



# **SLOVENIAN STRATEGY AND RECOMMENDATIONS FOR A SUSTAINABLE INDUSTRY**

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# Introduction – Common Challenge

- Energy efficiency is recognised worldwide as a single most powerful and cost-effective way for achieving goals of sustainable development
- The difficulty comes in trying to reconcile the “development” with the “sustainable”
- The EU’s energy and energy efficiency policy provides a powerful and actually obligatory context for creation of energy efficiency policy in Slovenia

# Energy and Resource Efficiency – key development challenge for the EU

## ➤ KEY DILEMA:

**Paying fuels or intelligent efficient technology and new jobs?**

**– Slovenia is importing almost 100% of Natural gas, liquid fuels, low sulphur coal:**

- Primary energy costs of Slovenia: 2 billion EUR, >5% of GDP

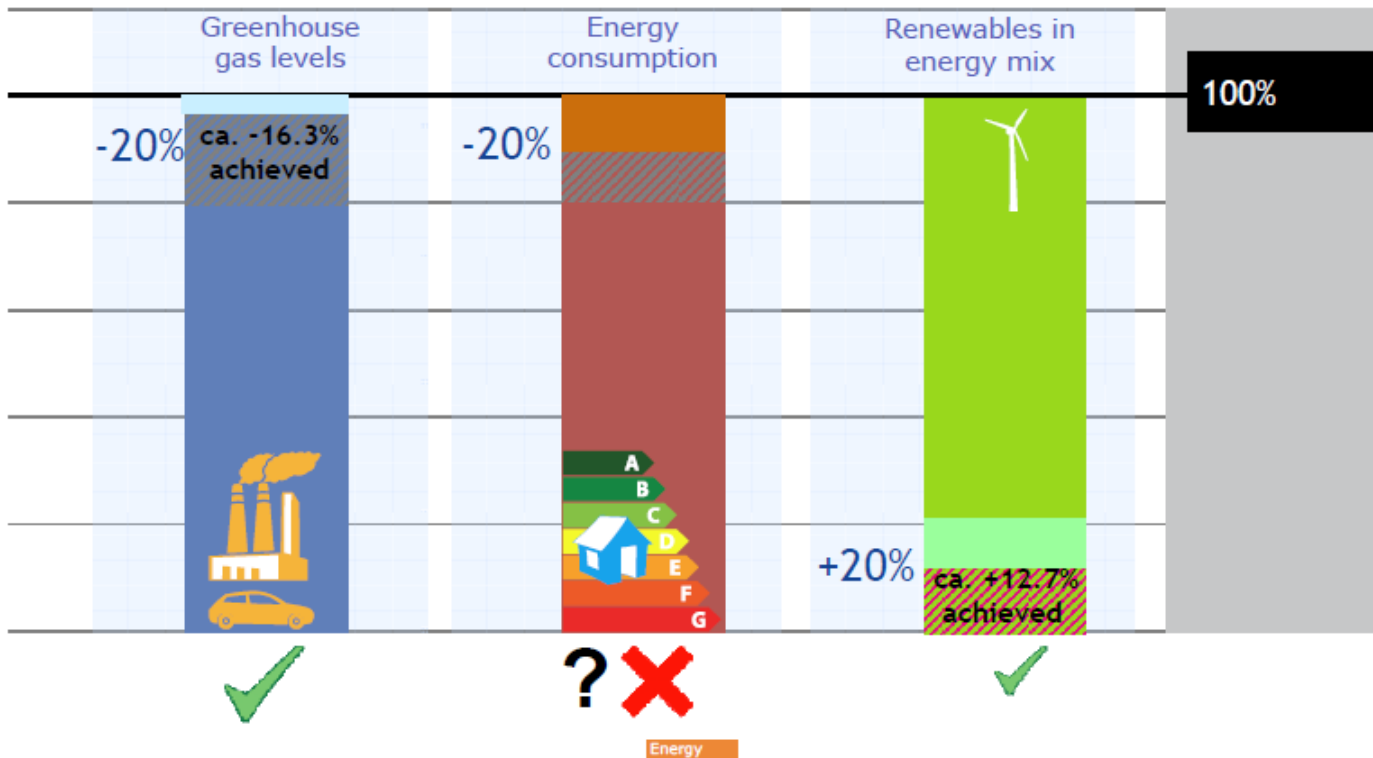
**• Huge business opportunity!**



# Our motivation!

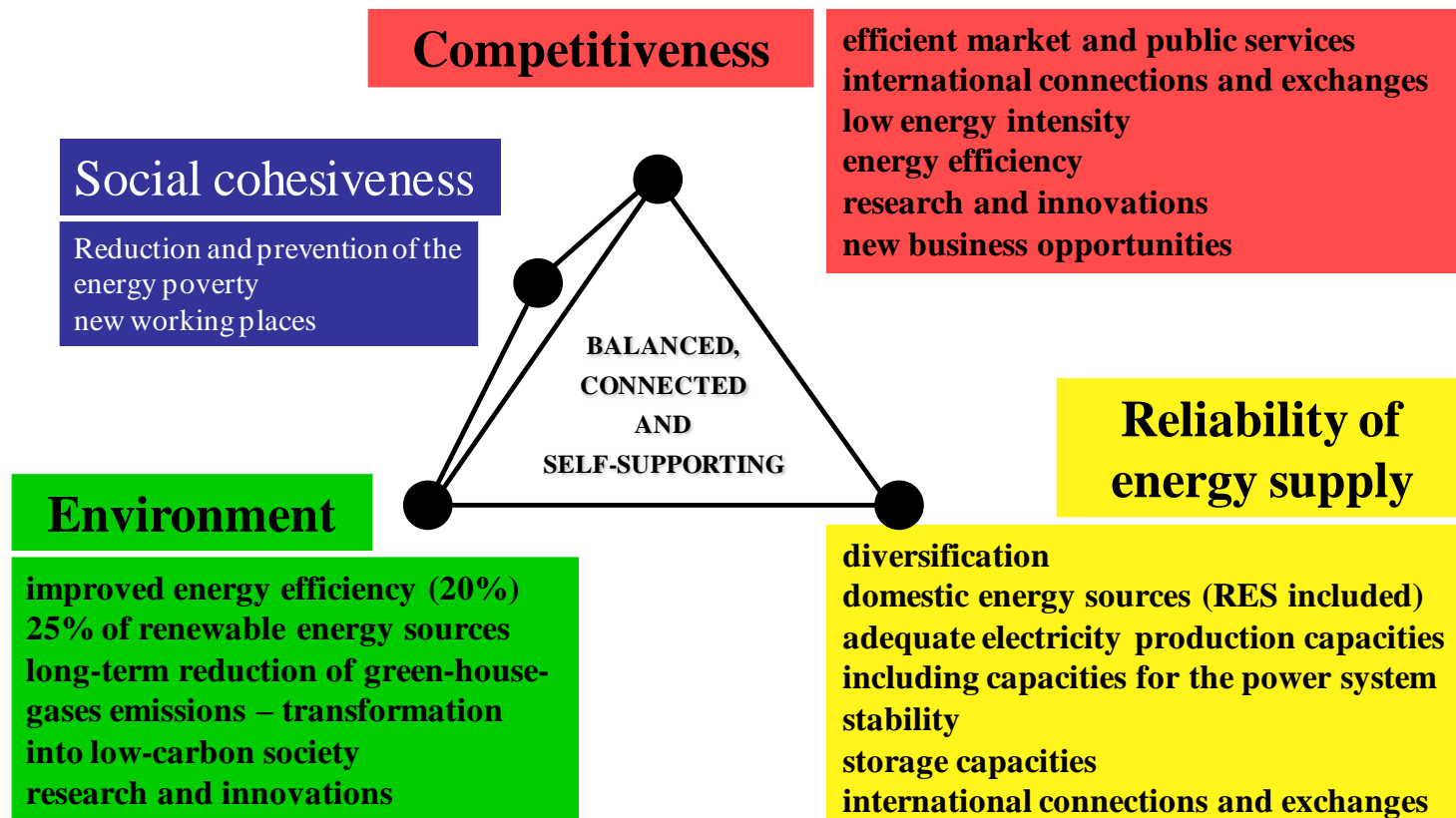


## ● The EU 20-20-20 policy: Where are we today?



# Objectives of the Slovenian Energy Policy

## ■ Four basic objectives



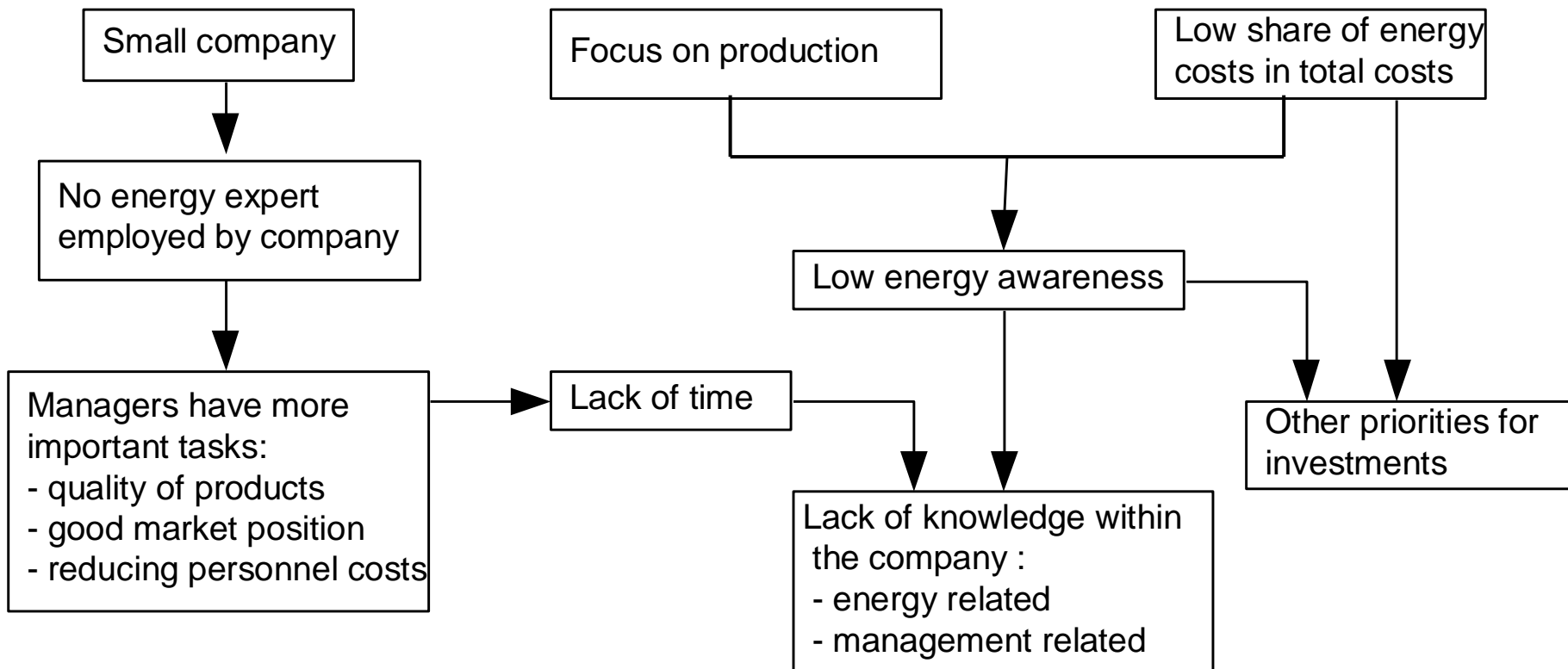
# Energy Efficiency in Industry - Slovenian Energy Policy

- Approach to implementation:
  - **Understanding** implementing environment
  - **Creating** political will
  - Implementation model - **continuous process** of monitoring and improving
  - Implementation capacity - **creating capacity** for policies implementation

# Barriers for the Integration of the Sustainability into Energy Policy

- Barriers are universal and not much different than in other countries, especially those with economies in transition
- The main barriers are:
  - **Legislative/institutional insufficiency** - absence of the implementation program follow-up and the clear definition of responsibilities of the management bodies in government and in the state owned energy companies
  - **Lack of incentives**, difficult access to appropriate **capital sources**, high up-front costs of technologies and perception of **high investment risks**
  - People tend not to see direct links between their actions and environmental performance: **Education and Motivation!**

# Barriers from the SME point of view!



**There is a need for a tool for monitoring and verification of energy savings and active human operator support for systematic reduction of the energy consumption!**



# Energy efficiency in Slovenian industry

## ALL COMPANIES

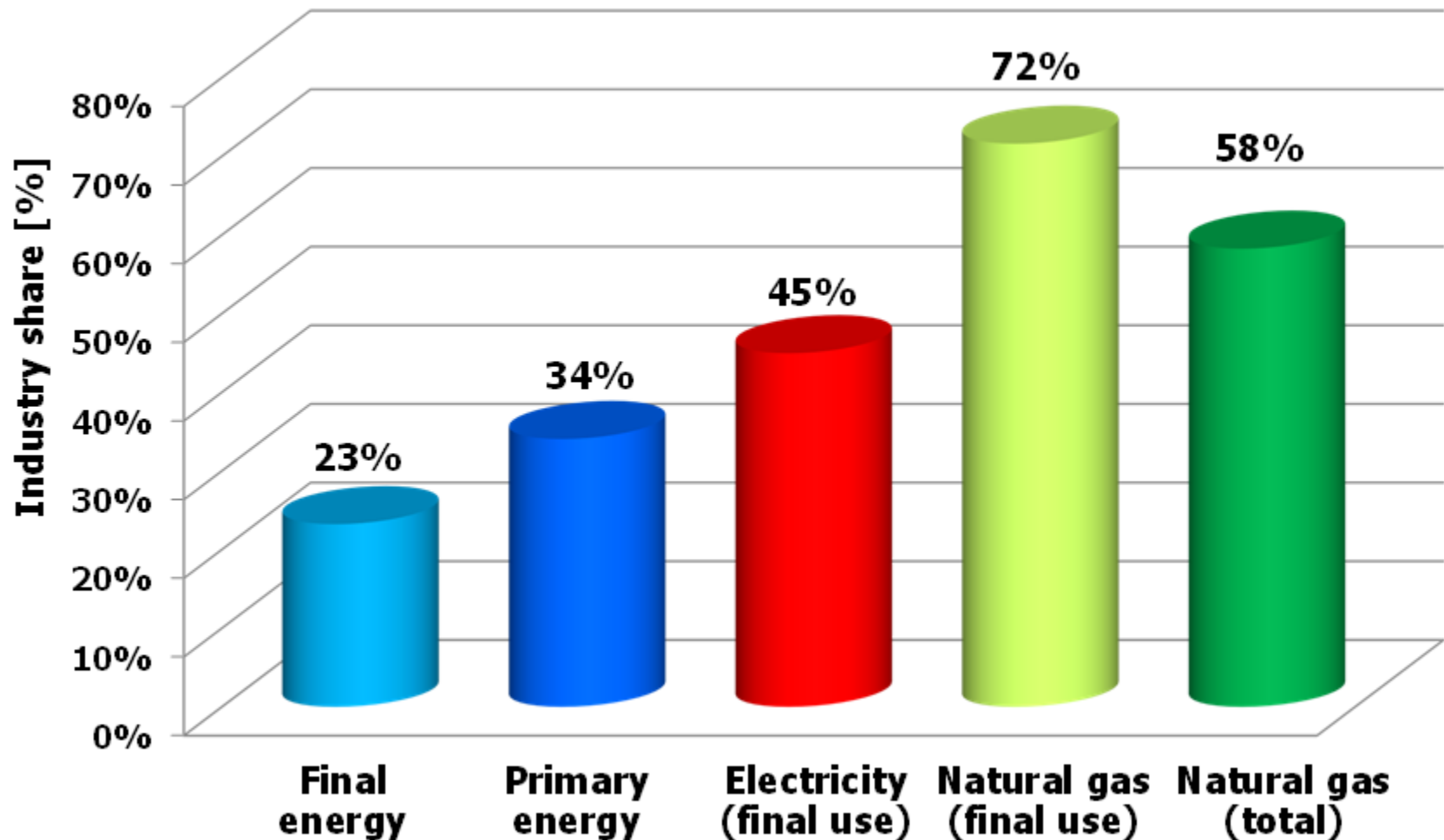
- **Energy costs reduction and environmental protection**
- **Competitiveness and creation of new jobs** (energy management, new and efficient technologies etc.)

## GREEN PRODUCTS

- **Orientation toward sustainable and energy efficient products and services** – key pathway for the future development of the Slovenian industry: new materials, energy industry, e-mobility, sustainable houses, ICT products and services, etc.

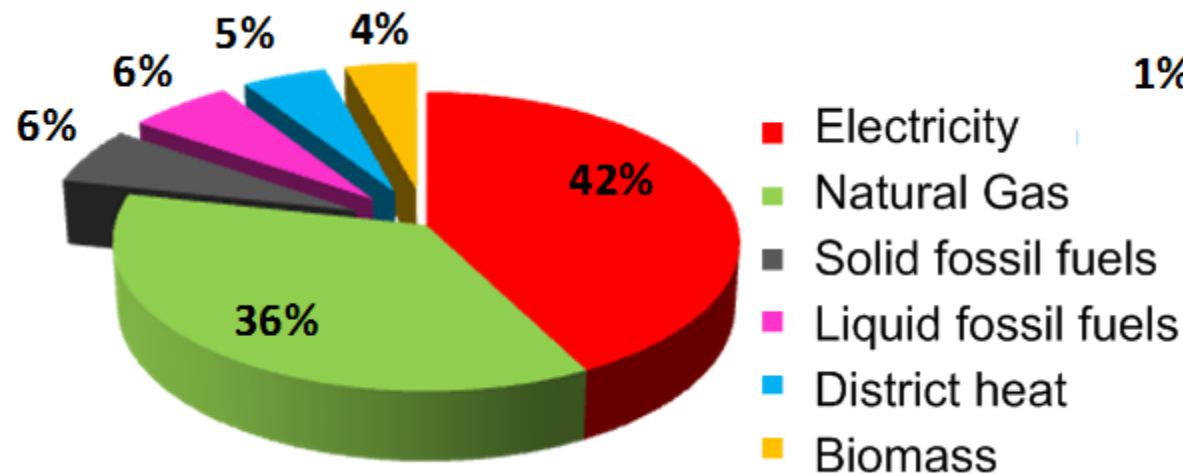


# Industry – key and vital sector for reaching common development goals!

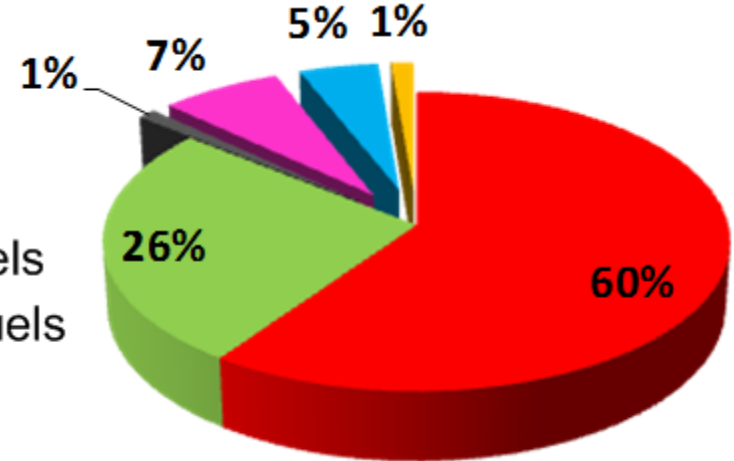


# Energy use in industry – good energy balance

## Final energy use



## Costs



Electricity and natural gas ~ 80% of final energy use in industry!

- Low carbon energy sources ~ 88% - **majority of transition toward sustainable energy sources is already done!** (Reduction of GHG emissions ~ 61% (reference year 1986))
- **Electricity – 60% of costs** – energy eff. & competitiveness!

# Energy efficiency – key element for the competitiveness of Slovenian industry!

**Estimated energy costs in 2011 ~870 mioEUR, which is:**

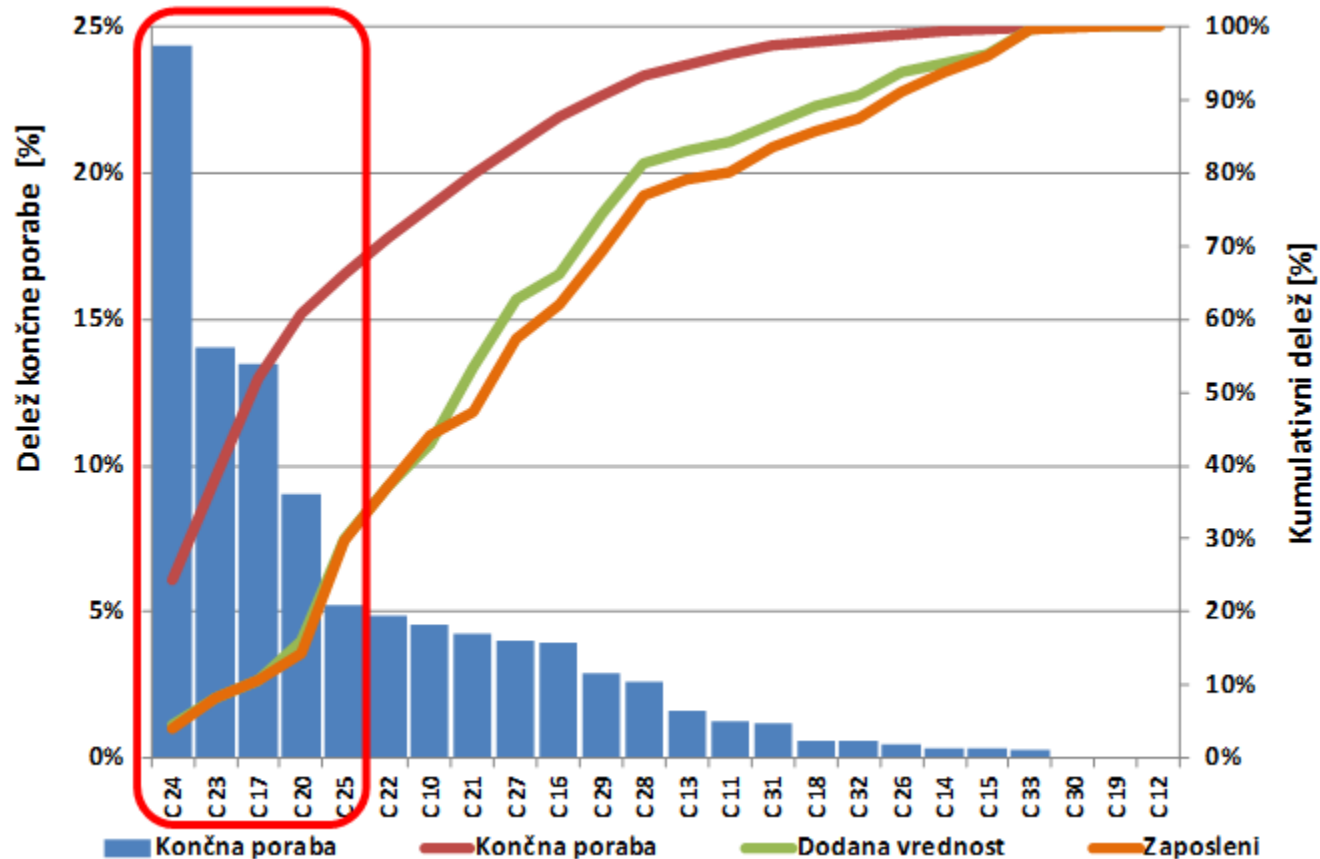
- **4% of production** (value of products and services);
- **14% of value added;**
- **98% profit;**

**10% reduction of energy use (AN-URE2, 1.376 GWh)  
~90 mio EUR = 10% profit!**

- Need for systematic approach and energy management

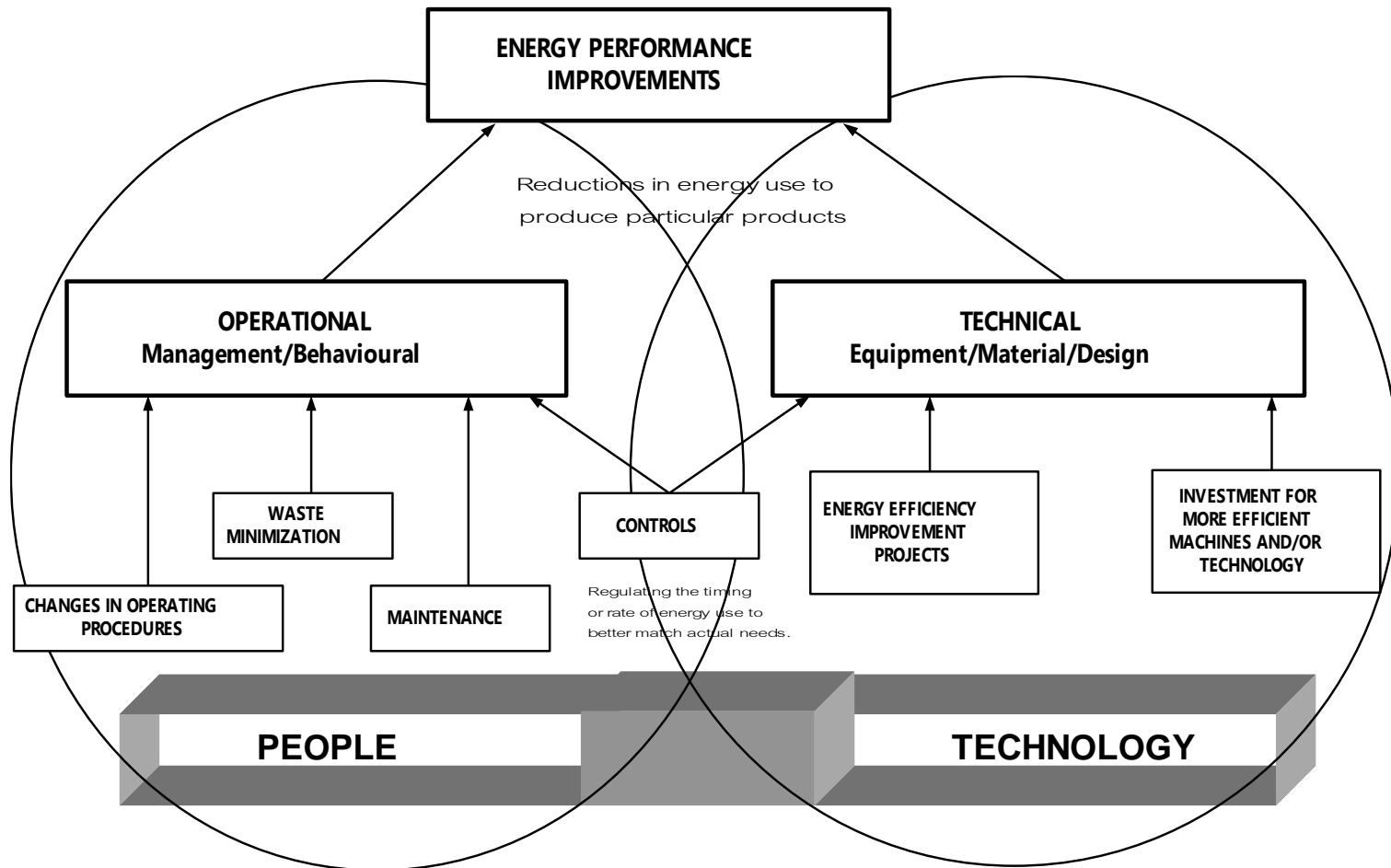


# Active state support – 2/3 of energy use in 5 sectors or 55 companies!



**There is a need for a partners cooperation between state and industry!** (120 companies 80% of energy use!)

# Systematic approach



# New Slovenian energy law and EN ISO 50001:2011

- **Energy audit – periodic and dynamic category!**
- Studying and understanding interactions among the main factors influencing production and energy performance
- **Interdisciplinary approach**
- **Definition of performance indicators**
- Continuous **measurement** – Key element for optimizing production and energy performance
- New dynamic category – comparison of actual to predicted (expected) energy consumption!

# Conclusion

- ***Copy-paste*** planning - **the most frequent mistake!**
- **Industrial strategy** must be **adaptive** and must **rely on the empirical data**
- Each company is unique - has to develop its own strategy for sustainable and climate friendly development
- Cooperation with other companies and exchange of experiences is more than desirable and it has to be stimulated, but concrete solutions have to be based on priorities and peculiarities of each individual company





# Conclusion (2)

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- Large scale implementation of energy efficiency measures and utilization of renewable energy sources in industry represents challenging introduction of change in a very complex environment
- Analysis confirms that the harmonization of interests between the state, cities, industry and citizens is the first and necessary step!
- **Energy management** – tool for **monitoring and verification** of energy savings and **active human operator support** for systematic reduction of the energy consumption



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