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Regional Networks for the development of a Sustainable Market for
Bioenergy in Europe



Biomass Action Plan Template

Template for the five European Bioregions – Deliverable 3.1

Acknowledgements

This report has been produced as part of the project BioRegions. The logos of the partners cooperating in this project are shown below and more information about them and the project is available on www.bioregions.eu



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Introduction

The Bioregions project will support the creation of “Bioenergy Regions” in rural areas of Europe. A “Bioenergy Region” aims to get at least one third of its energy supply (excluding transportation) from regional and sustainable biomass sources. The specific objectives of Bioregions are to:

- Support the development of efficient and reliable markets for solid biomass in the five target regions
- Stimulate investments into bioenergy projects and trading businesses of local stakeholders
- Inspire the rural areas to follow the example of the target regions

Within the project five bioregions have been identified:

- County Westmeath, Ireland
- Limbaži Region, Latvia
- Sredna Gora Region, Bulgaria
- Le Trièves, France
- Brumov-Bylnice & Slavičín region, Czech Republic

During the development of these five bioregions, two bioregions in Europe, Achental in South Germany and Jönköping in Central Sweden will serve as an example for five other regions. Main activities within the project are

- identifying success factors in the two “best practice” regions
- starting networking activities in the five target regions
- developing Bioenergy Action Plans for establishing five new bioenergy regions
- supporting the implementation of the Action Plans in the target regions
- encouraging and supporting other regions to replicate the project activities

Development of the regional Bioenergy Action Plan

This publication provides a template and guidelines for setting up a Bioenergy Action Plan. This Action Plan, developed for each target region, will support and guide the target regions into developing a clear strategy with milestones and time plans to become a successful bioenergy region.

With a successful Bioregion we mean a region that covers more than one-third of its energy needs for electricity and heating through bioenergy produced from regional and sustainable sources. The Biomass action plan will be made with contributions from key stakeholders from each target region. The Action Plan will be formally adopted by the public authorities and the first steps for the creation of the five bioregions will be implemented.

In the development of the template, the templates of existing (bio)energy action plans have been taken as a basis.

- The Action Plan developed in the framework of the IEE project BEN, developing biomass action plans for 4 European regions - <http://www.ben-project.eu/>
- Elements from action plans developed under the REGBIE+ project - <http://www.regbieplus.eu/>
- The SEAP guidelines – how to develop a sustainable energy action plan
- Official guidelines for spatial energy plans in the Czech Republic
- Input from Niina Kautto (Lund University), working on a PhD on regional biomass planning in Europe.

The draft template of the action plan has been commented a no. of times by the regional partners in the consortium between November 2010 and March 2011.

Proposed Table of Contents of the Biomass Action Plans

1. Introduction

This part should be no longer than 1-2 pages. General introductory text to be provided by the WP3 leader

1.1. Background (Why developing an action plan)

- European context
- National and regional context

1.2. Aims for the development of the action plan

1.3. Methodology for the development of the action plan (short explanation of the template), including definitions.

2. Target region portrait

2.1. General characteristics of the region (*max 2 pages*)

- Geographical setting, natural conditions
- Administrative structure
- Demography and settlement pattern
- Economic situation

2.2. Current energy situation (*2 – 4 pages*)

- Current energy infrastructure
- Current energy supply and consumption (per energy carrier – available data) *including relevant infrastructure like district heating networks or coal power plants able to co-fire biomass*

If data are not available, you should try to make estimates. If this is not possible, give a qualitative description of the situation. → then monitoring of progress should be among the most important activities

2.3. Overview of other existing action plans and policies related to development of the region.
(max 2 pages)

(These action plans do not have to be related to energy, but may be plans related to the support of SMEs, tourism, etc.)

2.4 Overview of relevant national plans like the national Renewable Energy plan, energy efficiency plan and biomass plan if existing (max 2 pages)

We have also to mention somewhere what kind of support schemes are available like feed-in-tariffs, grants etc, especially the ones relevant to biomass and energy efficiency.

3. Bioenergy characteristics

3.1. Analysis of bio-energy potential

Here the same units will have to be used by all partners, e.g. m³ of wood, MW of installed capacity, MWh of electricity, GJ of heat consumption, when possible include flow chart)¹

- Existing bio-energy market
 - o Bio-energy supply
 - o Bio-energy consumption
- Bio-energy potential
 - o Biomass resources (forest, agricultural sources, etc.)
 - o Biomass suppliers / installers in the region
 - o Potential biomass consumers
 - o Bio-energy support (e.g. financial support)
- Overview (table) of technical and economic potential of biomass (including also overview of biomass potential used already)

For the description of the potential, please use a table such as the one below. To be able to compare the potentials, please use units like TJ.

For local purposes, you can use other units (like kWh) as well.

¹ Conversions can be made based on IEA unit converter (<http://www.iea.org/stats/unit.asp>), Specific data for biomass, e.g. http://www.biofuelsb2b.com/useful_info.php?page=Typic#, http://www.biomassenergycentre.org.uk/portal/page?_pageid=75,15199&_dad=portal&_schema=PORTAL

Biomass resources	Potential energy (in TJ)
Forestry resources	
Agricultural resources	
Energy crops	
Total	

Include more detailed tables for forestry, agriculture and energy crops

- Forestry – planted forest, thinning and clearing, availability in m³ → energy content in TJ
- Agricultural solids (e.g. straw, cereals) in ha planted → energy content in TJ
- Agricultural liquids (e.g. cattle, pig and chicken slurry) availability in m³ → energy content in TJ
- Domestic liquids (e.g. sewage, waste) availability in m³ → energy content in TJ
- Energy crops in ha planted and potential for ha planted → energy content in TJ

3.2 Analysis of biomass supply chains

- Current supply practices of biomass
- Gaps in biomass supply and logistics, meeting the potential
- determine if there is a need of a biomass trading centre

3.3 Overview of stakeholders (potentially) involved in bioenergy development

(Here we mean stakeholders related to supply and/or demand for bioenergy and regional (administration) bodies that should adopt and be responsible for implementation of the action plan).

Examples of relevant stakeholders: Municipalities, regional authorities, national or regional energy agencies, biomass associations, manufacturers of equipment, potential suppliers of biomass (forest managers, farmers, wood processing industry, furniture industry, pulp & paper industry, food industry), district heating plants, potential project developers, other stakeholders that could take the role of manager of a logistic centre, etc.

4. SWOT analysis

This shows the short and long term opportunities and short and long term barriers and threats of your region.

We would suggest making a SWOT analysis from the early beginning in cooperation with stakeholders (including their opinions) and update this SWOT analysis after thorough analysis of the topics in chapter 2 and 3.

Table 1: SWOT analysis example

<p>Strengths</p> <ul style="list-style-type: none"> • Region is rich in biomass (forests / agricultural sector) • Feed-in tariffs for biomass electricity generation available 	<p>Weaknesses</p> <ul style="list-style-type: none"> • Biomass cannot compete in price with other energy carriers for heating • Biomass collection not well organized (difficult to have long term supply security)
<p>Opportunities</p> <ul style="list-style-type: none"> • Prices of other energy carriers keep increasing, making biomass a cheaper option • Increase of employment in the region 	<p>Threats</p> <ul style="list-style-type: none"> • Solid biomass sources used for competing purposes (local heating, DH, wood industry)

5. Setting the bioregion target

5.1. Overall bioenergy vision of the region

This part is related to general (qualitative) targets and objectives

- Production and use of biomass resources
- Bio-energy technologies
- Bio-energy generation and use

5.2. Bioenergy targets for the next 10 years, examples:

Here quantitative targets should be set

- % of heat produced by biomass
- % of electricity produced by biomass

Setting the bioregion target – some guidance

- Develop a broader vision first – *where do we want to be in 10/20 years?*
 - *Is the proposed bioenergy target part of an overall target for development of the region?*
- Set the regional target
 - **Bioregions project target - 33% energy supplied by biomass from the region**
 - Some regions already reached this target – need to set higher target
 - Differentiate regional target for heat and electricity
 - Include energy efficiency (or conversion efficiency)
- Identify other energy and development related targets of the region
 - Determine whether these targets complement our biomass targets
 - If not, try to adapt our targets or propose changes in the other targets
 - Set other targets that may support the biomass targets
- Part of target setting should also be review of currently valid action plans for the region (related to energy, but also economic development, tourism etc.) and spatial planning

6. Action Plan

6.1. Transferring the targets into actions (differentiate by)

- Actions per target group
- Long-term and short-term actions

6.2. Milestones (e.g. every 2 years)

6.3. Concrete actions

- Description of the action
- Timeframe of the actions
- Stakeholders responsible and other stakeholders involved

6.4. Support measures to fulfil the actions

Baseline (description) – SWOT analysis – Vision (or general objectives) – concrete objectives – Action plan

Suggestions for describing concrete actions:

- Structure by type of activity
- Then structure by time, short-term and long-term and then for each action when activity

starts, when implemented

Some examples of concrete actions:

- *Information Campaigns/Visits of best practice within the region*
- *Training*
- *Support/Guidance for feasibility studies*
- *Development of a logistics/trading centre*
- *Providing guidelines to streamline permission process*
- *Cooperatives formation of forest owners or farmers*
- *Plan for large scale co-firing in power and district heating plants*
- *Use of existing local resources like energy agencies*
- *Take into account competition with other sectors for the same resource (food, wood etc)*

6.5 Application of quality / sustainability criteria (of all actions)

Part of task 3.3

7. Impact Assessment

Possible Environmental impacts of the action plan implementation (positive like CO₂ reduction) and negative impacts (such as competition for wood with other sectors)

Socio-economic impact like job creation etc.

8. Progress Monitoring and Evaluation

This section should include actions related to:

- regular reporting of progress,
- data collection during the action plan time frame
- revision of targets and actions based on the actual progress
- quality control

An example of progress monitoring and evaluation is provided in the “*Bioenergy Implementation Plan 2008-2013 of the South East Region of Ireland*”.

Based on this source, the following monitoring and evaluation options are available:

- Update the regional (bio-)energy balance on a regular basis (e.g. annually or biannually) and highlight the different bioenergy carriers)
- Establish a Steering Committee that meets on a regular basis, monitors the progress and takes corrective actions
- Develop a mechanism to track progress made in relation to the implementation of the objectives and key actions
- Feedback to national level – (optional - *if desirable or useful*)
- Produce an implementation report on a regular basis (e.g. annually or biannually) that includes the progress made in achieving targets
- Review the action plan after e.g. 5 years and *revise the targets, if necessary*

All steps will have to include responsible agencies and a certain timeframe.