



5th International Scientific Conference Energy and Climate Change



Strengthening Sustainable Energy Policies within the Covenant of Mayors Initiative

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Contents



- A. Introduction
- B. Sustainable Energy Communities
- C. Methodology
- D. Web Application
- E. Conclusions

A. Introduction



By their commitment, Covenant signatories aim to meet and exceed the European Union 20% CO₂ reduction objective by 2020

Commitments

- ➔ Submit a **Sustainable Energy Action Plan (SEAP)**, within the year following signature, outlining the key actions;
- ➔ Submit an **Implementation Report** at least every second year after submission of the Action Plan for evaluation, monitoring and verification purposes.

B. Sustainable Energy Communities (1/5)



B. Sustainable Energy Communities (2/5)

Existing Methodologies & Tools

Identification of more
than 20 methodologies
and tools!

	Energy Data Collection	Local Stakeholders Participation	Actions Evaluation	Monitoring & Targeting	Buildings, Institutions/Facilities	Industry	Transportation	Local Electricity Production	Awareness Raising
ENOVA	★ ★	★	★ ★	★	✓	✓	✓	✓	
BELIEF	★	★ ★ ★	★	★					
CLIMATE COMPASS	★	★	★	★ ★ ★	✓	✓	✓	✓	✓
ICLEI	★ ★	★	★	★	✓	✓	✓	✓	✓
MODEL	★ ★ ★	★	★	★					
MOVING SUSTAINABLY	★	★ ★ ★	★ ★	★ ★			✓		
MUSEC	★ ★	★	★	★ ★ ★					
PEPESEC	★ ★	★ ★	★	★					
SECURE	★	★	★	★					

- Toolbox of Methodologies on Climate & Energy
- Covenant capaCITY Training Platform
- CoMO's e-learning

B. Sustainable Energy Communities (3/5)

Existing Methodologies & Tools

- ➔ Focused on urban territories, overlooking the special characteristics of rural communities.
- ➔ Emphasizing in specific SEAP sectors:
 - ✓ Agricultural sector (agriculture, forestry, fishery) distinguishes for its high energy consumptions.
 - ✓ Urban transportation (rail, buses etc) and industry have secondary role in rural communities.
- ➔ Do not offer an integrated framework for the SEAPs development and especially the selection of sustainable RES/RUE technologies.

B. Sustainable Energy Communities (4/5)

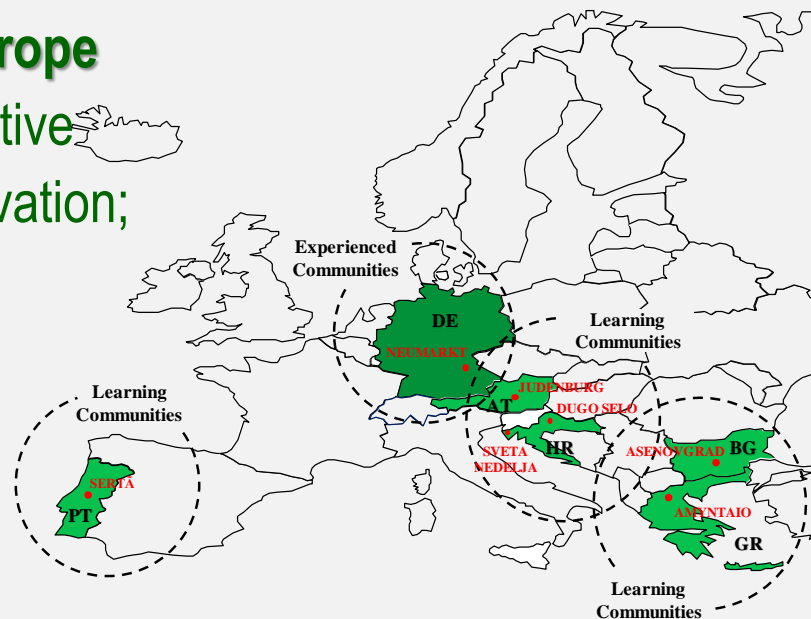


B. Sustainable Energy Communities (5/5)

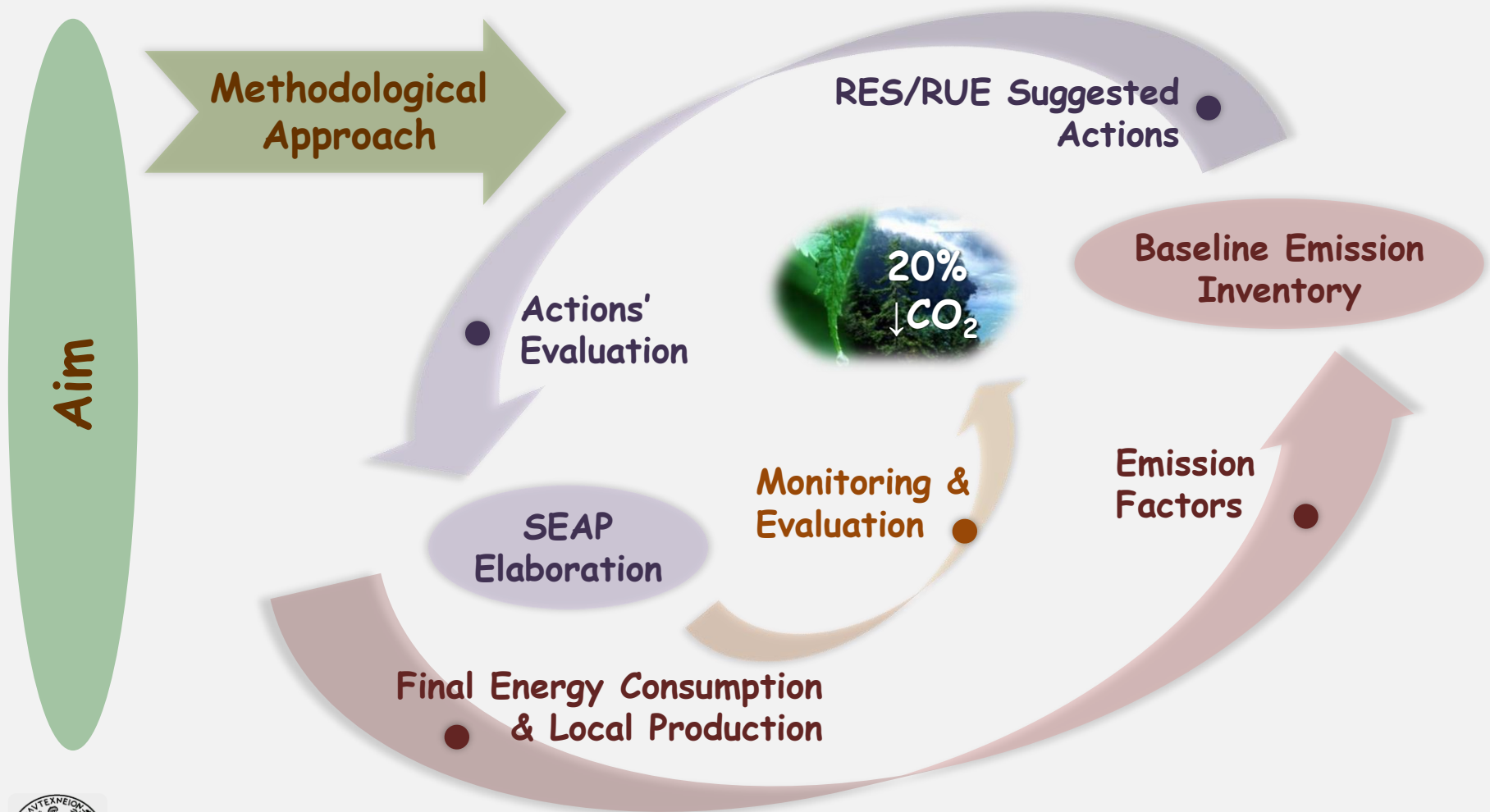


Rural Web Energy Learning Network for Action

- ➔ Under the “**Intelligent Energy for Europe Programme**”, managed by the Executive Agency for Competitiveness and Innovation;
- ➔ **Duration of Action:** 21/06/2011 – 20/12/2013;
- ➔ **Coordinator:** EPU-NTUA.

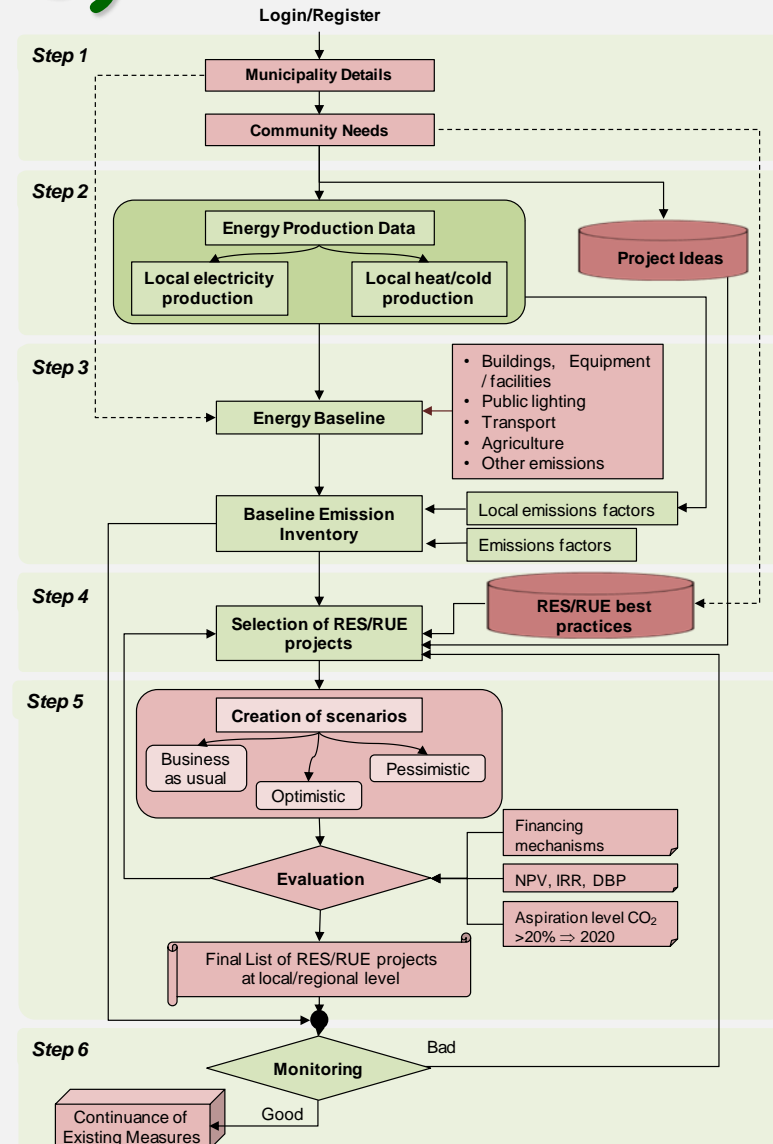


C. Methodology (1/8)



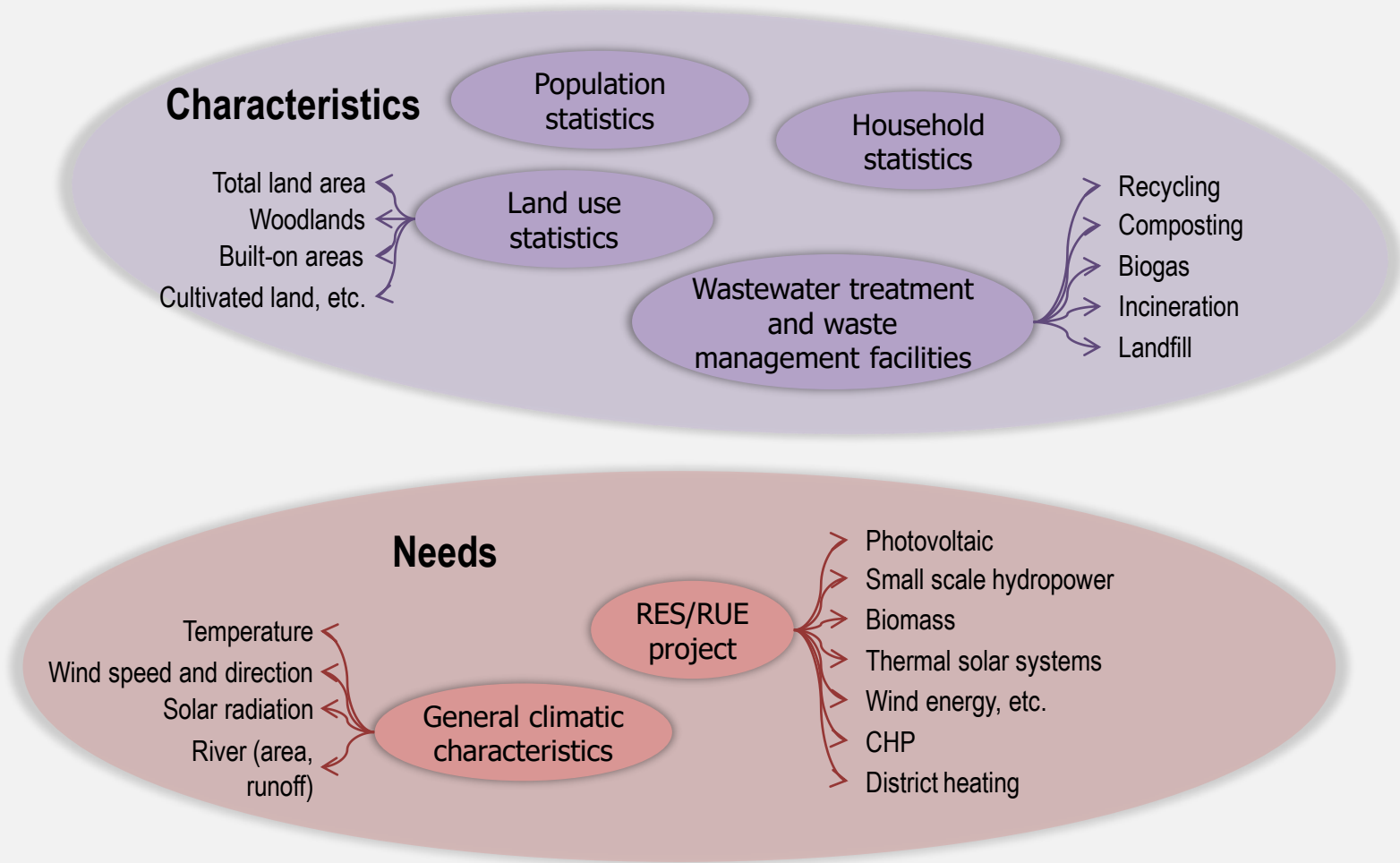
C. Methodology (2/8)

The General Philosophy of the Proposed Methodological Approach



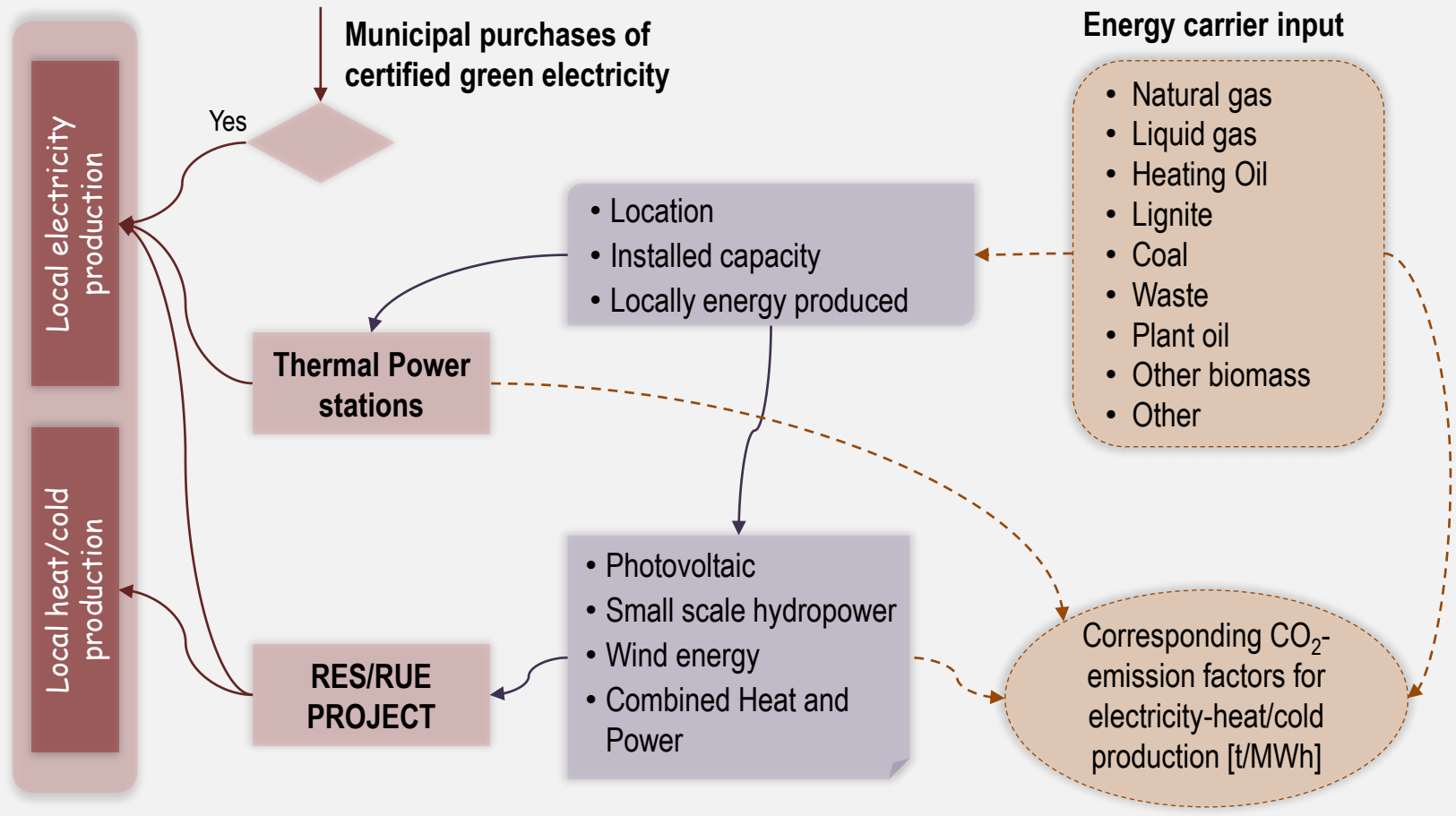
C. Methodology (3/8)

Step 1: Mapping the rural community's characteristics and needs



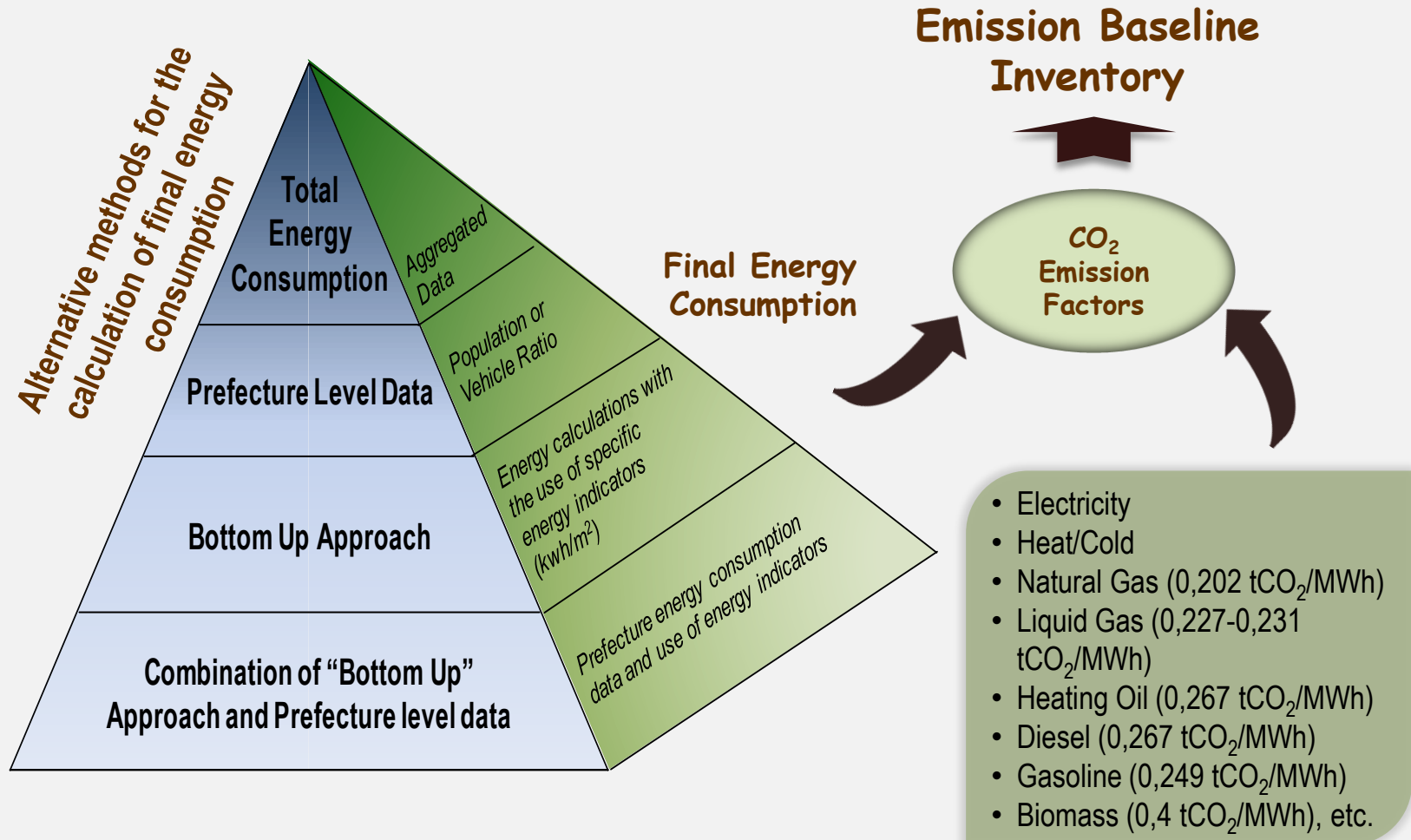
C. Methodology (4/8)

Step 2: Energy, GHG emissions and promising RES/RUE projects registry



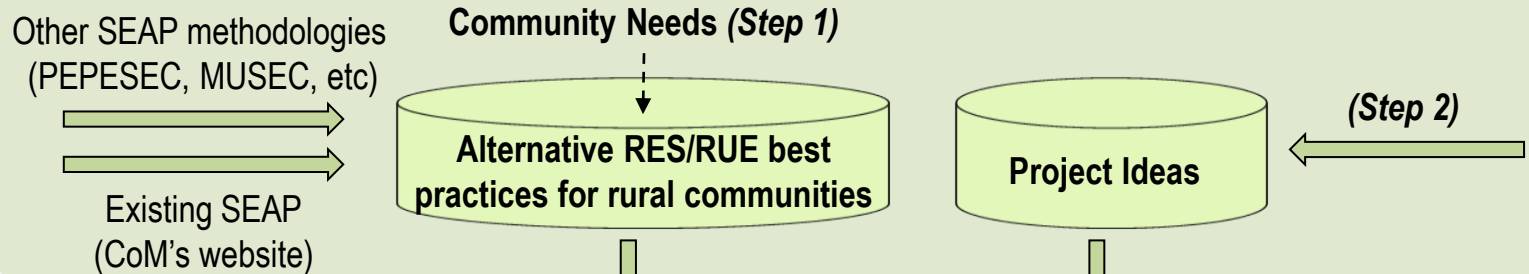
C. Methodology (5/8)

Step 3: Developing energy & GHG emissions baselines



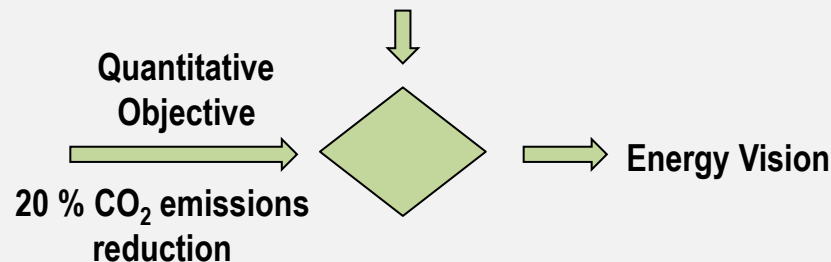
C. Methodology (6/8)

Step 4: RES/RUE priorities' identification



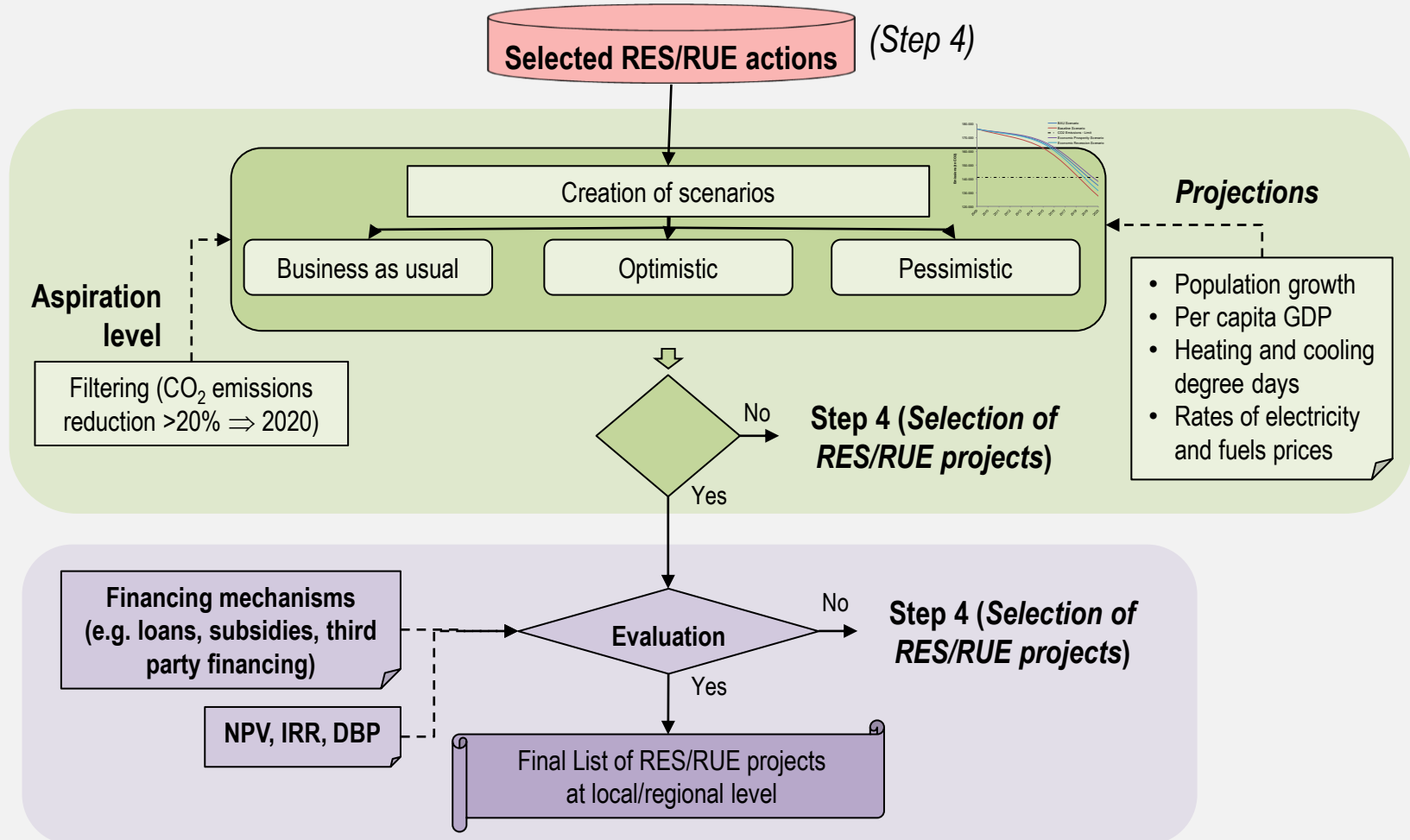
Selection of
RES/RUE
projects

RES/RUE Projects	Install Capacity (kW)	Energy Saving (MWh)	Investment Cost (€)



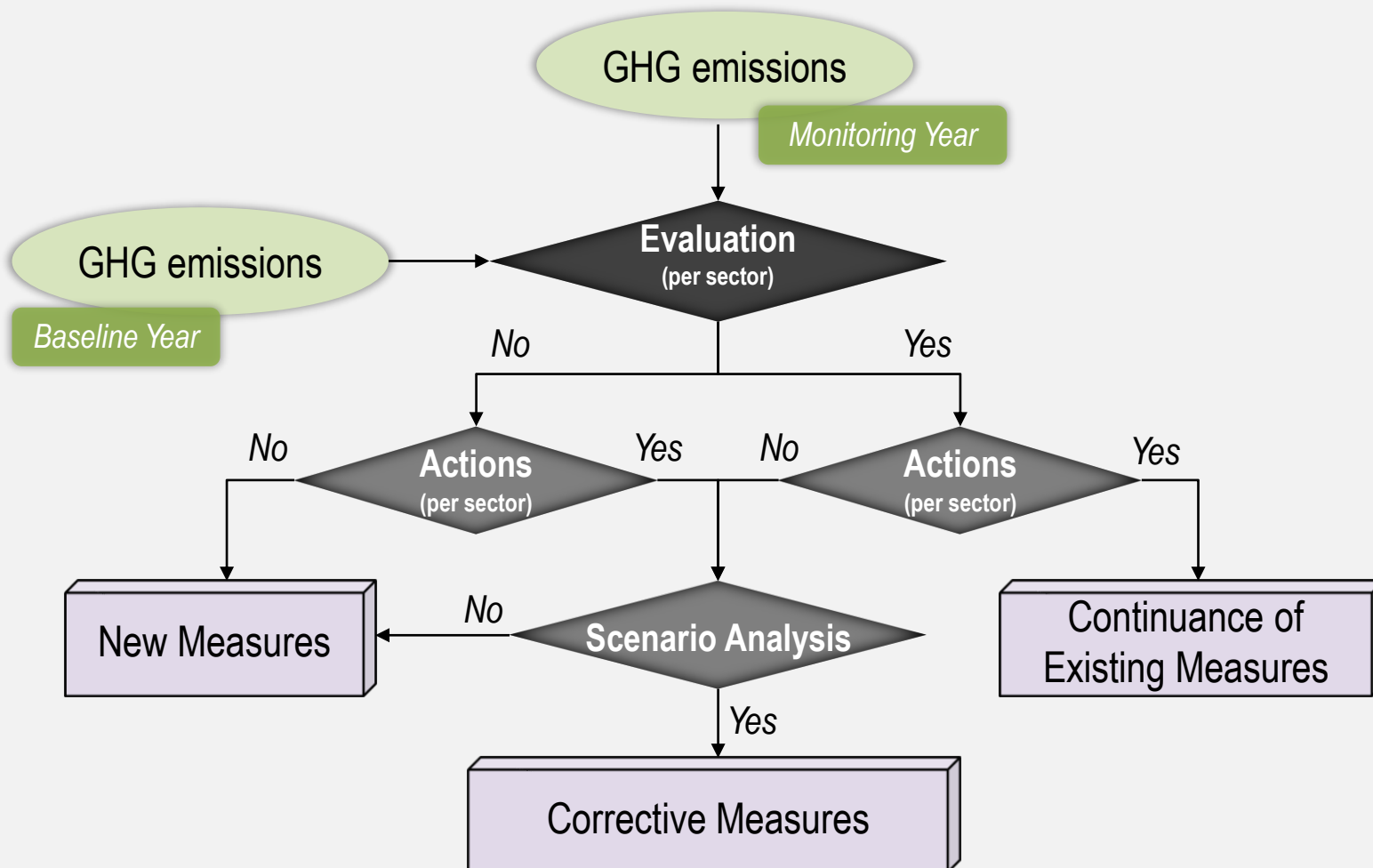
C. Methodology (7/8)

Step 5: Scenario analysis



C. Methodology (8/8)

Step 6: Monitoring



D. Web Application (1/3)

The Web Tool

YOU ARE HERE: Home » Web Tools

Web Tools

Instructions

- Complete the following actions in any order.
- You can edit any action at any time, if you wish to change something.
- You can see the results in the Review tab.

Action 1

Mapping the rural community's characteristics and needs.

Edit

Review

Action 2

Energy, GHG Emissions and Promising RES/RUE projects registry

Edit

Review

Action 3

Developing Energy and GHG emissions baselines

Edit

Review

Action 4

Stakeholders' engagement in the decision making process and RES/RUE priorities' identification

Edit

Review

Action 5

Scenario analysis and identification of bankable Res/Rue options

Edit

Review

Action 6

Monitoring

Edit

Review

<http://erenet-tools.epu.ntua.gr/>

D. Web Application (2/3)

YOU ARE HERE: Home ■ Web Tools ■ ACTION 1: INSERT DETAILS

ACTION 1: INSERT DETAILS

Step 1 Step 2 Step 3 Step 4

Municipality Details

Insert Municipality and Region Name:

Municipality:

District:

Housing Statistics

Insert number of Municipality and District residences for 4 different years (1981, 1991, 2001, 2025). The projection year must be at least 5 years after the current year.

Year	Number of Municipality Residences	Number of Inhabitant Residences
<input type="text" value="2009"/>	<input type="text" value="2000"/>	<input type="text" value="4000"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>

YOU ARE HERE: Home ■ Web Tools ■ ACTION 2: GHG EMISSIONS AND PROJECTS

ACTION 2: GHG EMISSIONS AND PROJECTS

Step 1 Step 2 Step 3

Local Electricity Production: Thermal Power Stations

Please insert data on the operating Thermal Power Stations in your Municipality.

Project name	Location	Installed capacity (MW)	Locally energy produced (MWh)	Energy carrier input (MWh)	
<input type="text"/>	<input type="text"/>	<input type="text" value="10"/>	<input type="text" value="32"/>	<input type="text" value="0"/>	<input type="button" value="Details"/>

☐ Group of projects each <20MW

Municipal purchases of certified green electricity (if any) [MWh]:

D. Web Application (3/3)

A. Final Energy Consumption

FINAL ENERGY CONSUMPTION (MWh)															
BUILDINGS, EQUIPMENT / FACILITIES AND INDUSTRIES															
Electricity	Heat/Cold	Fossil Fuels					Renewable Energies					Total			
		Natural Gas	Liquid Gas	Heating Oil	Diesel	Gasoline	Lignite	Coal	Other	Plant Oil	Biofuel		Other Biomass	Solar Thermal	Geothermal
Municipal buildings, equipment / facilities															
655.2	-	0	-	1052.8	0	-	-	-	0	-	0	0	0	0	1708
Tertiary (non municipal) buildings, equipment / facilities															
15716.2	0	0	-	5201.8	0	-	-	-	0	-	0	0	0	0	20918
Residential buildings															
34939.4	0	0	-	16245.4	0	-	-	-	0	-	0	0	0	0	-
Municipal public lighting															
1331	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industries (excluding industries involved in electricity production)															
3733.8	0	0	-	0	-	-	-	-	-	-	-	-	-	-	-
56375.6	0	0	0	22500	-	-	-	-	-	-	-	-	-	-	-
TRANSPORT															
Electricity	Heat/Cold	Natural Gas	Liquid Gas	Heating Oil											
Municipal Fleet															
0	-	0	0	-											
Public transport															
0	-	0	0	-											
Private and commercial transport															
0	-	0	0	-											
0	0	0	0	0											
AGRICULTURE / FORESTRY / FISHERY															
Electricity	Heat/Cold	Natural Gas	Liquid Gas	Heating Oil											
Agriculture															

Tertiary

Tertiary (Non Municipal) Buildings, Equipment

Tertiary

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Instructions

txt

Total Energy Consumption

Electricity (MWh)

Natural Gas

Heating Oil

15716.245

5201.764

Total

Tertiary

Tertiary

Choose

1

2

3

4

Tertiary (Non Municipal) Buildings, Equipment / Facilities

Change Method

<< Back to Inventory table

Tertiary (Non Municipal) Buildings, Equipment / Facilities

Instructions

txt

Total Energy Consumption

Total energy consumption											
Electricity (MWh)	Natural Gas		Heating Oil		Diesel		Biofuel	Other Biomass	Solar Thermal	Geothermal	Other Fossil Fuels
	m3	MWh	lt	MWh	lt	MWh	MWh	MWh	MWh	MWh	MWh
15716.246				5201.764							
Total energy consumption: 20918,01											

Save

E. Conclusions

- ➔ Customization of existing methodologies and tools, in order to fit rural municipalities' characteristics
- ➔ Implementation under web environment can make the difference for the interested stakeholders who are not “experts” in the field, saving resources and time.
- ➔ Decision Support Systems & Integrated Information System ⇒ Support of decision makers & promotion of regional development

Thank you for your attention!

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