



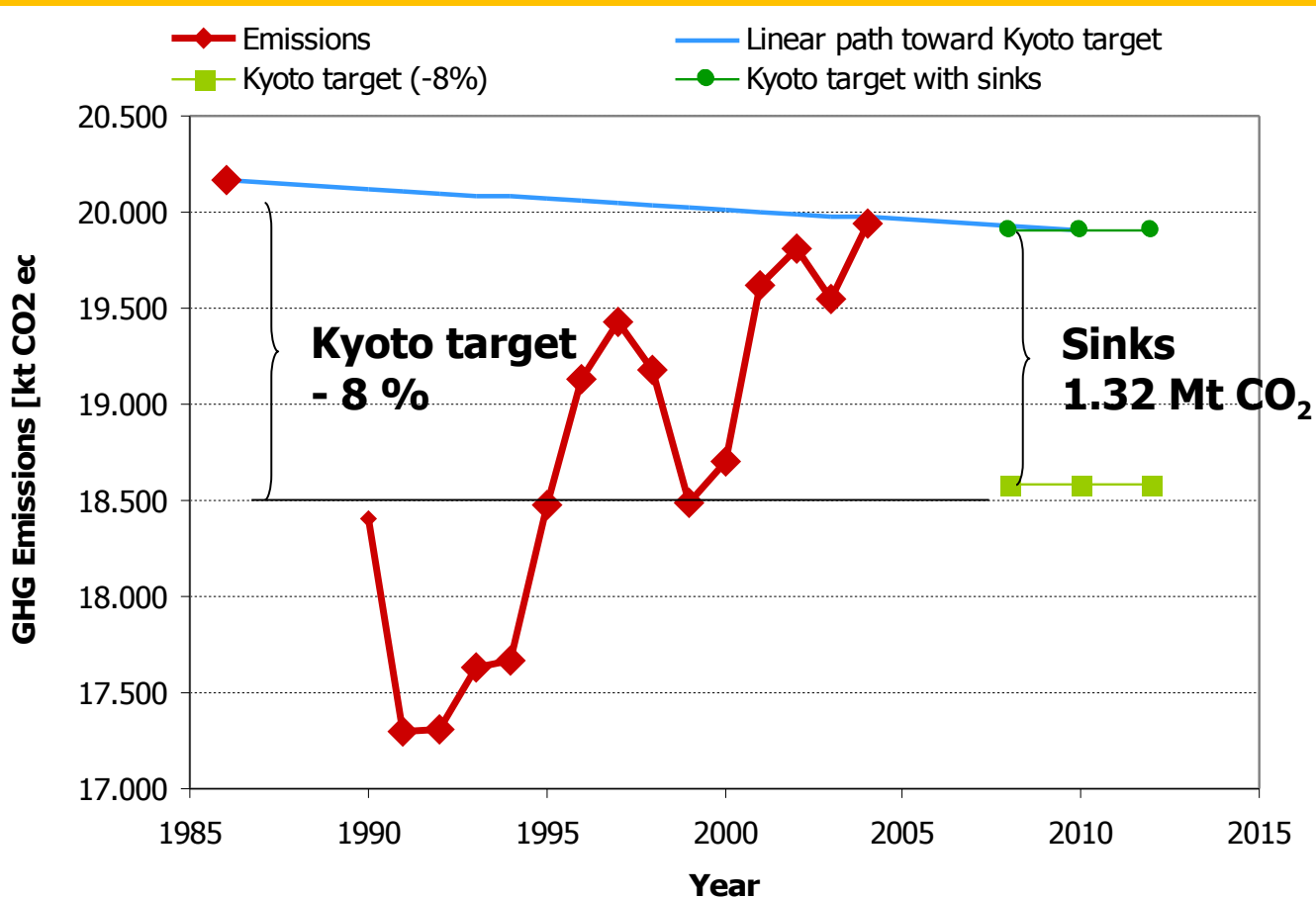
"Jozef Stefan" Institute
ENERGY EFFICIENCY CENTRE

Climate change policy in Slovenia and integrating GHG reductions into sectoral policies

Matjaž Česen, matjaz.cesen@ijs.si

Climate Change in South-Eastern European
Countries: Causes, Impacts, Solutions;
GRAZ, 26th and 27th of March

Past GHG emissions in Slovenia



Emissions
In 2004:
19.945 MtCO₂eq

Energy: 79%

Climate change policy in Slovenia

- **Operational programme for limiting greenhouse gas emissions (2006):**
 - Contains 23 instrument for GHG emissions reduction in ENERGY, INDUSTRIAL, AGRICULTURE and WASTE sector
 - Plan how to reach Kyoto target (which measures in what degree).
- Climate change policy is integrated into sectoral policies: National Energy Programme – targets: increased share of RES in electricity production and in primary energy use, increased efficient energy use, ...
- National Allocation Plan brings climate change policy to companies



Climate change policy in Slovenia (2)

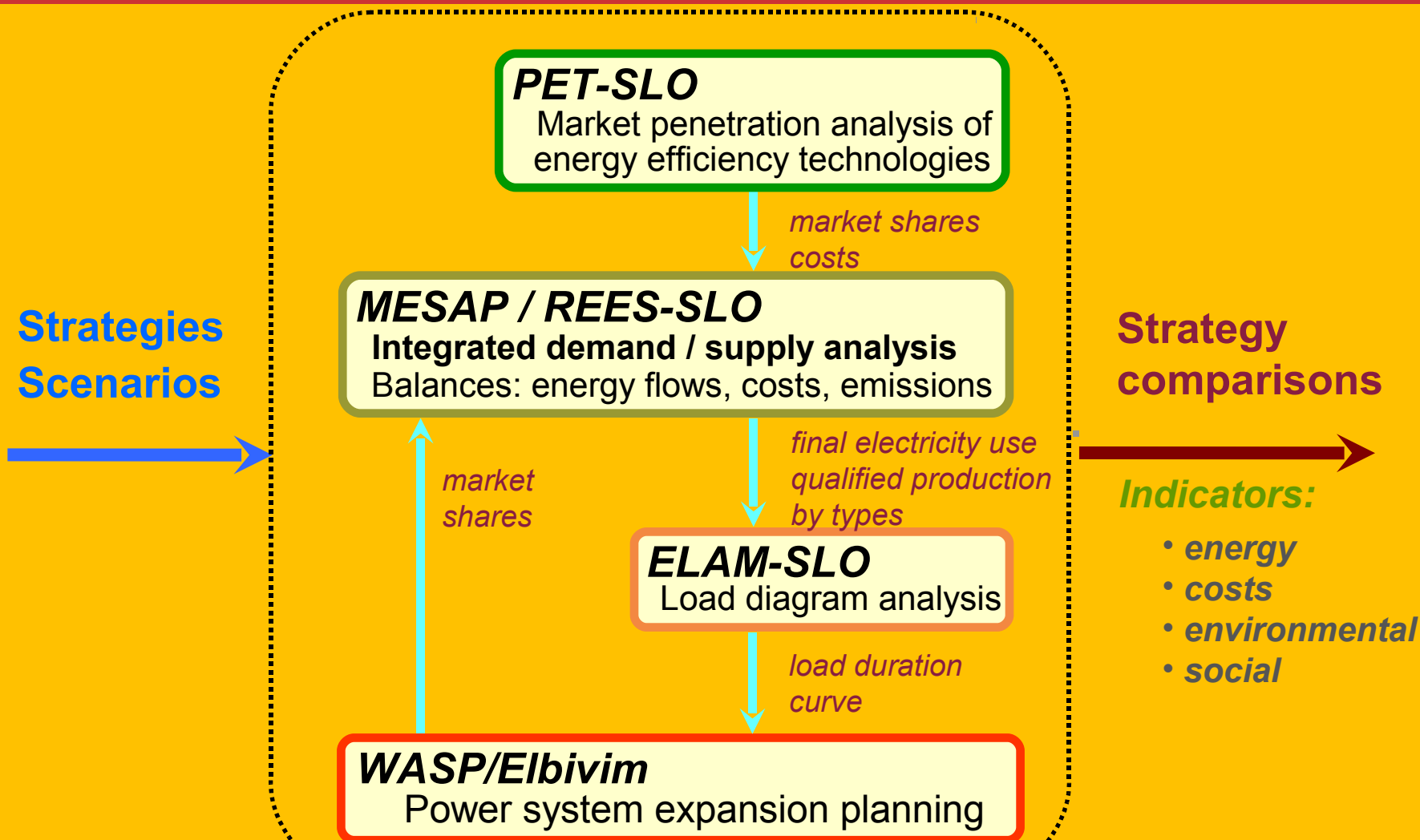
- **Small country specifics:**
 - advantages: individual treatment of main GHG sources
 - disadvantage:
 - changes in project realisation - big overall influence
 - cross-border influence (transport – transit, fuel tourism)
- Monitoring and evaluation of climate change policy measures and adaptation to the new situation

Approach to climate policy in Slovenia for energy sector

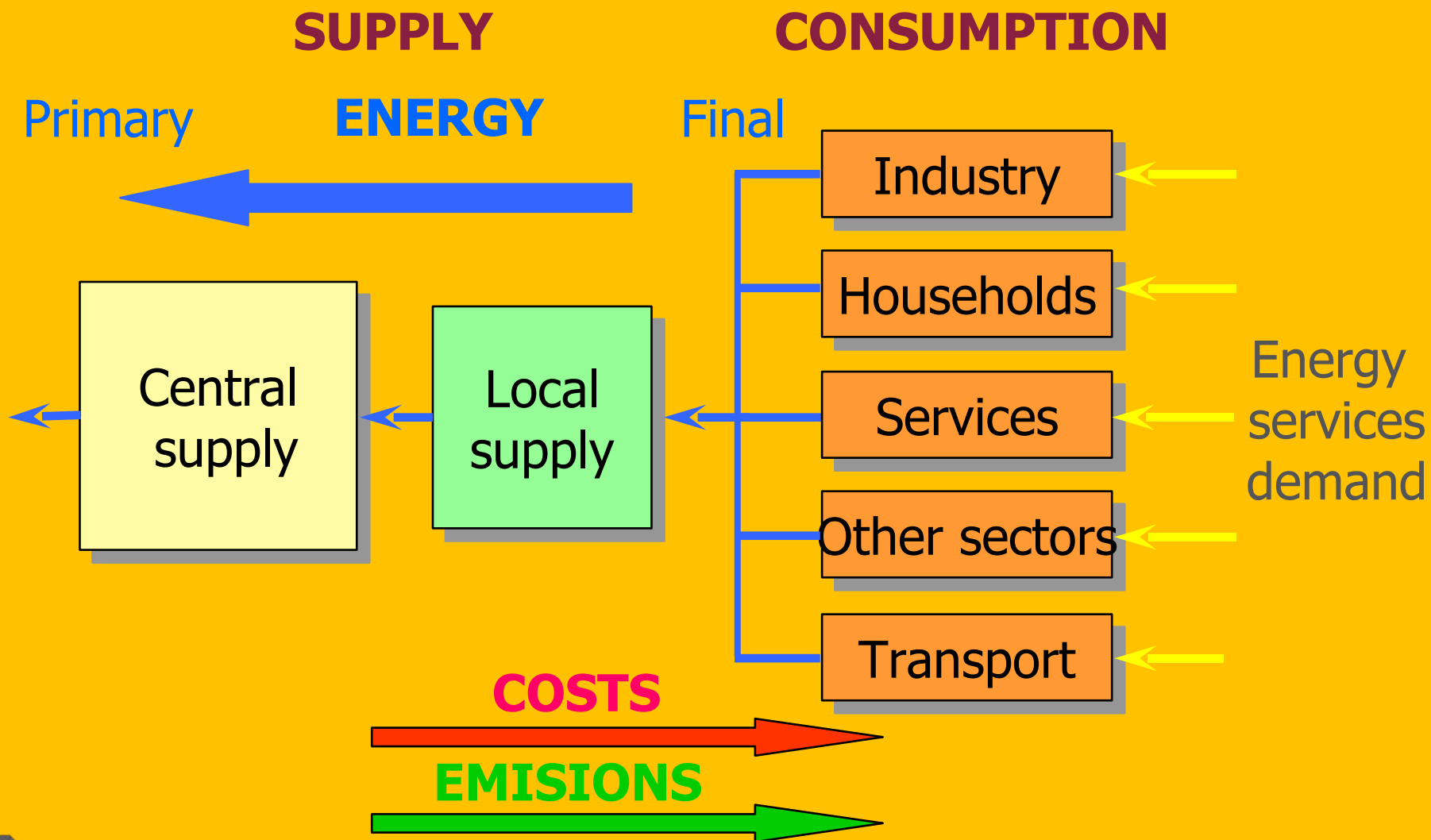
MESAP Software Package :

- RES - network model: processes, commodities, links
 - technology oriented, free structure
- Simulation of complex energy supply and demand systems
 - calculation of energy and material flows, emissions and associated costs.
- A powerful time series oriented database management system
 - scenario, strategies, cases, objective comparison of competing strategies

Integrated Resource Planning Models



Structure of REES-SLO model



Modeling of GHG mitigation measures - INDUSTRY

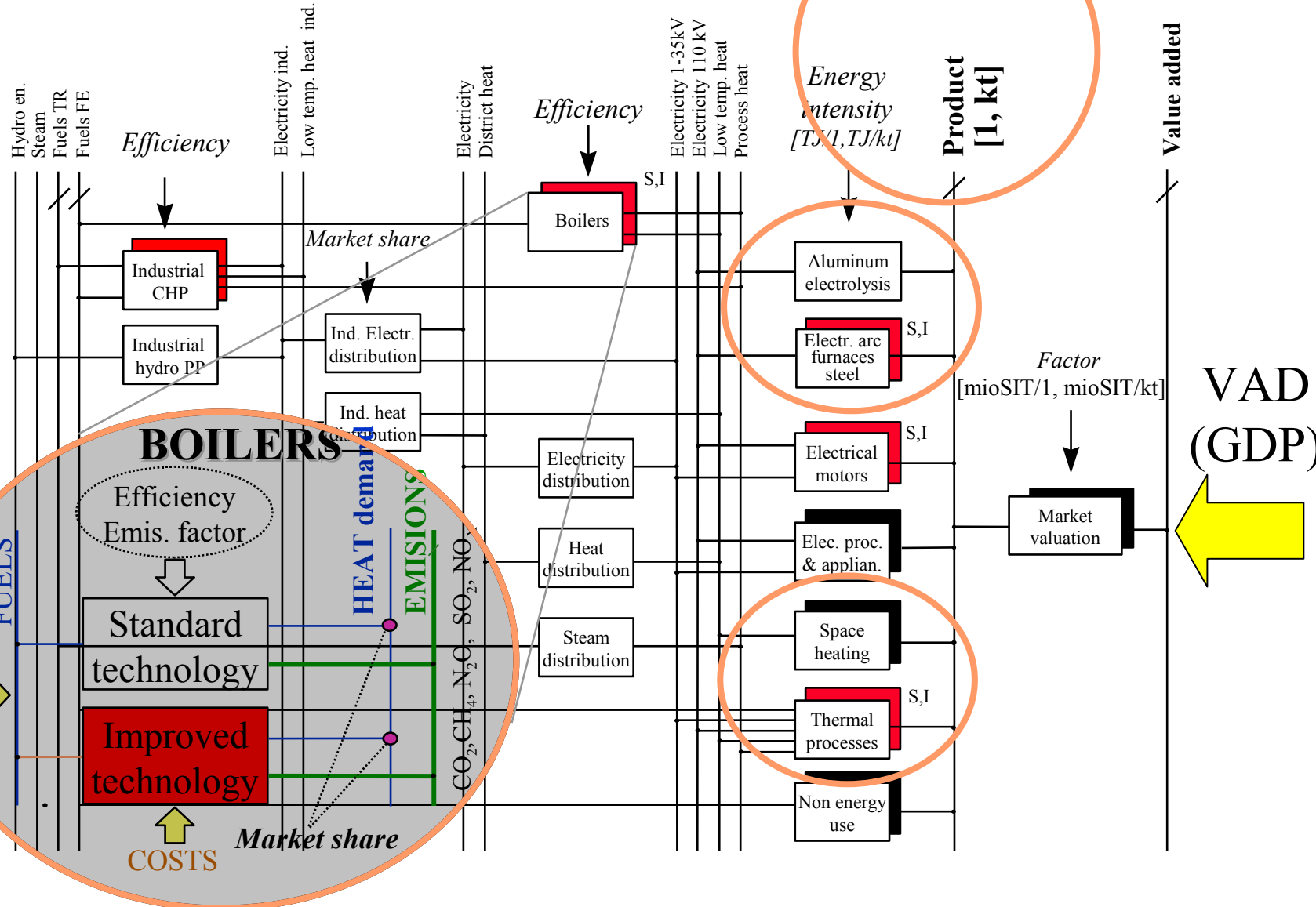
- Technological progress:
 - Efficiency improvements (BREFs,...)
 - Penetration of improved technology (economically and legislation driven – uncertain implementation)
- Measures:
 - Decrease of compressed air networks leakages,...
- New technologies:
 - CHP,...
- Fuel switching
- Overall decrease of energy intensity:
 - -0,5%/a

RES Industry - main drivers for projected GHG emissions

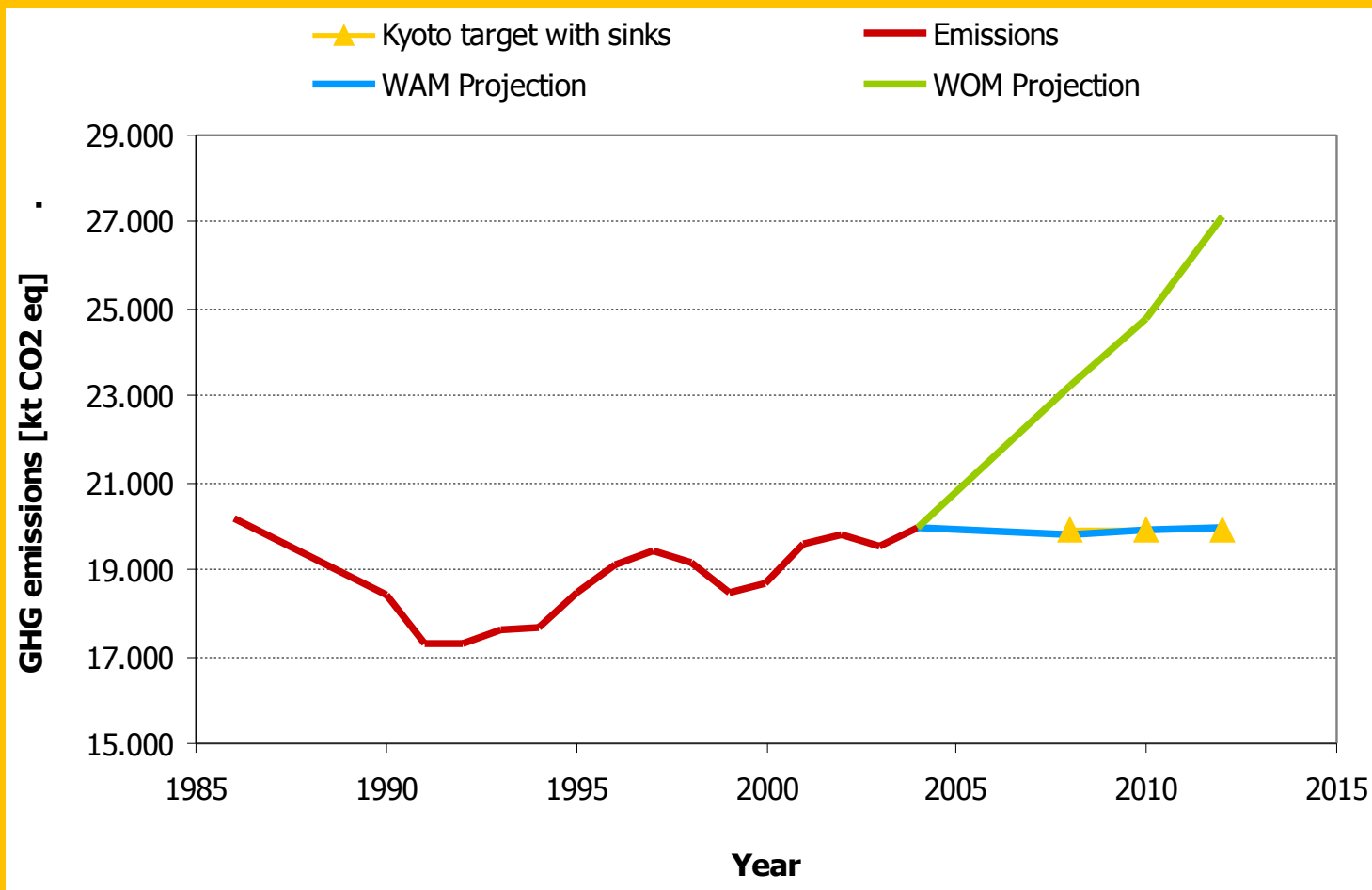
FINAL ENERGY

USEFUL ENERGY

PRODUCT VALUE ADDED



GHG emissions projections



Emissions

2008-
2012:

19.896
MtCO₂eq

0.1% below
Kyoto
target
with sinks

Conclusions

- Slovenia is committed to achieve its Kyoto target.
- The Operational programme for limiting GHG emissions defined the way
- The climate change policy for energy sector is based on bottom-up model
 - PROS: Evaluation of different scenarios, strategies => optimisation approach, technology oriented, better process knowledge
 - CONS: data intensive, uncertain implementation
- Almost as important as climate change policy is the monitoring of its measures and modification of the policy



Thank you for your attention!

Matjaž Česen

Energy Efficiency Centre – “Jozef Stefan” Institute
SI – 1000 Ljubljana
Slovenia

www.rcp.ijs.si/ceu

matjaz.cesen@ijs.si