



RES-H&C potentials and breakthrough requirements.

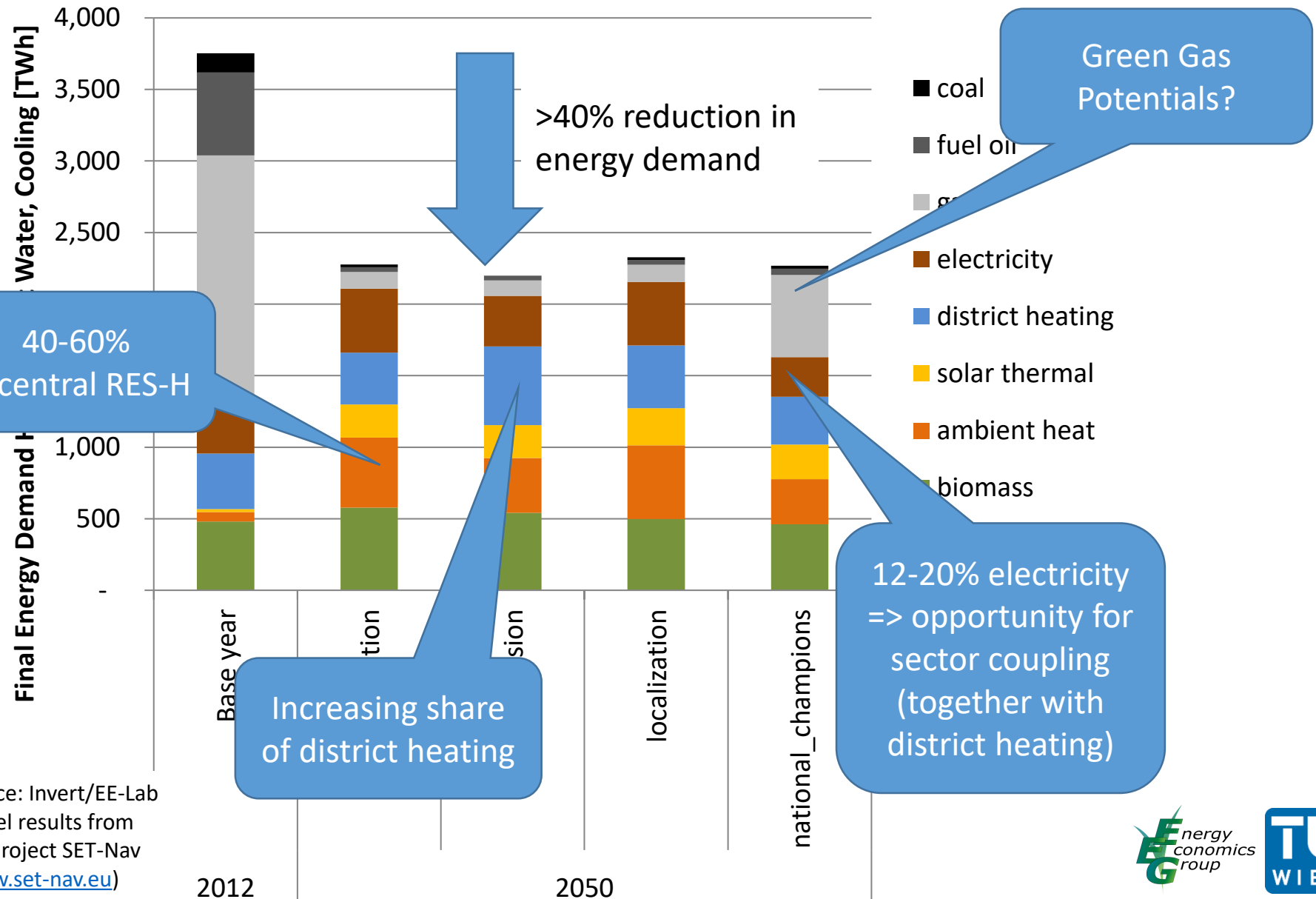
Focus on building sector

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EUFORES 18th Inter-Parliamentary Meeting on Renewable Energy and Energy Efficiency
“The Clean Energy Package – What is in for Renewables and Energy Efficiency?”

19 & 20 October 2018, Palais Auersperg, Vienna

Final energy demand and energy carrier mix, H&C (buildings), EU-28 : base year and decarbonisation



Source: Invert/EE-Lab model results from the project SET-Nav (www.set-nav.eu)

ALL technical solutions for decarbonising H/C are required

Building
retrofitting

Individual
RES-H/C

District
heating

RES-E

Sector
coupling

Smart
solutions

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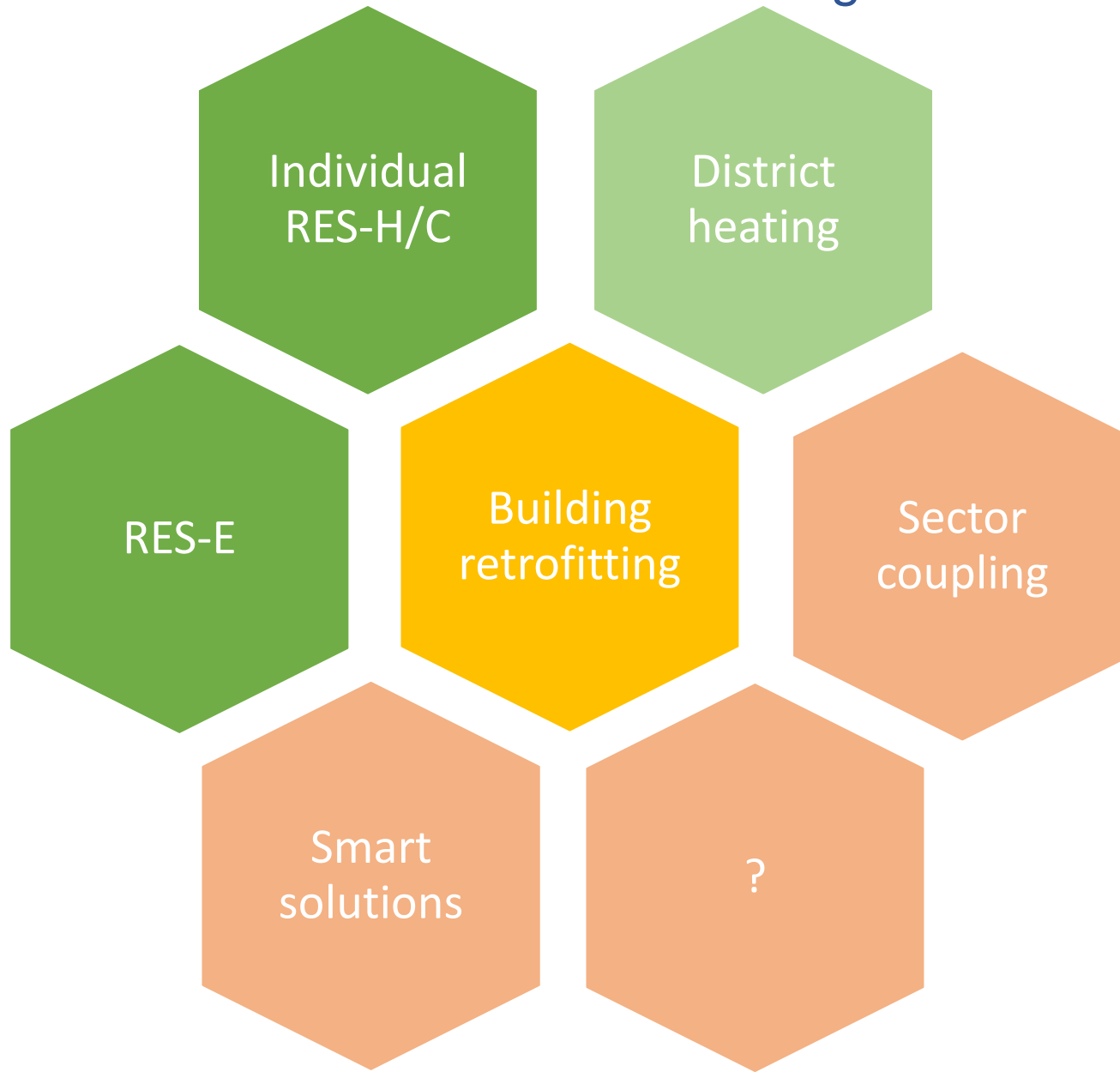
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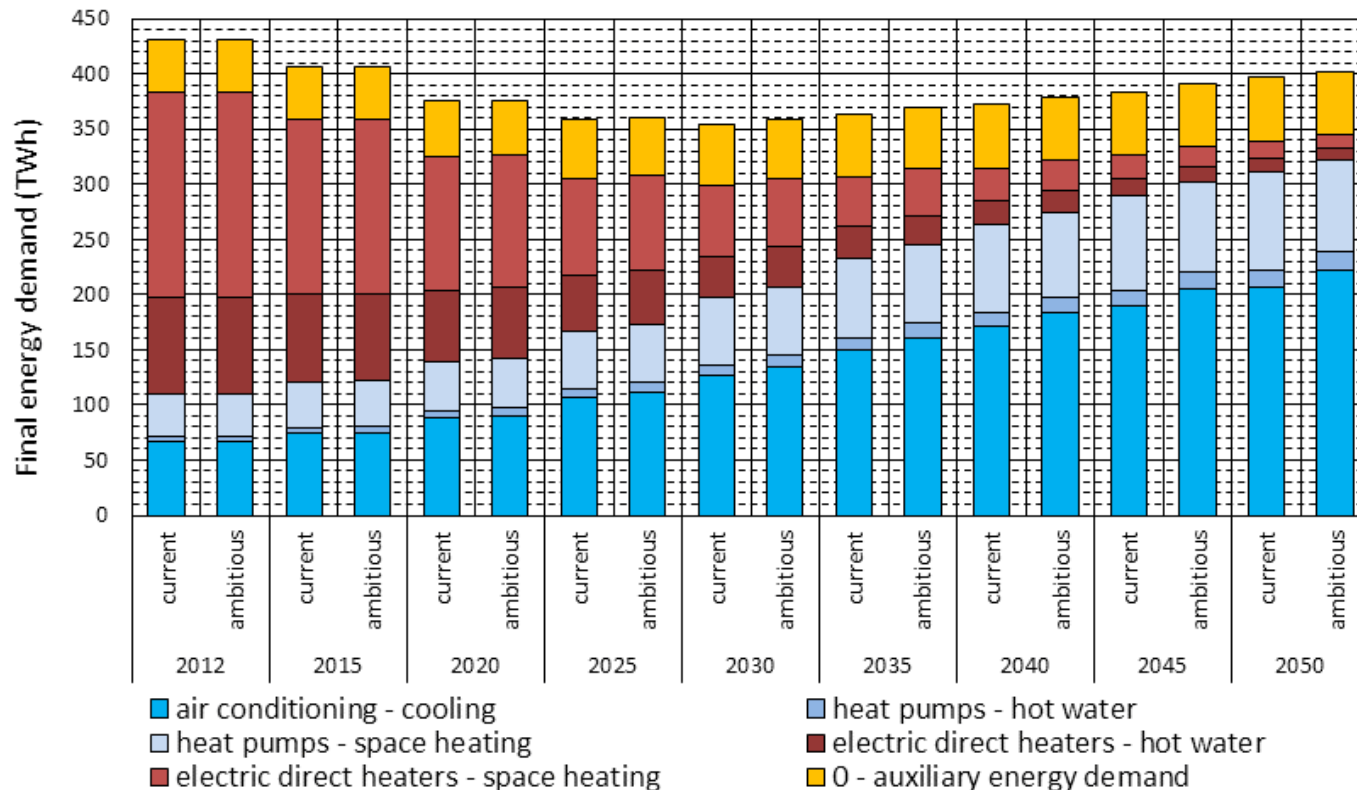
ALL technical solutions for decarbonising H/C are required



Can the electricity system cope with the additional electricity demand from heat pumps?

Electricity demand for heating and cooling, EU-28, 2 scenarios

- ▶ Decrease of electricity demand for heating due to more efficient buildings and substitution of direct electric heaters
- ▶ Strong increase (>+200%) in electricity demand for space cooling

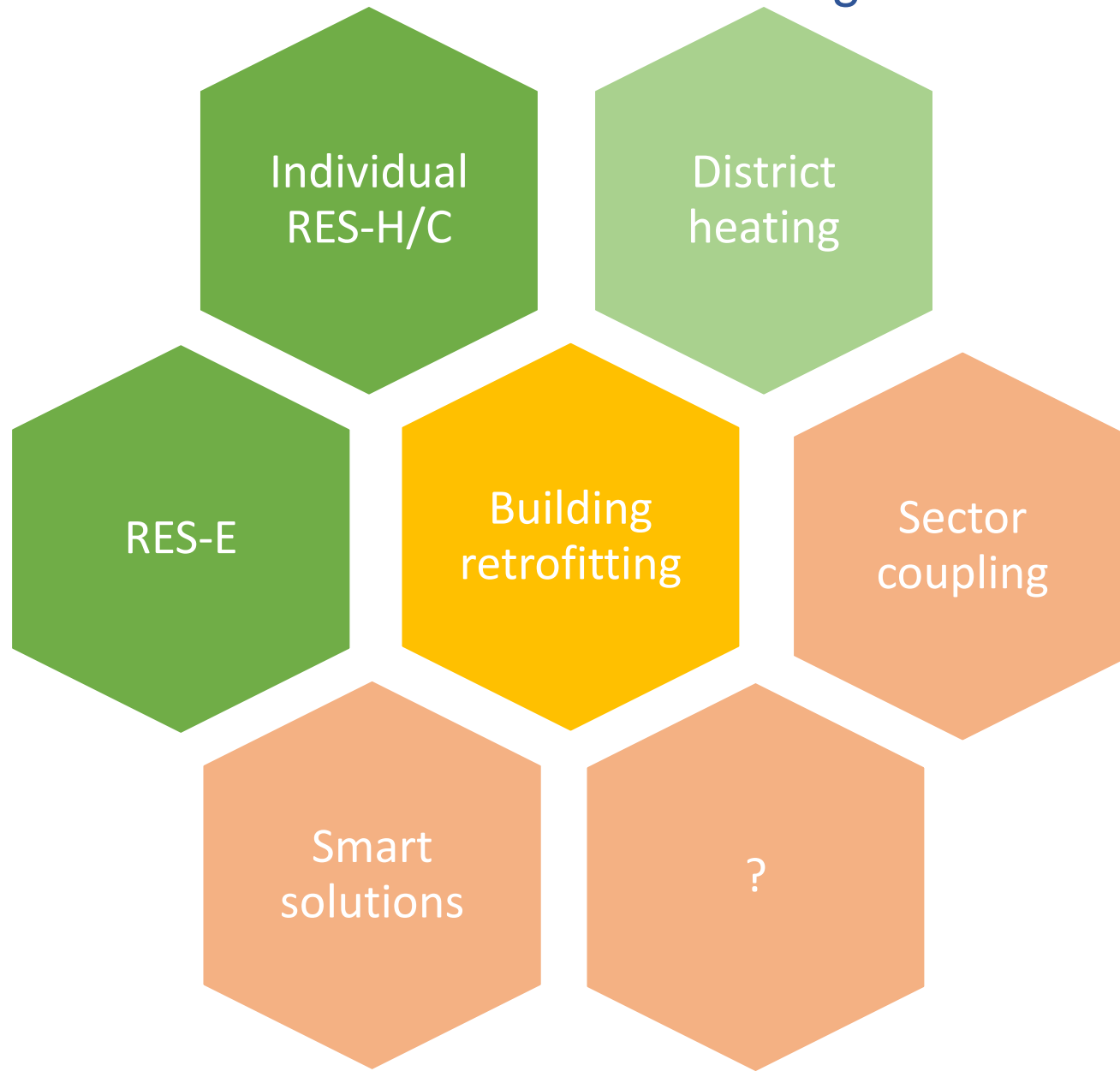


Can the electricity system cope with the additional electricity demand from heat pumps?

► Yes, IF ...

- ... building refurbishment is gaining momentum
 - Reducing energy demand
 - Reducing required temperature levels for space heating
- ... heat pumps are applied in suitable buildings (i.e. buildings requiring moderate inlet temperature levels of the heating system) to allow efficient operation with acceptable COP

ALL technical solutions for decarbonising H/C are required



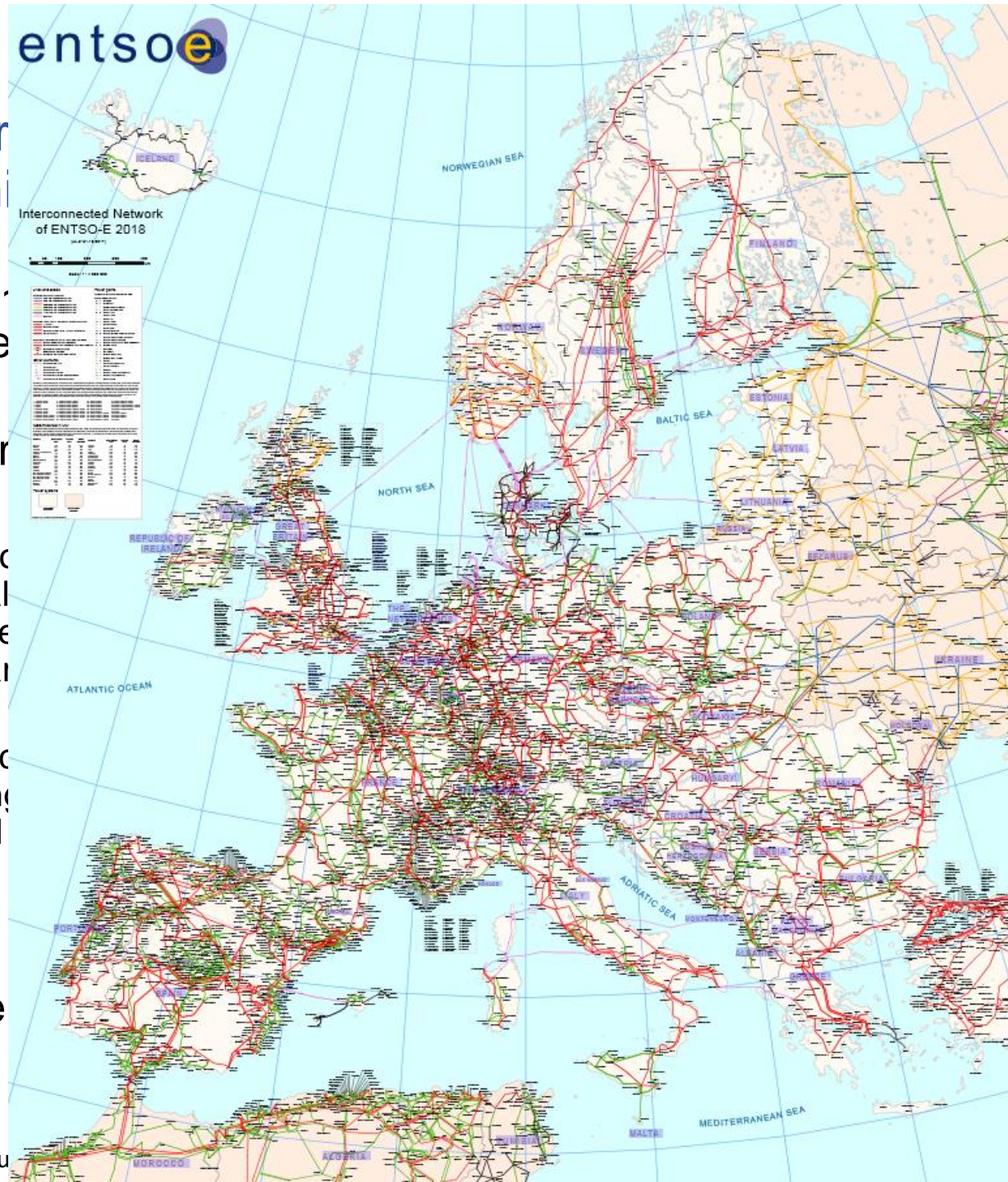
Effective policy instruments?

Key pillars of RES-H/C policies



Why can't it be easier (e.g. a smart economy)

- ▶ ~ 300 million dwellings, of which the majority are
- ▶ Richard Thaler, Nobel pr 2017
 - „We all are susceptible to that can lead to an equal blunders in education, pe mortgages and credit ca planet itself.“
 - Humans tend to take dec depending on the fram economically well based
- ▶ Regional, local characte



Key pillars of RES-H/C policies



Breakthrough requirements for RES-H/C

- ▶ Integrative system perspective: RES-H/C only unleash their full potential, if combined and integrated with efficiency measures, district heating and smart solutions for sector coupling

- ▶ Broad policy packages
 - Starting from clear, transparent and trustworthy long-term targets.
 - Not focusing on only one instrument, but integrating all policy pillars.
 - Considering that humans take decisions like humans (and not like a homo oeconomicus)
 - Paradigm that RES-H/C is the conventional solution (and not the exception/alternative/innovation in a fossil based world).

Thank you!

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www.setnav.eu

www.progressheat.eu

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