23rd EUROPEAN WEEK of REGIONS and CITIES

Shaping Tomorrow, Together

13 October
-30 November
Close to You
2025

#EURegionsWeek

EURegionsWeek - Close to You for a Greener Future:
Lessons from Small Cities in PLENTY-LIFE Project
13 November 2025

PLENTY-Life:
Formulation of Clean Energy Transition Strategies – From Plan to Action

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Participatory process of PLENTY-LIFE Project

HISTEP: Holistic Integrated Spatial-Temporal Energy Planning methodology

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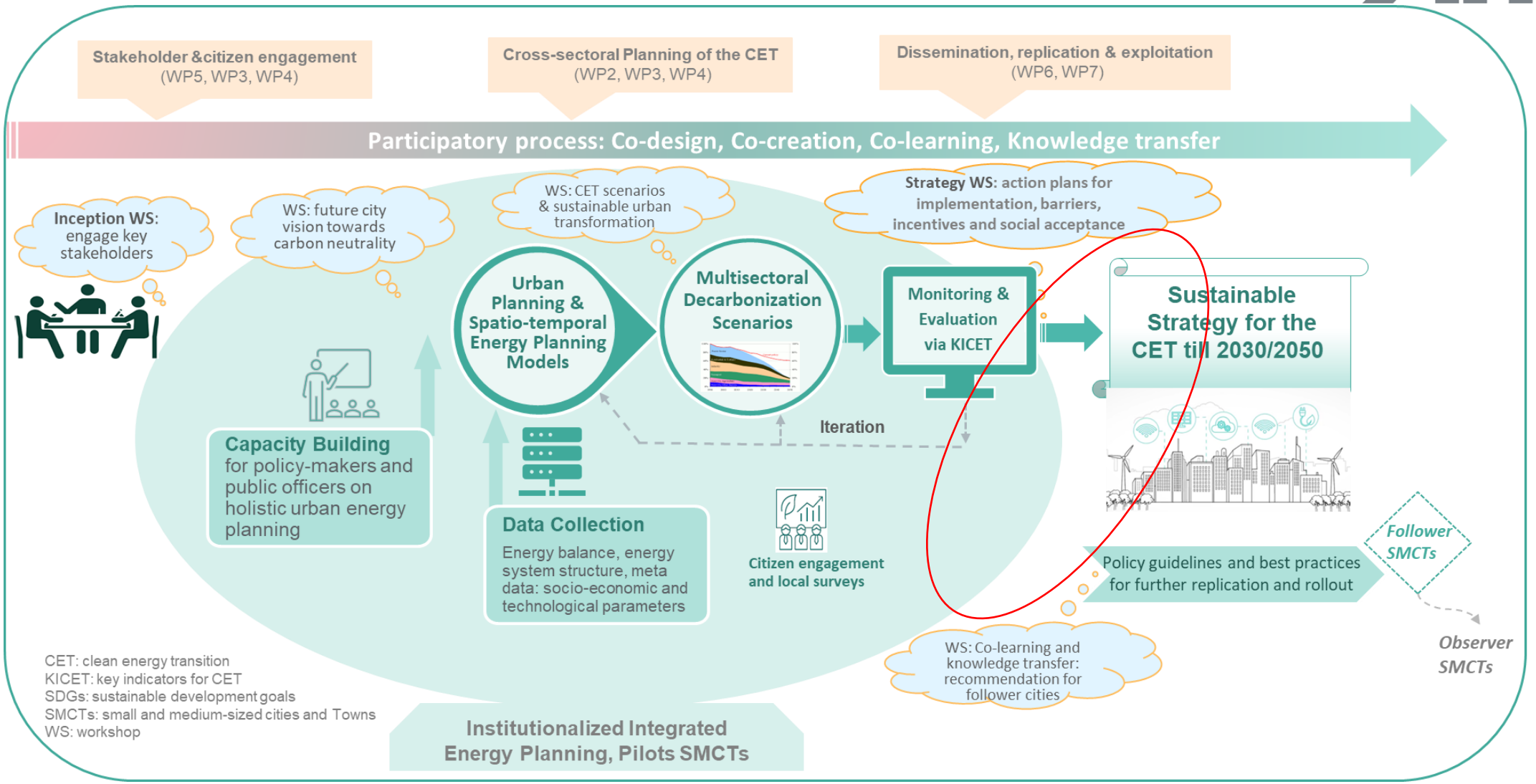

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CLEAN ENERGY TRANSITION STRATEGY, LUGOJ

- Data collection, energy and CO2 balance
- Reconstruction of the base year
- Strategy & scenario development
- Areas of action and measures
- Monitoring concept and KPIs

Sustainable Clean Energy Strategy Formulation

-Application for Lugoj case study-

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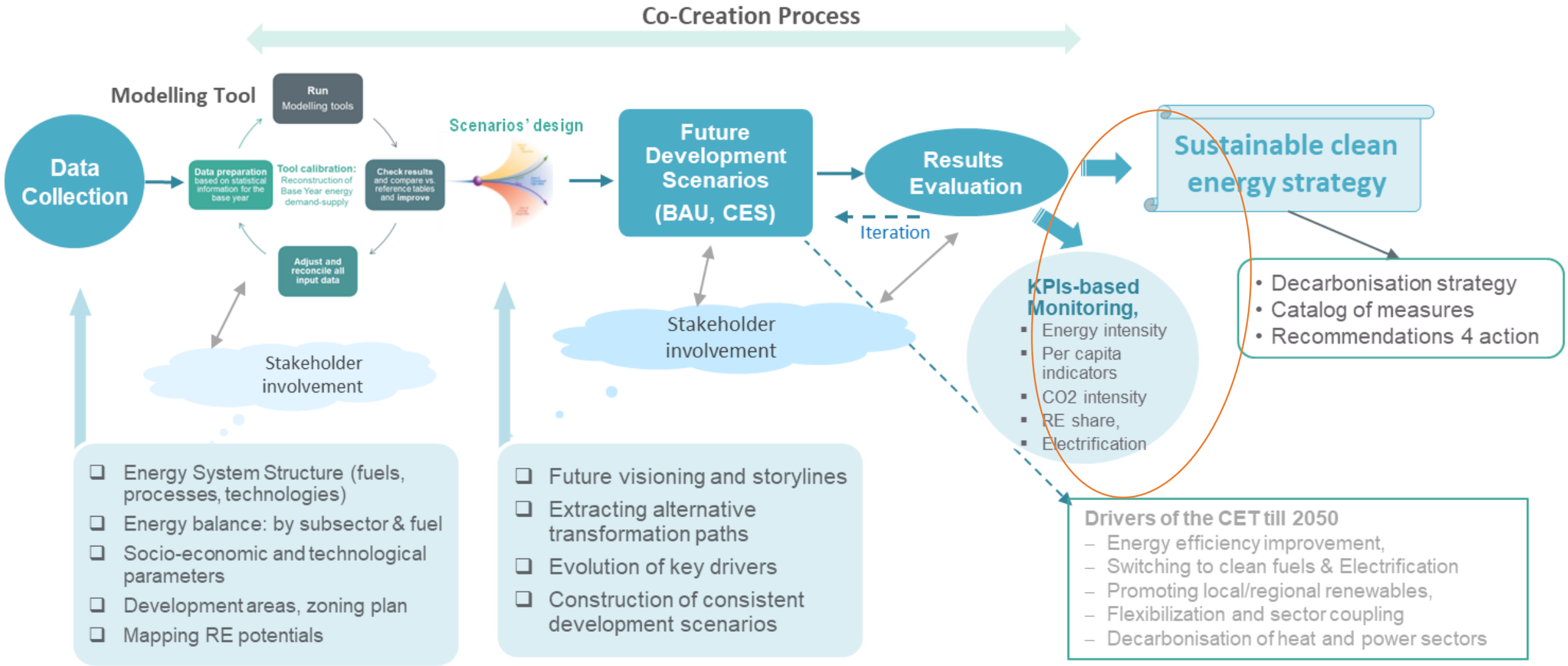

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CETS (2050) result compared to the GHG Reduction Targets of the Basic Climate Law

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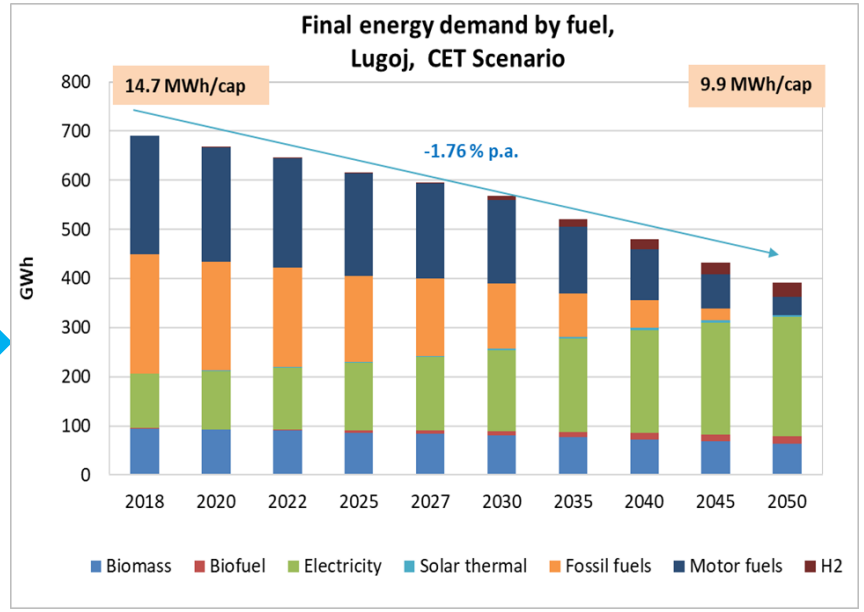
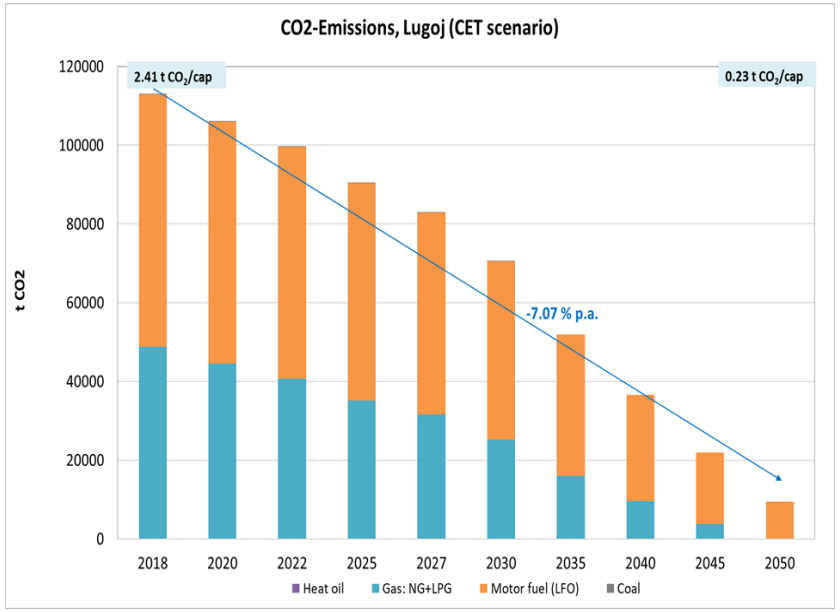
GHG Reduction Targets

Reduction of at least **55%** of GHG compared to 1990 figures acc. "**Integrated National Energy and Climate Plan 2021–2030"**



CETS (2050) Lugoj



Reduction of the CO_2- emissions of **80 % in 2030** compared to 1990*

* national per- capita- value of Romania was used as reference

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Input data, Reconstruction of Base Year

BASE YEAR STATISTICS

Industry statistics | Transport statistics | Household statistics | Service statistics

GDP by sector and subsector

Demography

Energy balance by sector and fuel

INPUT DATA FOR THE BASE YEAR

- *Macroeconomy*
- *Demography*
- *Lifestyle parameters*
- *Technology parameters:*
  - *Energy intensities*
  - *Penetration rates*
  - *Efficiencies*

Future development Scenarios

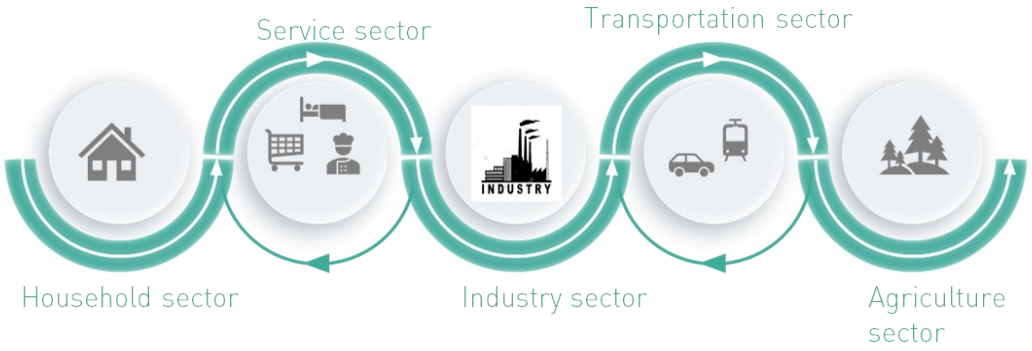
BAU:
business as usual

- reflects current energy policy trends
- follows historical trends.

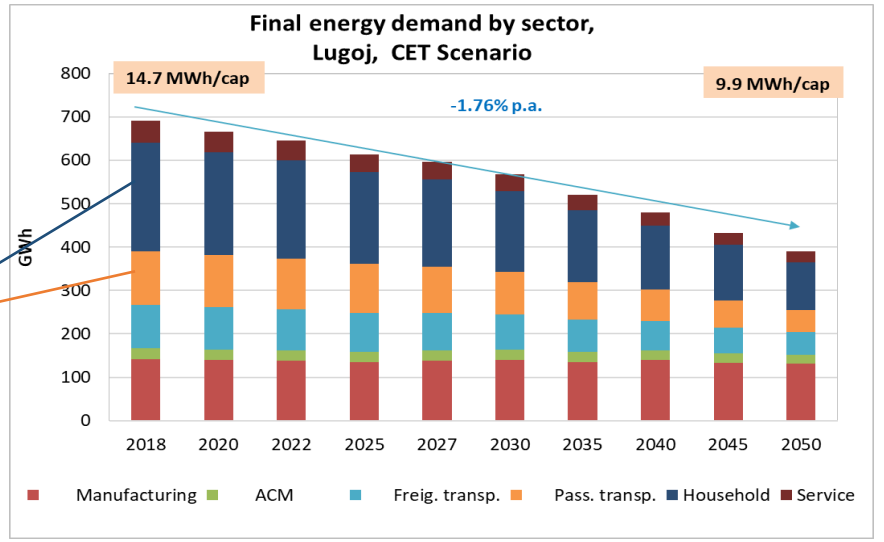
CETS:
Clean Energy Transition Scenario

- focuses on ensuring sustainable energy development
- addresses the perceived transformation towards efficient, sustainable and low-carbon energy system.

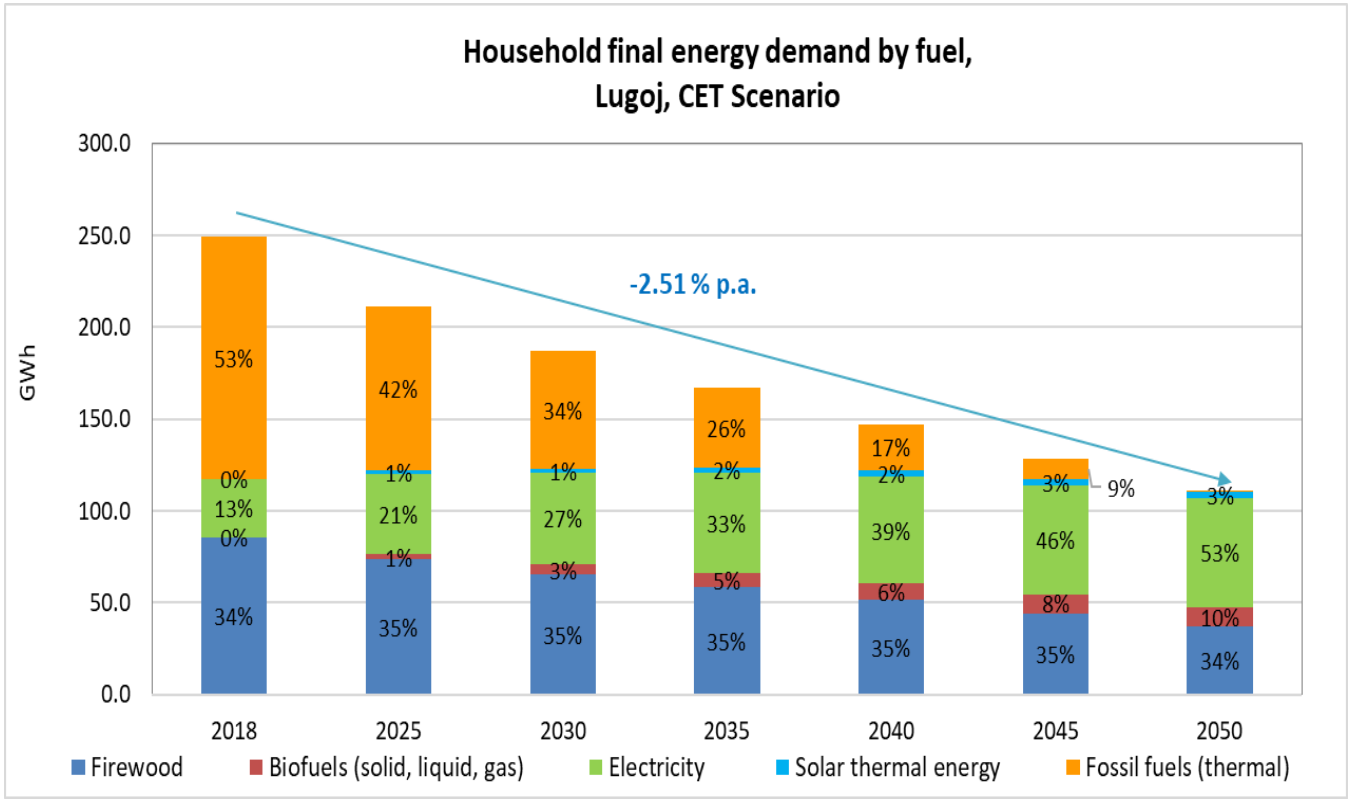
- **Specifying sectors with the highest Energy saving and GHG emission reduction**
- **Feasibility of measure: engage decision-makers**



Priority of action by sector

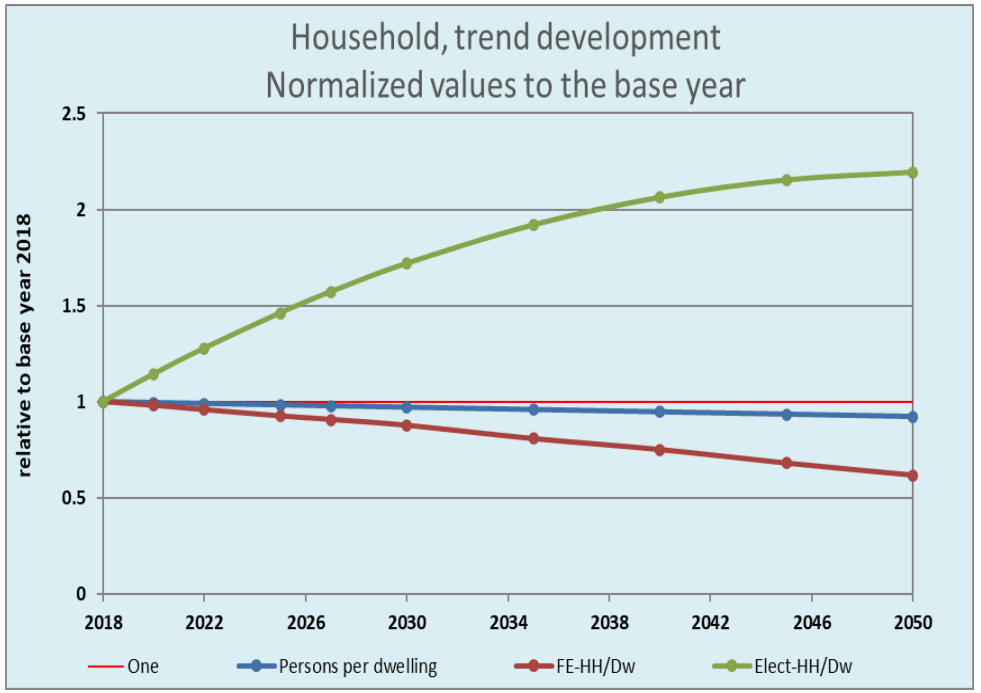


Results of the CET-Scenario- Household Sector



By 2050

- 53% Electrification in all end-use-categories
- 34% Firewood
- Completely decarbonization of the HH sector



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CET-Scenario- Key Results
-Household (HH)-

Key parameters	Base year (2018)	CETS (2050)	Annual growth rate (2018-2050)	Remarks
HH- Final energy demand (**total**) [GWh/a]	249.7	100.6	-2.5% p.a	Includes SH, HW, cooking demand, el. Appliances and air conditioning
HH- Specific heating demand [kWh/m²*a]	175.2	53.1	SFH/MFH/APA: -2.9% p.a.*	National strategy of Romania; reference: Country climate and development report
HH- Share of electricity incl. heat pumps- **space heating (SH)**	2.0%	46.5%	10.3% p.a.	Electrification of the thermal end use categories (SH, HW, etc.) → due the high expansion of PV systems and wind energy target in the TIMIS county region (reference: Energy Efficiency Strategy of Timiș County 2021–2027)
HH- Share of electricity incl. heat pumps- **hot water demand (HW)**	16.2%	48.3%	3.5% p.a.	
HH- Share of biofuel - **hot water demand (HW)**	0.0%	10.0%	9.4% p.a.	More use of biofuel due the regional strategy (reference: Energy Efficiency Strategy of Timiș County 2021–2027)
HH- Share of dwellings with AC	11.7%	14.0%	0.6% p.a.	increase compared to the BAU but lower increase because of the awareness to use AC efficient (>26°C inner temperature)

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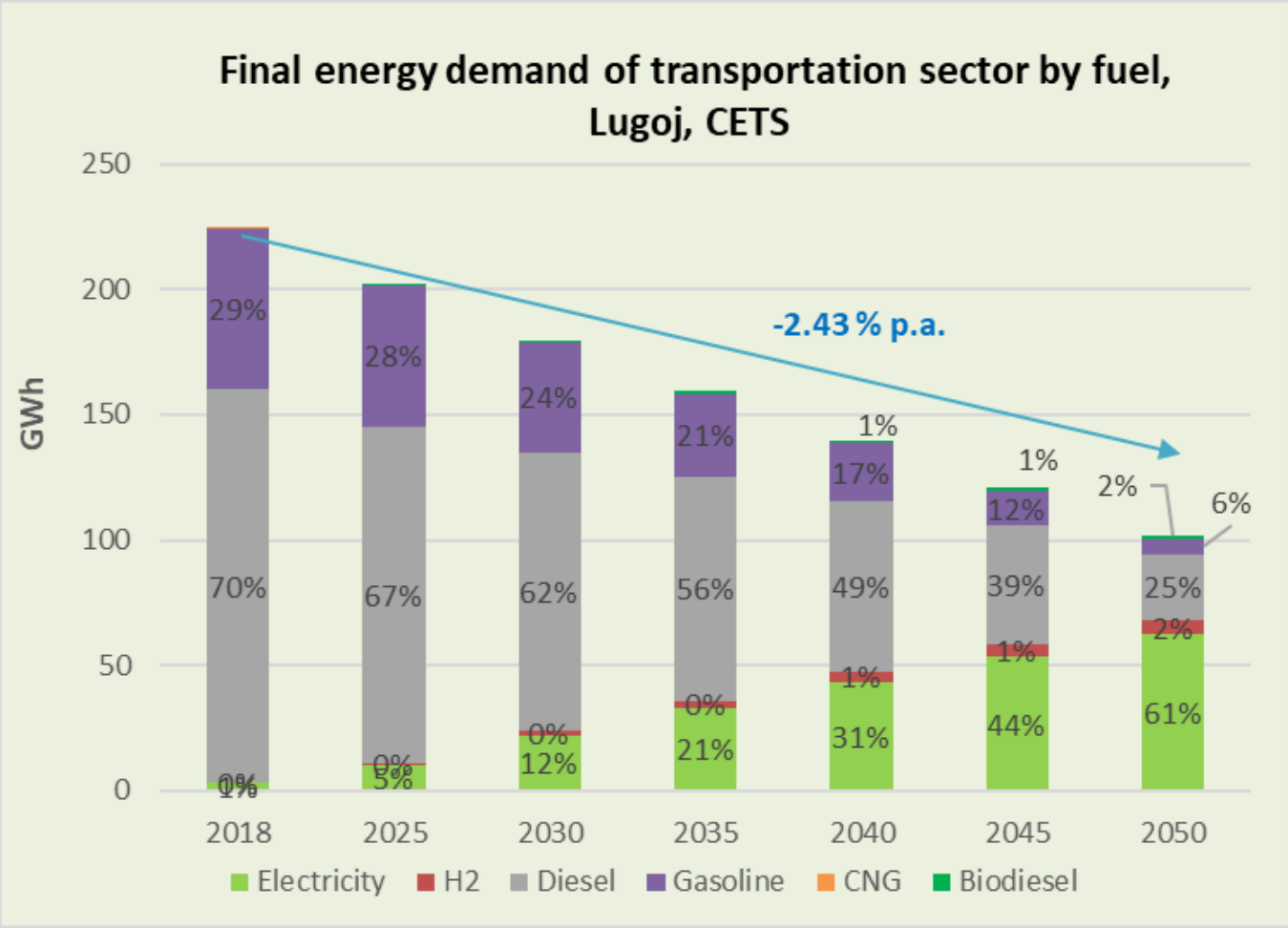
**** Thermal refurbishment rate of SFH (Single family houses), MFH (Multi family houses) and APA (Apartments)***

Results of the CET-Scenario- Transport Sector



Transport sector decarbonisation, Key drivers

- Mainly substitution diesel & gasoline by electricity, hydrogen and biofuel, **but:**
  - 25% remaining diesel by 2050
  - 6% remaining gasoline by 2050

➢ Increasing share of el. cars and public transport (el. + H2 busses)

➢ Increased car ownership (person/car)

➢ Increased biking & walking

➢ Decreased pkm due to pop. decline

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