



Biomass energy register
for sustainable site development for
European regions

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BEn

**Biomass energy register for sustainable site development
for European regions**

Intelligent Energy – Europe (IEE)

Horizontal action: Bio Business Initiative

**Deliverable D4.1: Structure of master plan including a list
of quality criteria**

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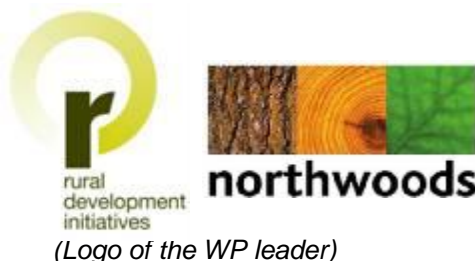


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1. Introduction

1.1. Background

1.1.1. European context

1.1.2. National and regional context

1.2. Aims for the development of master plan

1.3. Methodology for the development of master plan

1.3.1. Definitions

1.3.2. Quality control

2. Target region portrait

2.1. General characteristics of the region

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2.3.2.1. Biomass resources

2.3.2.2. Biomass installers in the region

2.3.2.3. Bio-energy support

3. Regional biomass energy vision

3.1. Biomass energy vision

3.1.1. Production and use of biomass resources

3.1.2. Bio-energy technologies

3.1.3. Bio-energy generation and use

3.2. Milestones (with report back times)

4. Strategy – vision into action

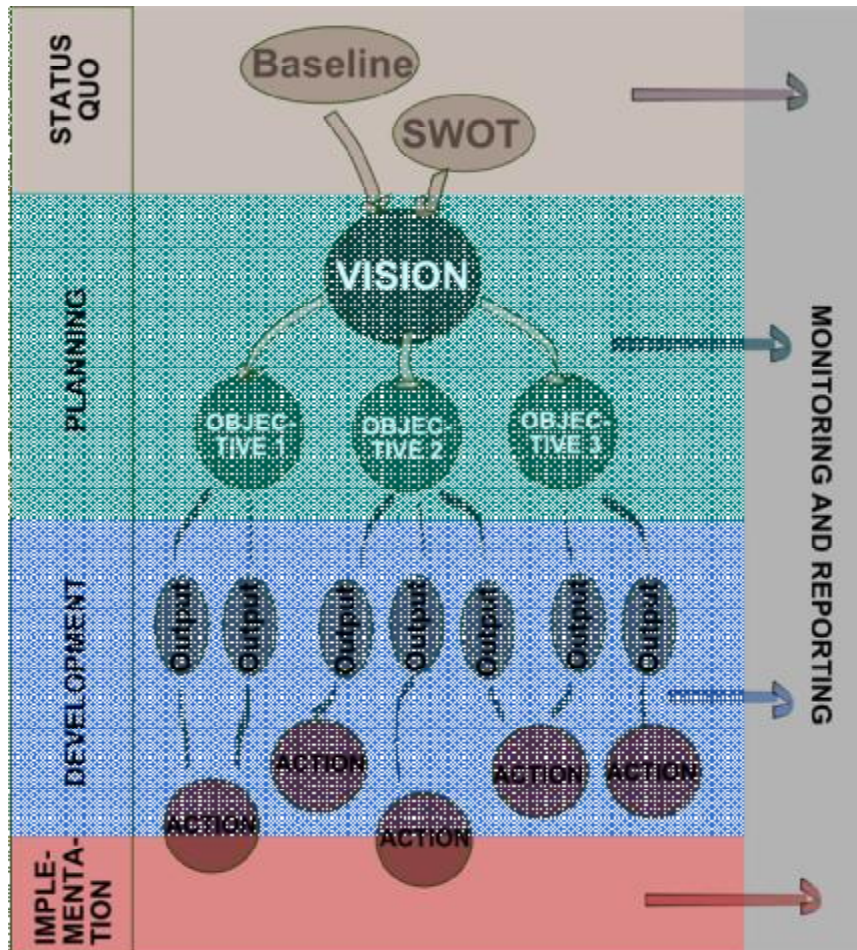


Figure 1 Phases of Master Plan development (K. Zielewska)

4.1. SWOT analysis

4.2. Objectives

4.3. Outputs

4.4. Concrete actions

4.4.1. Timeframe of the actions

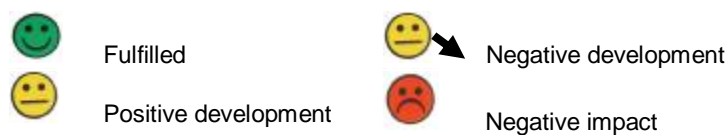
4.4.2. Action plan

4.5. Support measures

5. Delivery and accountability of biomass actions

5.1. Quality / sustainability criteria

Symbols describing the status of sustainability indicators:



No	Indicator	Measured size	Goal	Status
1	Impact on water use and quality	<ul style="list-style-type: none"> Water consumption Comparison of water needs (irrigation) to present situation 	Economical and Sustainable water use	
		<ul style="list-style-type: none"> Water quality Change of water quality compared to present situation 	Good water quality based on Water Framework Directive (WFD)	
2	Changes in land use	<ul style="list-style-type: none"> Quantity of land consumption Additional land consumption for the generation of bioenergy in comparison to present situation 	Minimisation of use of natural habitats	
		<ul style="list-style-type: none"> Quality of land consumption Changes of land use due to the production of bioenergy 	Improvement of land quality e.g. recultivation of open cast mining areas, or abandoned industrial areas	
3	Soil quality	<ul style="list-style-type: none"> Change of Soil C stock balance and fertility 	Maintaining good condition of soil, Improvement of soil quality	
4	Air quality	<ul style="list-style-type: none"> Emission of PM₁₀, NO_x and SO_x will be compared with best-available practices/technologies 	Minimisation of air pollution	
5	Net balance of greenhouse gases (GHG)	<ul style="list-style-type: none"> Life Cycle Assessment focussing on CO₂, CH₄ and N₂O (comparable case studies might be used/adapted, e. g. for fermentation plants) / Comparison of different scenarios using data of various energy sources (electricity, gas, petrol, oil) compared against biomass 	Support for complying with the emission reductions stipulated in the Kyoto Protocol	
6	Impact on biodiversity	<ul style="list-style-type: none"> Effects on biodiversity in comparison to the present situation 	Maintaining or improvement of biodiversity	
7	Energy efficiency	<ul style="list-style-type: none"> Energy input vs. energy production Efficiencies will be compared with best-available practices/technologies 	Improvement of the energy efficiency	
8	Renewable energy	<ul style="list-style-type: none"> Energy capacity Installed bioenergy capacity (kW) vs. current state 	Increase of bioenergy use in the region	
9	Impacts on international and regional development	<ul style="list-style-type: none"> Turnover of bioenergy - Contribution of the action to the total turnover from bioenergy activities in the region 	Increase of innovative technology, minimisation of waste generation, increase of regional value chain	
		<ul style="list-style-type: none"> Efficiency of organic waste utilisation Contribution of the action to utilisation of organic waste for the energy production in the region: waste utilised in the action in relation to the waste produced in the region 		
		<ul style="list-style-type: none"> Changes in the employment in the bioenergy sector induced by the action - jobs created directly (in the action) and indirectly (in the supply chain) in the course of the action 		
10	End-users and consumer	<ul style="list-style-type: none"> Degree of acceptance/satisfaction of inhabitants/people affected by the action by public opinion survey (interviews, open 	Creation of accepted products/solutions	

	needs	councils, regional meetings...)		
11	Investment feasibility	• Simplified cost-benefit analyses of actions	Financial sustainable action	

6. Implementation of selected actions

6.1. Action 1

6.1.1. Action definition form

Action definition form			
Organisation / Company:			
Approved by:		Signed:	
Assisting regional BEn partner:			
Place & date:			
Action title:			
Description (what):			
Objective reference:		Output reference:	
Technical specification:			
Location (where):			
Timeframe (when):	(start)	(finish)	(duration)
Estimated cost:			
Financing scheme / Investor:			
Subprojects / tasks:		Responsibility	Deadline
1)			
2)			
3)			
4)			
5)			
...			
Milestones:			
1)			
2)			
3)			
...			
Applicable quality / sustainability criteria (see table 5.1):		Indicators value:	

1)	1)
2)	2)
3)	3)
4)	4)
...	...

6.1.2. Description of action

- 6.1.2.1. Technical feasibility
- 6.1.2.2. Financial analysis
- 6.1.2.3. Funding & implementation plan
- 6.1.2.4. Benefits from the action to the investor and to the region

6.2. Action 2

6.2.1. Description of action

- 6.2.1.1. Technical feasibility
- 6.2.1.2. Financial analysis
- 6.2.1.3. Funding & implementation plan
- 6.2.1.4. Benefits from the action to the investor and to the region

6.2.2. Action definition form

7. Conclusions and outlook

Appendices

A.1 BEn Biomass guides

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