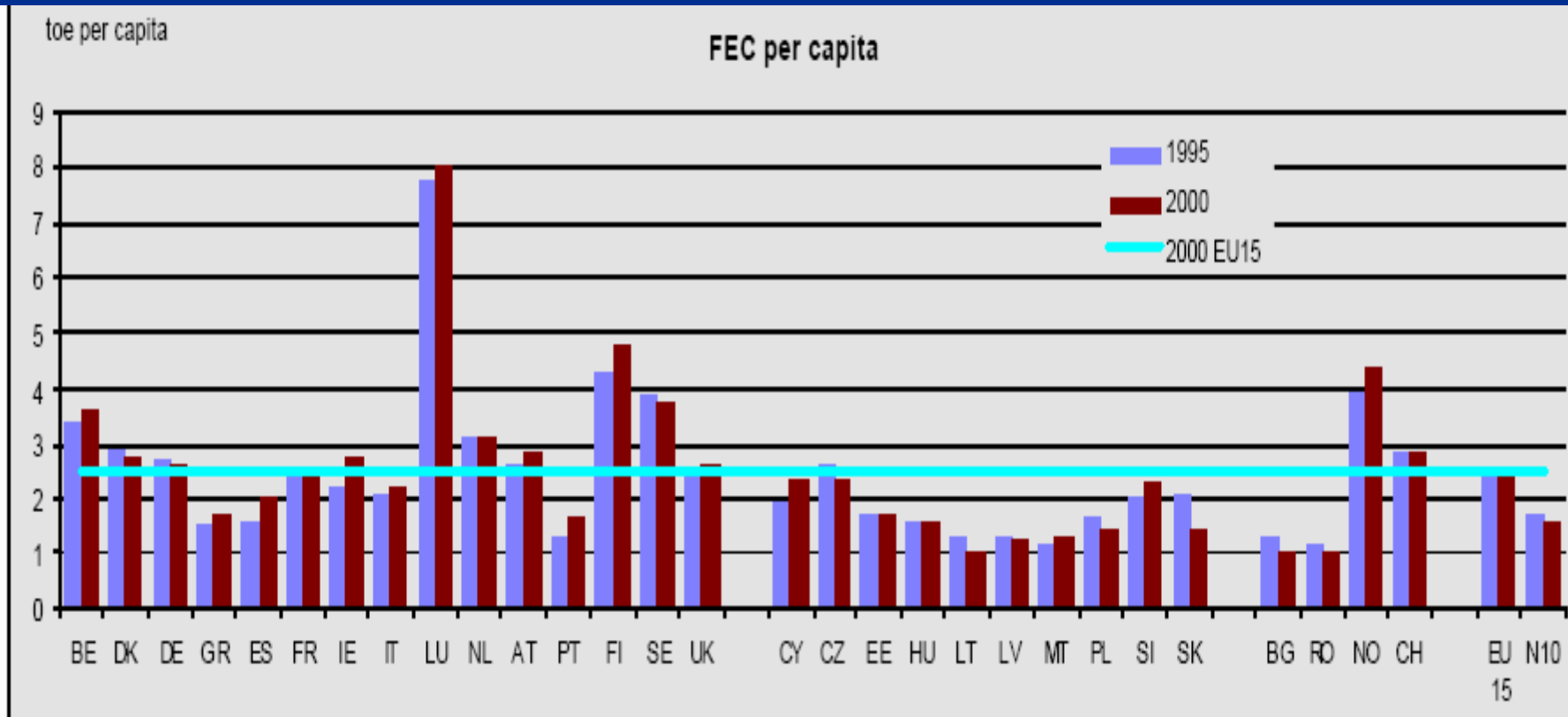
1. Analysis of trends and policy impacts (preliminary results)

■ Very different energy structures - consumption



1. Analysis of trends and policy impacts (preliminary results)

Very different energy structures - consumption

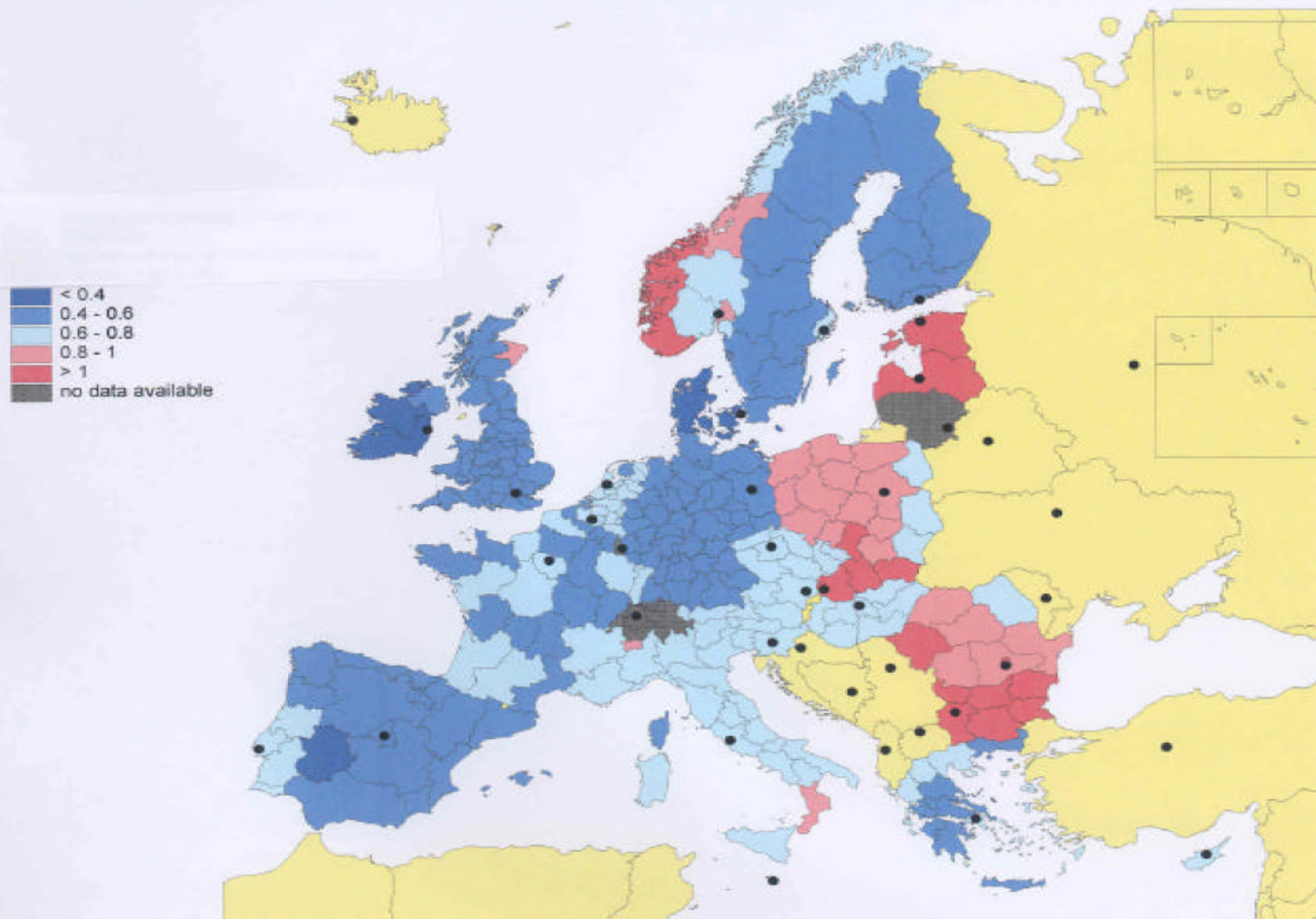


Source: Eurostat and IEA Energy Statistics.

1. Analysis of trends and policy impacts (preliminary results)

- Average low weight of energy in enterprise expenditure
 - *Do energy matter?*
- Evidence of impact in GDP of energy pricing

Impact of a 10% decrease in energy prices on regional GDP (percentage points)



Note: Provisional values

1. Analysis of trends and policy impacts (preliminary results)

- Evidence of perverse effect of energy prices reduction
 - higher energy consumption,
 - less incentive towards energy efficient use
 - no relevant evidence of competitiveness gains
- Evidence of positive effects of energy prices growth
 - Lower consumption
 - Significant push to energy efficiency gains
- Efficiency comes imbedded in development

1. Analysis of trends and policy impacts (preliminary results)

- Little evidence of sensibility of energy prices on economic location decisions
- Little evidence of strong local effects of large energy infrastructures

1. Analysis of trends and policy impacts (preliminary results)

Renewable energy sources may have important effects on local development...

- Employment (energy sector and raw material production)
- New industries (equipment and maintenance)
- Increase well being for local populations

... and in overall energy performance:

- Reduce dependency
- Promote development sustainability
- Reduce CO₂ emissions

2. Preliminary Spatial Policy Agenda

Macro level

- Interlinking to avoid burnouts and ease competition on a free energy market;
- Promoting full costing of energy usage, transferring environmental costs to the user;
- Promoting research on new energy sources;

Meso level

- Promoting energy efficient buildings and industries;

Micro level

- Promoting renewables as source for local energy production and local employment and industry opportunities.

2. Preliminary Spatial Policy Recommendations (1)

■ The need for an **integrated approach**:

- Free market vs. market regulation
- TEN-E vs. renewables
- Local income approach

■ Energy structures and services **push** development **and are pulled** by development

- Policies should target supply and demand
- Promoting decentralized production should be targeted
- Interlinking and increased redundancies are advisable
- Promote R&D in energy sources and efficiency

3. Preliminary Spatial Policy Recommendations (2)

- Focus on **local energy initiatives** may provide
 - Local income and employment
 - Strengthen local socio-economic fabric
 - Increase secure supply
 - Provide environment protection and reduce energy dependence
- **Focusing on low prices** for competitiveness may have perverse effects
 - Promote increased consumption
 - Reduce push for technological development and efficiency
 - Hinder full costing of energy use (externalities)

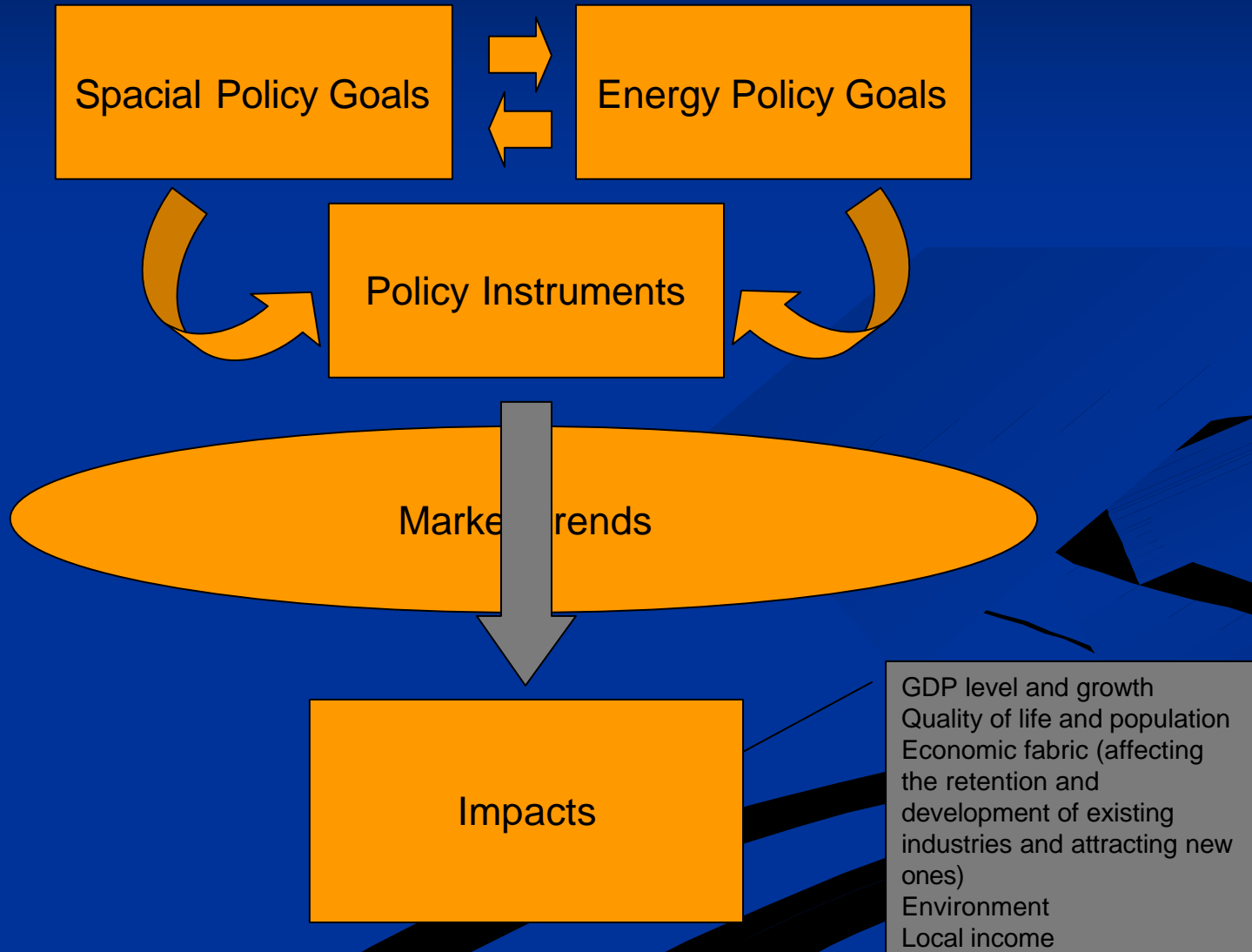
3. Towards the final report

- Work with TEN-E investment
- Redefine typologies
- Elaborate on policy recommendations

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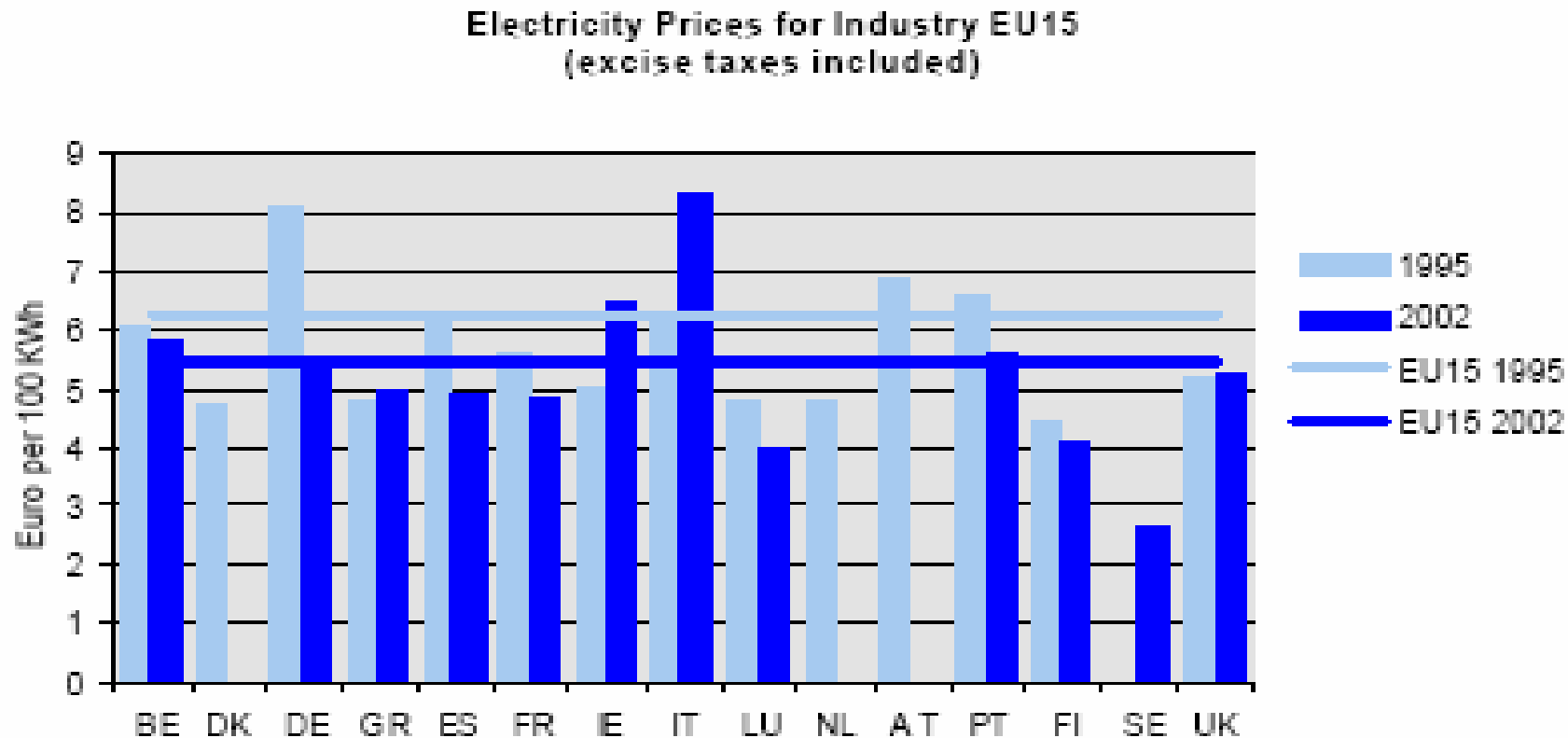


Operationalisation of spatial development goals and concepts



1. Analysis of trends and policy impacts (preliminary results)

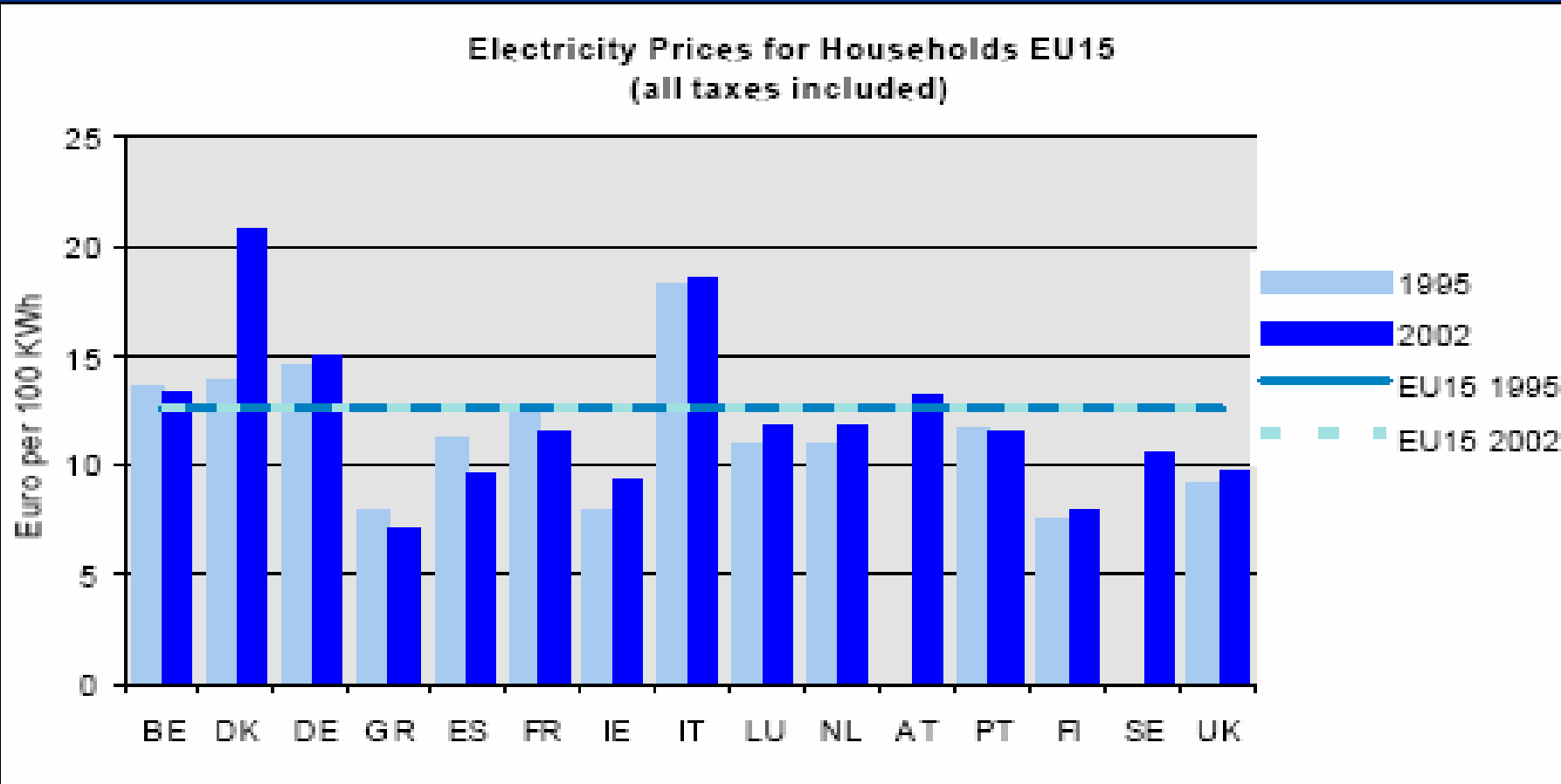
Very different energy structures - prices



Source: "Energy & Transport in Figures 2003". Eurostat.

1. Analysis of trends and policy impacts (preliminary results)

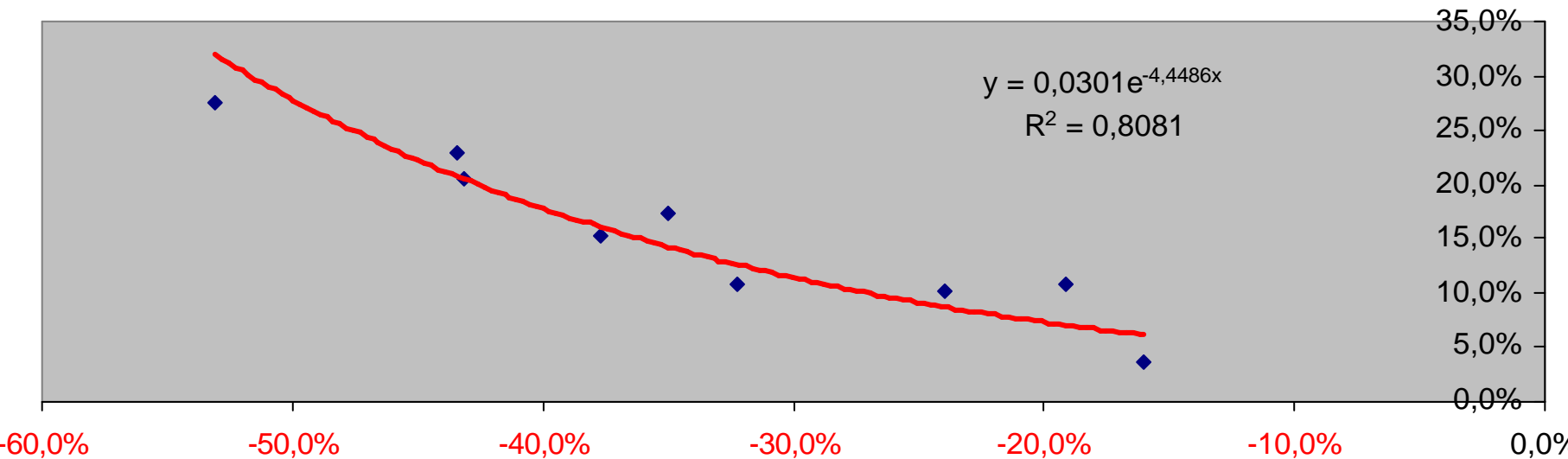
Very different energy structures - prices



1. Analysis of trends and policy impacts (preliminary results)

■ Very different energy structures – prices and consumption

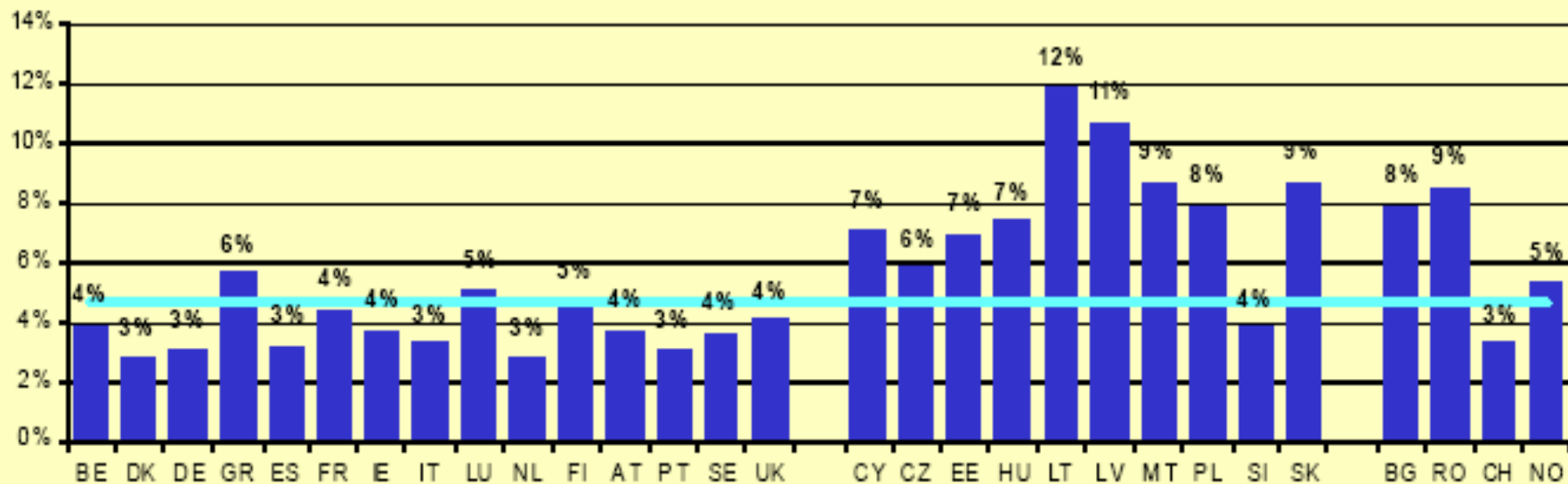
Var. of Industry electricity prices and consumptions in selected EU countries (00/95)



1. Analysis of trends and policy impacts (preliminary results)

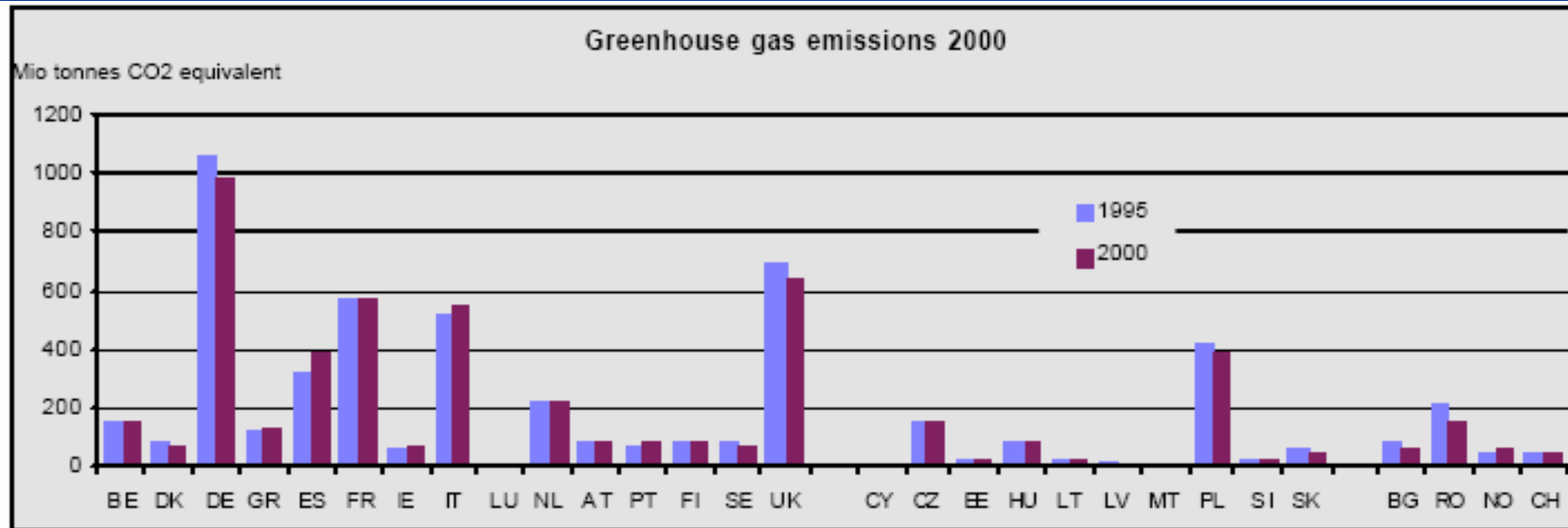
Very different energy structures – employment

% of the employed persons in energy sector on total industrial employment in 2001



Source: Eurostat, National Statistics for Switzerland (2001) and Malta (2000)

1. Analysis of trends and policy impacts (preliminary results)



Source: "Energy, transport and environment indicators 1991-2001", Eurostat