

Intelligent Energy  **Europe**



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ENERGY 4 COHESION

Sustainable Energy Actions for Europe's Cohesion

Guidelines for planning decentralised energy actions within European Cohesion Policies

ENVIROS 

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1. Introduction

This document summarizes methodology that was elaborated within Task 3.2 of Intelligent Energy Europe project “Energy 4 Cohesion” (E4C) in order to facilitate the decentralised energy actions planning within the context of European Cohesion Policies in eight selected Target regions.

This methodology, however, could be generally used also outside E4C project and its users should find help and guidance for assessing their potential and defining suitable renewable energy and energy efficiency actions which can be compiled in the Regional Energy Plans.

This methodology is based on the experiences of several E4C project consortium partners gained in several regional energy planning projects in the Czech Republic, Germany, Austria as well as in the other countries. The methodology is focused on a planning which is very suitable for Structural/Cohesion funding and should answer local stakeholders all important questions which might occur on their path in preparing Regional Energy Plans.

This methodology should, on one hand, provide the users with a significant level of freedom and flexibility in the target region planning based on availability and quality of the background data and information on the target regions. On the other hand, this methodology should provide a robust and structured background for the elaboration of Regional Energy Plans including the identification of key potential areas for future use of RES, identification of priorities, formulation of the energy vision of the region and final elaboration of the planning documents and action lists summarizing and evaluating concrete projects which would be eligible for Structural/Cohesion funding and which would be replicable.

2. Description of general context of the region

Description of general context of the region should provide all the important information and data relevant to the areas of natural conditions, energy supply and demand, demography, administrative structure of the target region etc. Where possible, the information / data should be provided by smaller units than the whole target region (municipalities, settlements, cadastral areas or other administrative units).

2.1 Geographical setting, natural conditions, climate, historical context

Please describe the following:

- Area of the region
- Climate conditions (temperatures, degree-days, solar radiation, wind speed etc.)
- Natural conditions
- Geographical settings
- Historical context

Key focus: Describe all relevant conditions and parameters which could affect energy supply and use in the region as well as potentials of renewable energy and energy savings

2.2 Administrative structure of the Region

Please describe the following:

- Number of municipalities/towns and villages or administrative units.
- Structure of regional government/self-government and its responsibilities / powers within the context of energy supply, and in the context of regional development planning etc.

Key focus: At which level the strategic decisions about future priorities, targets are made? Who are the potential project developers and beneficiaries? Who specifies, develops and approves potential projects?

2.3 Demography and the building stock

Please describe the following:

Numbers of inhabitants and outlook of its development in the next 10 – 15 years

Housing stock:

- No of family / multi-family houses
- No of flats in family / multi-family houses
- Typical materials used for buildings
- Age structure and technical state of buildings, heat insulation qualities
- Unit consumption per m² - family houses, multi-family houses – if possible

Key focus: Describe all relevant parameters which could affect energy use in buildings or are related to potentials of energy savings. If possible, provide also data by smaller units than the whole region (municipalities, settlements, cadastral areas, administrative units) – the distribution of energy demand / potentials within the region is also important.

2.4 Economic development

- GDP (if available for the region, may be also available by sector)
- Economic sectors and prevailing economic activities
- Industry – key industrial branches, employment in industry
- Agriculture – key companies, production, land used / not used
- Forestry – key companies, ownership of forests, area covered, wood production
- Available public and commercial services
- Education sector - number of schools, pupils and students in schools
- Health and social care sector - no of hospitals, beds in hospitals, no. of other facilities (senior homes, social care facilities, etc.)
- Other facilities

2.5 Other important information about the region

Please provide other important information about the target region or overall context within the target country:

- Key social and other problems (unemployment, migration, etc.)
- Key environmental problems (air quality, water quality etc..)
- Existing regional strategy documents (Regional development plans, Regional energy plan, Action plans for improvement of environment etc.)
- Key legislation related to energy efficiency and use of renewables applicable in the region
- Already existing or successfully implemented RUE/RES actions in the region

3. Current energy situation

3.1 Current energy infrastructure

This analysis should describe the existing infrastructure, and the way in which energy is used. This chapter concentrates on:

- Interconnection with surrounding regions.
- Own energy sources available in the region (district heating plants, power plants), energy producers and technologies used, their installed capacity, fuel consumption, emissions they produce.
- Available distribution networks: electricity, natural gas, district heating (this information should be available by individual municipalities), energy suppliers.
- Municipalities connected to gas networks and those which have to rely on coal/oil and RES only.
- Industrial plants in the region, installed capacity, consumption, emissions.
- Energy use of wastes.
- Renewable energy sources currently used.

3.2 Current energy supply and consumption

The analysis of current energy supply and consumption should be based on available statistical and other data. If the detailed data is available, it is possible to elaborate detailed energy balance. If the data is not possible, at least estimates and description in text should be provided.

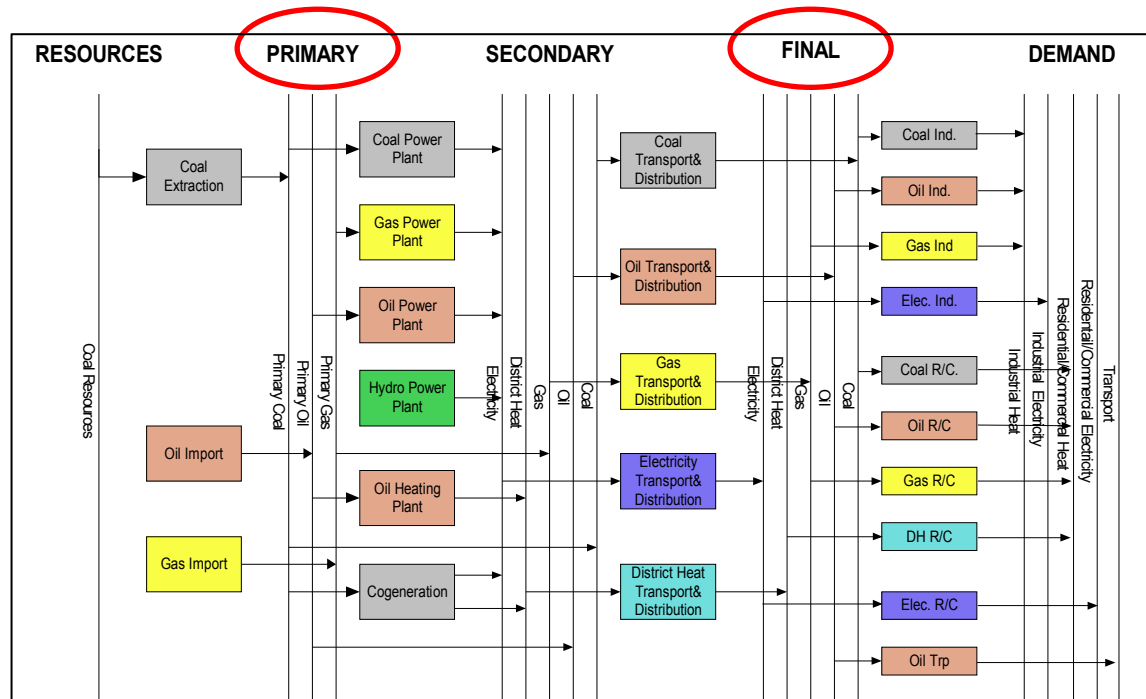
Energy supply:

- **Total primary energy supply** to the region (primary energy balance) by energy carrier (natural gas, electricity, coal, oil, renewable energy etc.) presented in energy units (in TJ) and the structure of energy supply by energy carrier (in %) – if possible, also by smaller units than the whole region.
- Import dependency / energy self-sufficiency of the region (% of primary energy supply covered by import / resources within region).
- Identification of strong and weak points and key problems related to energy supply.
- Overall development of energy supply and its possible future options - use of available conventional resources (import/centralised electricity production, gas networks development, district heating schemes) or utilisation of RES? (decentralised use of biomass or biomass district heating schemes, large scale solar thermal schemes etc.). Please give a realistic estimation of future developments.

Energy demand:

- **Final energy demand** (i. e energy delivered to end users, therefore including district heat produced in DH sources) by sectors (households, services, industry, agriculture) and by energy carrier (electricity, district heat, gas, coal, other etc.) - if possible, structure of final energy demand should be provided by smaller units than the whole target region.
- Identification of key factors influencing energy demand currently and in the future.

Fig. 1: Relations between energy resources and demand and different levels of analysis of regional energy balance



Key focus: Describe what the current energy situation is in the most detailed form possible. The energy balance or description of current energy supply and demand will be used as a baseline for formulation of goals, for evaluation of future energy options (i.e. increase of share of RES, decrease of energy demand resulting from RUE etc.) etc.

The energy balance (with focus on analysing the primary energy supply and final energy consumption) should be presented in energy units (TJ, MWh or other energy units) if the detailed data is available or be based at expert estimates – in this case only total should be estimated in energy units and the rest presented only as % of total primary energy consumption. The energy carriers covered (indicative list) should be: imported electricity, wind, hydroelectricity, geothermal energy, biomass, biogas, solar energy, solid fossil fuels (more specifically – hard coal, brown coal, lignite, peat etc.), liquid fossil fuels (heavy fuel oil, light fuel oil, LPG etc.), gaseous fossil fuels (natural gas) etc.

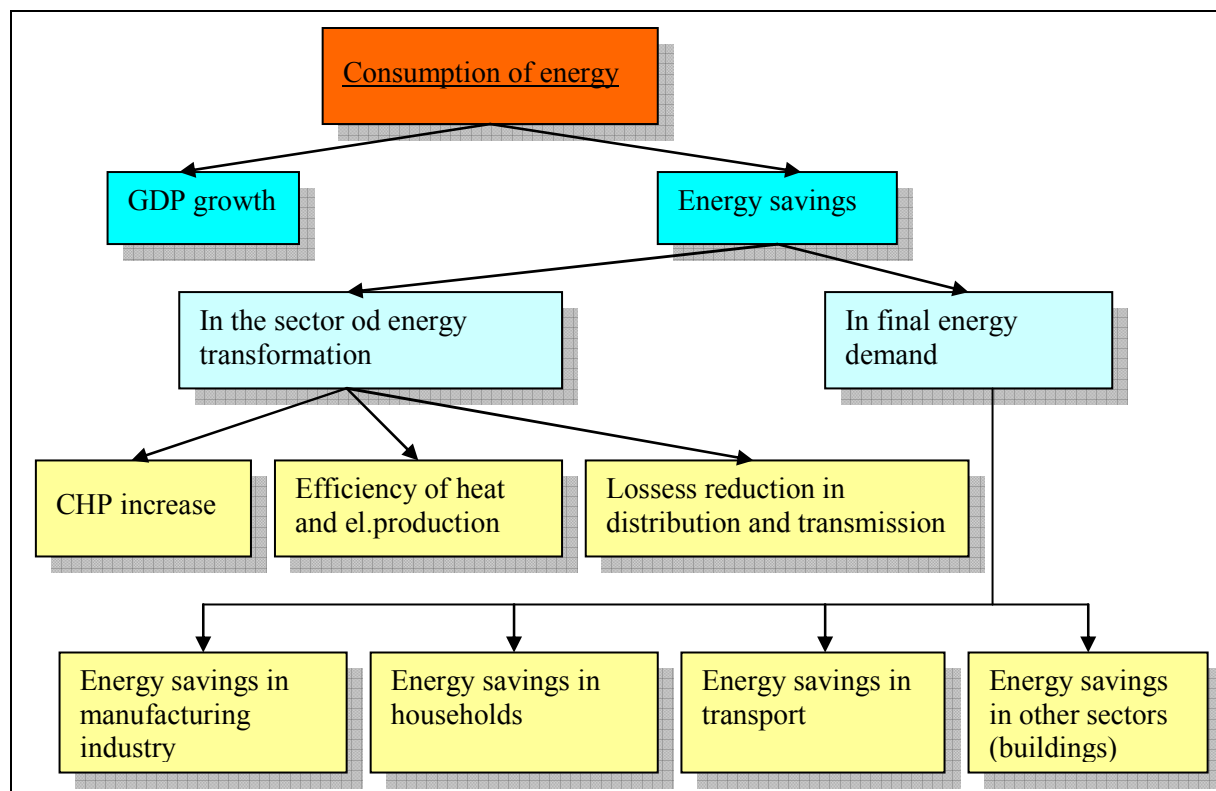
4. Analysis of RUE/RES potentials

4.1 Analysis of potentials for energy savings

Please analyse or estimate the potential effect (in TJ/year or % of final energy consumption in relevant sector) or at least estimate the level of importance of potential of energy savings measures by individual sectors (indicative list):

- Households (thermal insulation of buildings, windows replacement, regulation of heating, energy efficient appliances etc.)
- Public sector and commercial services (thermal insulation of buildings, windows replacement, regulation of heating, energy efficient appliances etc.)
- Industry and agriculture (Energy efficient technological processes, decrease of energy losses, utilization of waste heat, industrial CHP etc.)
- District heat production – increase of efficiency of production technology (CHP, new boilers, switching to fuels that could be used more efficiently, etc)
- Distribution networks (decrease of losses in district heating networks, etc.)

Fig. 2: Illustration of factors influencing energy consumption and possibilities of its reduction



Notes: Potential of energy savings is defined as the difference of current consumption and best practice. First, it is necessary to evaluate measures for decrease in the energy demand before suggesting options for energy supply! If possible, try to estimate in absolute figures (TJ/year) or % of final energy consumption in relevant sector. If not possible to estimate in detail, please at least identify the key energy saving measures that have the highest energy saving potential.

4.2 Analysis of potentials of RES

Potential of renewable energy sources (RES) should be analysed or at least estimated (in energy units, for example TJ/year) or at least their importance assessed and described by individual RES type:

- Solar thermal and PV energy (based on solar radiation data and estimated potential share of solar energy for domestic water heating, heating of swimming pools etc).
- Hydro energy (if available).
- Wind energy (based on wind resource map).
- Geothermal energy or ambient heat (to be used in heat pumps).
- Biomass:
 - waste wood from forestry, processing industry, gardens and parks,
 - agricultural wastes (straw, waste from crops processing, etc.,
 - potential for energy crops (on unused agricultural land or as replacement of excess food production)

- Biogas:
 - from landfills,
 - from waste water treatment
 - produced from organic materials (animal manure and litter, biodegradable wastes, green biomass from maintenance of parks, etc.)

Notes: Estimate of potentials of RES is crucial for formulation of priorities and for identification of projects that have the highest potentials to be replicated.

In the case of biomass, also current and future biomass market and logistics options could be described (i.e. regional biomass centres, biomass processing to pellets, etc.)

The target region planning should be based in maximal possible extent on already available information and data (i.e. statistical data and other planning documents/studies/analyses that are already available or could be easily obtained).

In the ideal case, the energy supply/demand, potentials, etc. should be described by “hard” statistical data or results of analyses, calculations, scenarios (in the form of single figures, tables, graphs) Only in the case that the “hard” statistical data are not available, expert estimates and description in the form of text could be used.

4.3 Identification of available RES/RUE options in the region

Besides detailed analysis of potentials, which is very helpful for providing a global overview of the possibilities of implementation of RES and RUE measures in the target region, a quick identification of available RES/RUE options in the region could be done in a form of a matrix of renewable energy sources and sectors of consumption. This will identify in which sectors renewable energy can be used and to what extent, where and with which technologies.

The filling of the matrix should help you to:

- Consider relationships between RES / RUE options and sectors where they could be applied as well as their relative size and importance. Fill in the first, **light yellow** row of the relevant cell in the matrix - evaluate by zero () to five stars (*****)= highest relevance and potential, (-) = not applicable.
- Identify possibilities and eligibility for support from Operational programmes. Fill in the second, **light green** row of the relevant cell in the matrix – evaluate by zero () to five pluses (+++++)= highest relevance, (-) = not applicable. In addition, an abbreviation of the relevant Operational Programme / Priority or subprogramme could be added.

The cells with high score and identified eligibility of support from Operational programmes should then provide very clear information on the type of actions and sectors which should be in particular focused on during formulation of priorities and identification of the concrete actions to be included in the final Action list.

Table 1: Matrix for evaluation of RES options (with an example given in the first four cells)

Type of RES action / sector	Households	Public sector	Commercial services	Industry	Public energy supply, waste mgmt., waste water treatment etc.	Agriculture and forestry	Other sectors (i.e. transport etc.)
Solar thermal	****	*****	****	**	**	**	-
	++++ (OPZP/3.3)	+++++ (OPZP/3.1)	+++ (OPPI/ Eko-energie)	+++ (OPPI/ Eko-energie)	+++ (OPPI/ Eko-energie)	+++ (OPPI/ Eko-energie)	-
Solar PV							
Hydro							
Wind							
Geothermal and ambient heat							
Biomass - wood							
Biomass – agricultural waste							
Biomass – energy crops							
Biogas – landfill gas							
Biogas – sewage gas							
Biogas from organic material							
.. add as convenient							

Please add legend for explanation of abbreviations in the matrix:

Example:

OPZP ... Czech Operational Programme Environment 2007-13 (Operační program Životní prostředí)

OPPI ... Czech Operational Programme Entrepreneurship and Innovations 2007-13 (Operační program Podnikání a Inovace), Eko-energie ... subprogramme of OPPI focused at RES support in private sector

The similar matrix could be elaborated for RUE options:

Table 2: Matrix for evaluation of RUE options

Type of RUE action / sector	Households	Public sector	Commercial services	Industry	Public energy supply, waste mgmt., waste water treatment etc.	Agriculture and forestry	Other sectors (i.e. transport etc.)
Thermal insulation of buildings							
Regulation of heating							
Utilization of waste heat							
Decrease of energy losses in networks							
Savings in public lighting systems							
...							
...							
...							
... further RUE measures to be added as convenient							

4.4 Identification of strong and weak points in energy consumption in the Target region with focus on energy savings

The SWOT analysis is a very helpful tool for further formulation of priorities and future options as well as the energy vision of the target region and for identification of threats and weak points which should be taken care of.

Identification of strong and weak points on the energy demand side can be directly made into the SWOT matrix:

Table 3: Matrix for elaboration of SWOT analysis of the energy demand in the Target region

SWOT analysis of energy demand side of the target region (what are the Strong and Weak points, where are Opportunities and Threats) with focus on reduction of energy demand by energy saving measures.	
<p>STRENGTHS</p> <p><i>please fill in the relevant points you have identified within the target region</i></p>	<p>WEAKNESSES</p>
<p>OPPORTUNITIES</p>	<p>THREATS</p>

Notes: The SWOT analysis should help to identify the key possibilities as well as barriers to wider use of energy saving measures in the target region. The SWOT analysis will be done based on the previous analyses and will provide very clear and structured overview on the energy demand side of the target region. Priorities and priority actions to be set later on should be targeted at overcoming (minimising) the identified barriers and at making use of the set opportunities.

4.5 Identification of strong and weak points in energy supply of the Target region with focus on energy supply from RES

The analogical SWOT analysis focused on energy supply with a strong focus on the utilisation of locally available RES should help to identify the key possibilities as well as barriers to wider use of RES in the target region.

Table 4: Matrix for elaboration of SWOT analysis of the energy demand in the target region

SWOT analysis of energy supply in the target region (what are the Strong and Weak points, where are Opportunities and Threats) with focus on utilisation of RES	
<p>STRENGTHS</p> <p><i>please fill in the relevant points you have identified within the target region</i></p>	<p>WEAKNESSES</p>
<p>OPPORTUNITIES</p>	<p>THREATS</p>

Notes: The SWOT analysis will be done based on the previous analyses and will provide very clear and structured overview on the energy sector in the target region. Furthermore, possibilities and limitations of the energy development in the future are shown. This should be a conclusion-chapter on the previous points. Priorities and priority actions to be set later on should be targeted at overcoming (minimising) the identified barriers and at making use of the set opportunities.

5. Future supply and demand options

5.1 Future energy supply alternatives

This part should identify and discuss (!) the future energy supply alternatives – what are the possible options for future energy supply in the target region in the next 10 - 20 years:

- Energy infrastructure development (gas, heat, electricity – distributors)
- Development of energy demand in the region – by sector and by fuel and energy (in housing, public sector, industry, agriculture etc. based on expected demographic, housing, economic development, using available information and data from strategic documents, development plans, etc. Future energy demand should incorporate increased energy efficiency in sectors (economic potential for energy savings);
- Possible alternatives for future energy supply in the target region in the next 20 years – long term options (if possible quantified estimates)

In order to define the range for possible future development of energy demand and supply, following two options should be described:

- Business as usual (no support to increased efficiency, no support to renewables)
- Other alternatives in the future.

Future energy and emission balances (scenarios) should be calculated or estimated.

Multicriterial evaluation incl. economic and environmental evaluation of options will follow. The indicators for evaluation can comprise for example annual data on:

- Future CO₂ emissions
- Investments into renewables
- Investments into energy efficiency
- Share of RES in future energy consumption of primary energy fuels
- Electricity generated by RES

Many other indicators as seen relevant, related to the environment. Level of energy savings achieved, reduction of most important emissions, employment, other social benefits, income generated (if the data available), etc.

5.2 Sustainable options – priorities

Based on the existing potentials in increased efficiency and in renewables most economically viable and technically feasible options of balancing energy supply and demand in the target region with utilisation of energy savings measures as well as locally available renewables will be drafted.

Priorities will be set:

- By sector (most important renewable source for the sector, i.e. biomass for households)
- By territorial parts to the target region
- By energy source

These priorities should result from most technically and economically feasible options.

Notes:

Besides identified potentials of energy savings and RES, also other factors like national/regional GDP development, demographic development, availability of technology etc. should be taken into account.

Future energy efficiency is the result of applied energy saving and energy efficiency activities in existing buildings and industries (incl. price increase impacts after the carbon tax introduction, electricity and gas market opening, etc.)

Potential for energy savings may be included either as a source of energy or better projected into future energy demand of individual sectors

Realistic estimation of future developments should be given

6. Energy plan (strategy) for the region

To formulate the plan we need to know:

- Priorities in RES, RUE, air protection, etc.
- Already implemented and identified new Pilot actions
- Accompanying measures to be taken (success factors)
- Funds available and eligibility for funding
- A schedule for the implementation of the pilot actions during next short-term period - Action Plan

6.1 Formulation of energy vision and strategy of the target region

- The Energy Vision should formulate (by the “words of politicians”) what is the desired status in the region for the next 20 years.
- The formulation of an energy vision for the region should define where the region should be in the next 20 years in terms of energy supply and end use. Moreover, what are other desirable effects of energy savings and use of RES in the region? These effects could be for example CO₂ reduction, reduction of air pollution due to coal replacement, availability and affordability of energy to houses and different social groups, cost savings, creation of jobs etc.
- The Energy Vision should be formulated depending on the needs and possibilities of the region, may be structured
- It is advised that the energy vision shall be consulted with and approved by representatives of the region.

6.2 Formulation of goals

The goals should explicitly specify how to realize what was formulated by the energy vision. The goals can have either qualitative or quantitative character.

Examples of qualitative goals:

- Regional stakeholders will reach consensus in energy issues
- Energy intensity will constantly decrease

Note: Energy intensity could be given for example as primary energy consumption per inhabitant

Examples of quantitative goals:

- Energy intensity will decrease by X% during next 20 years (this can be further specified by sectors – in households – 20%, i.e. xx GJ/annum, etc.)
- Regional stakeholders will develop and submit at least Y project applications for funding from Cohesion/Structural Funds
- The share of RES in the target region will reach X% in 2010 and Y% in 2020
- At least Z new jobs will be created through implementation of biomass projects in the area of energy production by RES.

Note: Priorities can be further specified by the RES type, prediction of installed capacity can be stated. Priorities will be based on the potentials for RES and for energy savings.

6.3 Identification and selection of priority RUE/RES actions

*Note: In order to implement the agreed strategy and achieve the set goals we need to specify what priority actions have to be taken and what priority projects should be implemented in short-term and long-term run. These actions and projects should allow to achieve the targets. **Short-term actions mainly would be agreed with the region and other stakeholders involved.***

1. Identification of necessary prerequisites and conditions for utilisation of identified RUE/RES potentials / options - **this will help to define conditions for identification of concrete RUE/RES projects.**
2. Definition (/selection) of **pilot actions** to be taken in order to develop further RUE/RES utilisation in the region. During the selection, it will be important to keep in mind several success factors for these pilot actions:
 - An attempt should be made to address the demand and supply side at the same time (do not use renewable energy before you try to reduce energy demand)
 - Search for support of local stakeholders
 - Make use of experiences from successful implementation in other regions
 - Look after sources of finance and their requirements (**eligibility for support from Cohesion/Structural Funds**). The eligibility criteria are of crucial importance and have to be , The most important eligibility criteria are:
 - sectoral limitations (i. e. funding may be available only for public sector in a specific Operational Programme)

- size of projects (it may be or may not be necessary to create action bundles depending on the)
- availability of certain percentage of own funding
- Adopt your action well to specifics of your region
- Pay proper attention to economic, social and environmental benefits, creation of jobs etc. and to the economics of the action as such
- Integrate your actions well into the existing economic, social and behavioural structures of the region

6.4 Identification of concrete projects

Identification of concrete projects (actions) will be based on identified priorities and their evaluation as well as on collection of the project ideas in the target region (by E4C Partners, their subcontractors and other stakeholders) and evaluation how these ideas fit into the priorities and meet and meet funding criteria. The overall size of the actions should be large enough to be eligible for the support from the relevant Operational Programmes. Further development of these actions will comprise:

- Technical pre-feasibility analysis.
- Energy balance of the action (including demand for renewable energy sources, energy production, reduction of emissions of greenhouse gases/pollutants etc.).
- Financing concept (including equity and debt share, investment cost and securities).
- Definition of the positive effects of the selected actions with regard to the overall energy vision of the region (reduction of fossil fuels, job creation, CO₂ reduction etc).
- Cooperation scheme how to bundle these actions into one project (where necessary).
- Assessment how and in what extent these actions could be brought into funding by relevant Operational Programmes.

There are two possible approaches to energy planning and to identification of concrete projects (see the Annex 1 - Flow chart of energy planning process within E4C):

- **Top – down** used mostly by independent parties who are (at least in the beginning of the process) not familiar in detail with the target region and do the planning process in a systematic way, i.e. start with analysis of the region, identification of priorities and future supply options
- **Bottom - up – down** approach. This approach incorporates potential project ideas that may be already developed by local stakeholders. These Project ideas, however, must be put into the planning context (the way bottom-up), evaluated and incorporated into the priorities and goals in order to be really replicable and set well within the Energy Plan (the top-down way back) – therefore there is the way **bottom - up** and backwards **down**.

In most cases, it is possible to combine these approaches when developing the Regional Energy Plan.

6.5 Development of the short-term action list

The Action List (List of short-term activities, Implementation Plan) completes the Energy plan and specifies which short-term actions should be undertaken, who will implement them, who will be responsible, when they are to be implemented, what are the expected **costs of the actions and how they could be financed etc.** This will ideally be agreed with the regional authorities. Partners and their roles in the implementation plan should be specified.

The description of the actions presented in the Action list should be structured and should at least include the following information:

- Name and short description of the action.
- Region/municipality and location of implementation of the action.
- Type of action / sector of implementation.
- Identification of the responsible stakeholder, beneficiary of the action and other stakeholders involved including contact details.
- Evaluation of costs of the action (investment costs, operating cost, fuel/energy costs).
- Evaluation of benefits of the action: energy benefits (energy production from RES, energy savings), economic benefits (payback of investment, reduction of costs, etc.), environmental benefits (reduction of GHG emissions, etc.) and social benefits (creation of jobs, etc.).
- Organisational framework for implementation (will it be implemented separately or as a part of a bundle?)
- Identification of sources of support relevant for the Action (Operational Programmes and their Priorities) from EU Structural/Cohesion Funds and other sources of support (National support programmes etc.)
- Evaluation of financing of the action (share of own financing, bank loan, support from EU Structural/Cohesion Funds, other support etc.)
- Time frame for implementation of the action
- Evaluation of potential of replication within and outside of the target region.

Note:

This part should define the criteria for identification of concrete actions. The identified actions shall include concrete projects that shall be implemented with funding from EU funds.

It is very important to check that identified action(s) fit into the priorities of relevant Operational Programmes and that they meet the eligibility criteria (sector of implementation, type applicant/beneficiary, size of the project, specific technical criteria etc.). An elaboration of a checklist summarizing that the action meets the criteria of the relevant Operational Programme in the relevant target Region country may be very helpful

6.6 Monitoring and evaluation

The Energy plan, implemented projects and mainly benefits achieved by the actions and projects need to be monitored and reported regularly (annually) in order to check if the target region is on the track to reach its Energy Vision and goals.

The objectives of the planned actions are ideally quantified in measurable physical and economic units. Indicators are defined how to measure the achievement of the objectives and the project achievements/benefits.

The indicators illustrate achievements of the plan and of the implemented actions and projects, and have to provide evidence that the implemented actions and projects contribute to the achievements of the objectives.

In principle the monitoring indicators should be:

- Simple
- Available
- Reliable
- Verifiable

Typical indicators for RUE (on the level of project / project bundle) can be:

- GJ saved/year
- € saved / year
- Improved efficiency (e.g. energy consumption in kWh/m² in households etc.)

Typical indicators in RES (on the level of project / project bundle) can be:

- kWh of electricity or GJ heat produced annually
- Installed m² of solar collectors
- kW_{el} or kW_{th} of installed capacity – wind, biomass boilers
- Other

Macroindicators (on the level of Region) can be:

- Energy demand in GJ or kWh in /GDP (if available)
- Energy demand in GJ or kWh/capita
- Primary energy consumption/GDP
- Electricity consumption in TWh/capita
- Electricity consumption in TWh/GDP
- % of renewable energy share in primary energy balance of the Region
- % of renewable electricity produced as a share of gross electricity consumption in the region

Note: Monitoring of the plan achievements and benefits can be recommended to be performed on annual basis. The plan itself, its objectives, priorities, actions, etc. are proposed to be evaluated and updated every 3-4 years.

Annexes

Annex 1 - Flow chart of energy planning process

The diagram of the planning process gives a clear overview of individual parts and relations of individual steps to be done in order to develop the Energy plan and the list of priority actions to be implemented with the support from Structural/Cohesion Funds.

There are two possible approaches to energy planning – it is possible to mix these approaches when developing the Regional Energy Plan:

- **Top – down** used mostly by independent parties who are (at least in the beginning) not familiar with the target region and do the planning process in a systematic way.
- **Bottom - up - down** approach. This approach incorporates potential project ideas or projects that may be already developed by local stakeholders. These project ideas, however, must be set well into the planning context, evaluated and incorporated into the priorities and goals in order to be really replicable and set well within the Energy Plan – therefore there is the way **bottom - up** and backwards **down**.

