



Biomass energy register
for sustainable site development for
European regions

BEn - Biomass energy register for sustainable site development for European regions

<http://www.BEn-project.eu>

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Agenda

- Background
- Key data of BEn Project
- Objectives of BEn
- Project Partner & Model Regions
- Approach of BEn
- GIS Architecture - Biomass energy register
- Inquiries examples



Background

- § Know-how on regionally adapted technologies is not widely disseminated
- § Energy “sinks” for biomass in the region are not well known
- § Single energy-related projects are implemented, but due to missing comprehensive strategies in the regions, these projects are often contradictory and impede sustainable concepts
- § Site planning and planning of new sites (e. g. industrial or trade areas) do often not consider utilisation of renewable resources
- § The “matchmaking” between the right partners is difficult. Lacking knowledge on how to cooperate effectively in the regions (flagship function)



Additional European Background

EU-Targets:

- § 20 % of the EU final energy consumption is due to come from renewable sources by 2020.
- § Currently, the EU meets about 4 % of its energy needs from biomass.
- § INSPIRE (infrastructure for spatial information in Europe), harmonising of geodata



EU Project BEn – Key data

§ Idea was created in 2007 and submitted in 2007 under IEE programme



§ Acronym: BEn

§ Title: Biomass energy register for sustainable site development for European regions

§ Duration 11/2008 – 10/2011

§ Website: www.ben-project.eu



Objectives of BEn

- § Set up web-based energy register platform displaying energy sources and energy sinks **covering the 4 target regions (transferable also to other European regions)**
- § Creation 4 regional master plans **which include financial, management and technical guides elaborated and endorsed at local level (1 per region)**
- § Identification of bioenergy priority development areas **in 4 regions + 2 agreements per region on bioenergy actions**
- § **Establishment of 4 regional networks**
- § 80 relevant stakeholders to be trained **on the BEn methodology (e.g. land planners) including training materials**
- § 700+ relevant stakeholders to be targeted **via dedicated events**



Model regions

The Project includes four European model regions:

Great Britain, Germany, Italy and Poland



The model regions were selected on the basis of different technological standards of biomass use

- ➔ The objective of BEn and the energy register is to develop a comprehensive bioenergy register according to the specific requirements of the regions – measures included

Project Model Regions



North East England



Umbria



Emscher-Lippe



Gostynin Lake District

Image 1: Photos from the model regions [ben-project.eu]

BEn - Partners

7 project partners from 5 countries

§ **WiN** Emscher-Lippe limited company for structural change (D)

§ **RDI** - Rural Development Initiatives Ltd. (UK)

§ **EEE** – European Center for Renewable Energy Güssing (AT)

§ **Fraunhofer** - Fraunhofer Institute for Environmental, Safety and Energy Technology UMSICHT (D)

§ **CRB** – Biomass Research Center (IT)

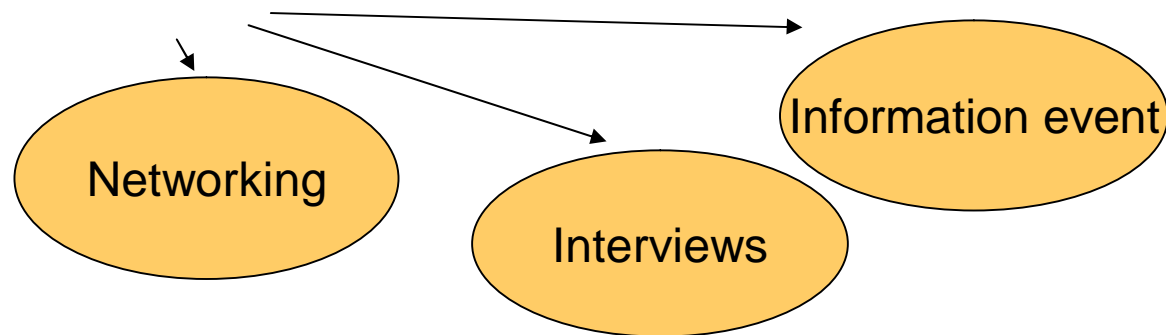
§ **StowGmin** – Gostynin Lake District Tourist Communes Association (PL)

§ **IETU** – Institute for Ecology of Industrial Areas (PL)



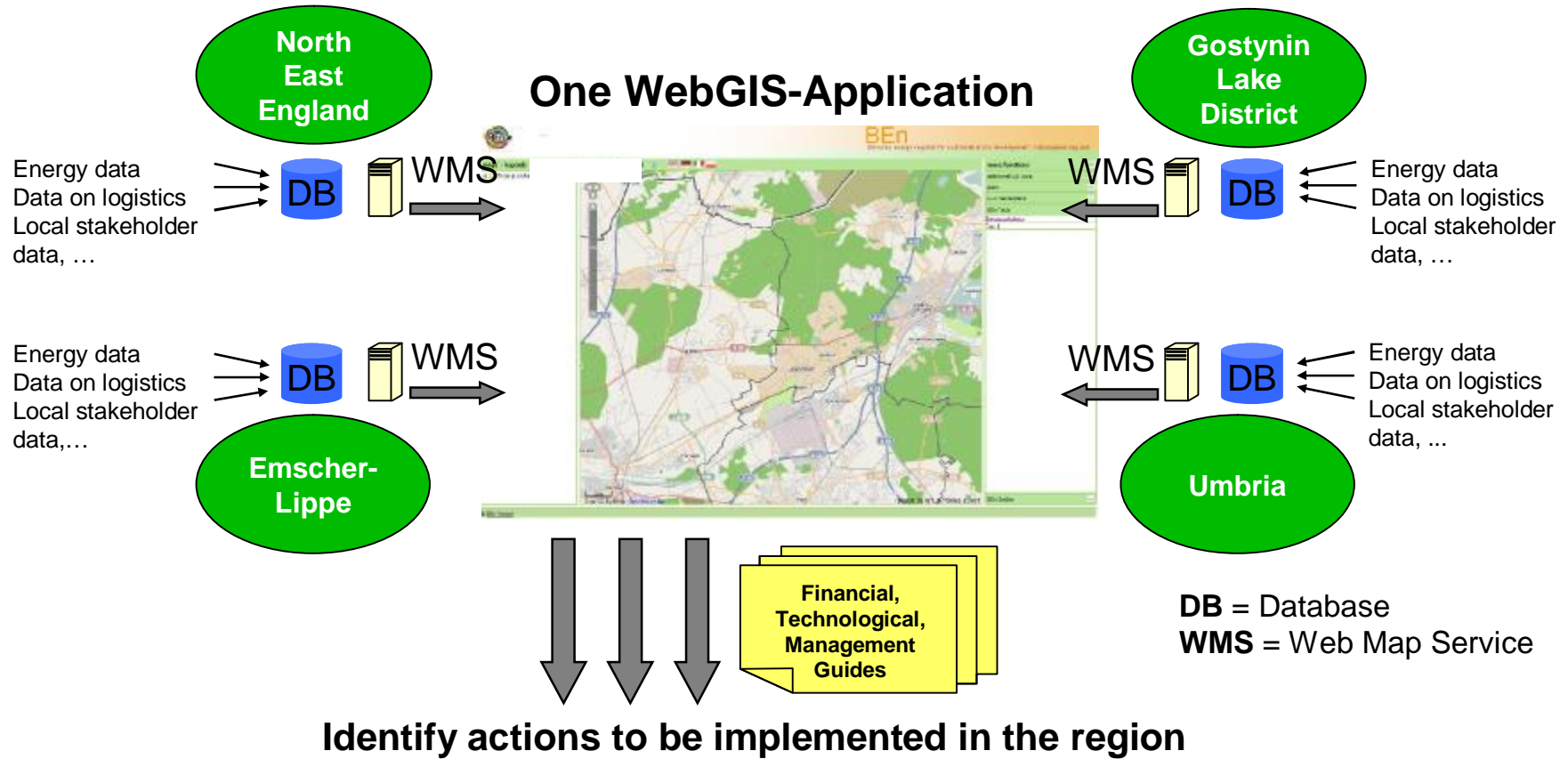
Approach of BEn

From the start, Citizens and agents of the regions have been integrated into the conception of the register:

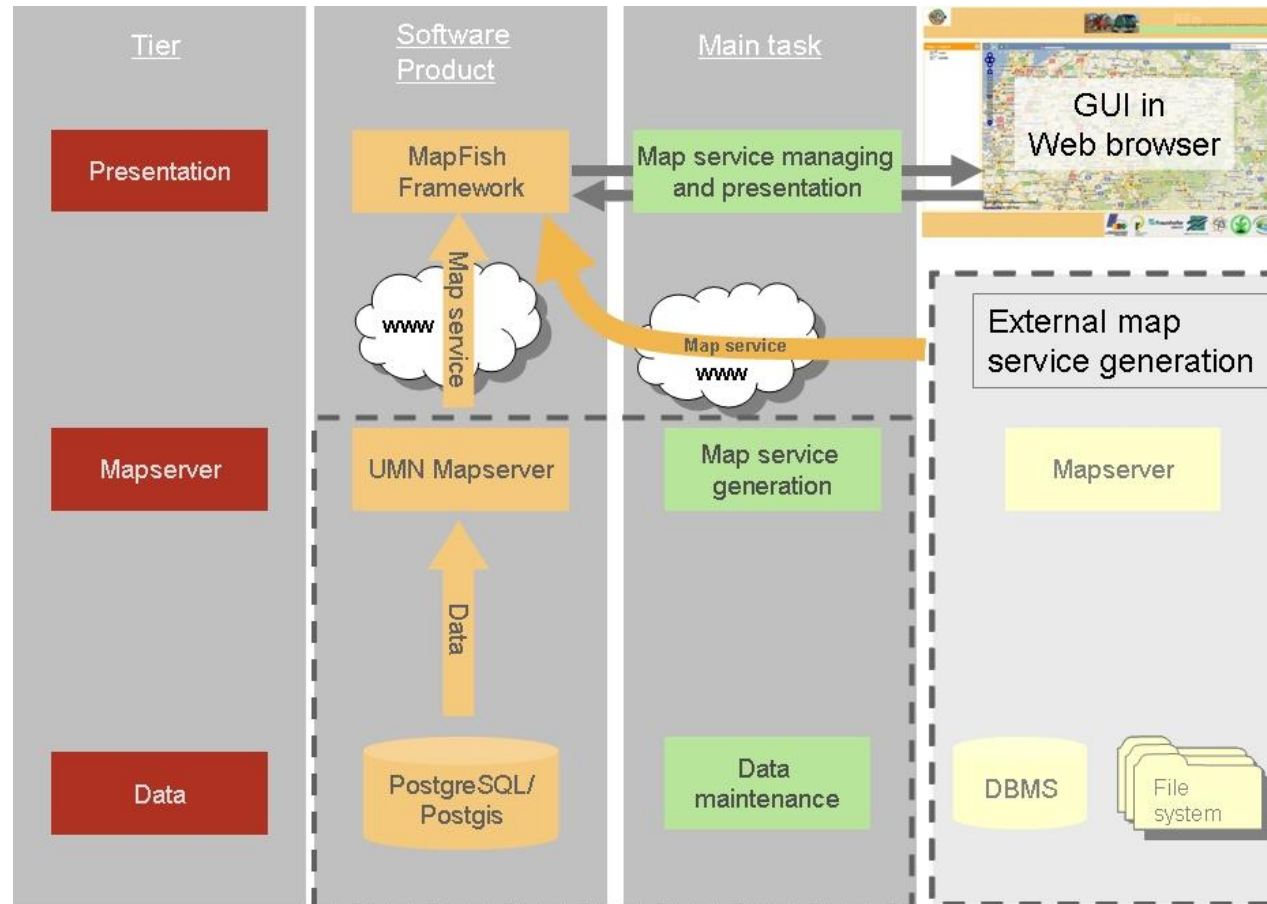


Additionally, both, citizens and agents of the region, participated in the developement of the common regional Master Plan, the regional guides for finances, management and technology and the discussion of possible regional actions and projects.

Web GIS Architecture



GIS Architecture



Input of data

§ Background maps: **Open street map**

§ Content data:

biomass
source

§ **Biomass source:** Display of theoretical potential

energy
source

§ **Energy source:** Statistic data (also plants in planning process), Information from network

energy
sinks

§ **Energy sinks:** Data acquisition through qualitative interviews and questionnaires

stakeholder

§ **Stakeholders:** Research in the region (plant operators, farmers, politicians, local economic promotion, municipalities...)

Energy register

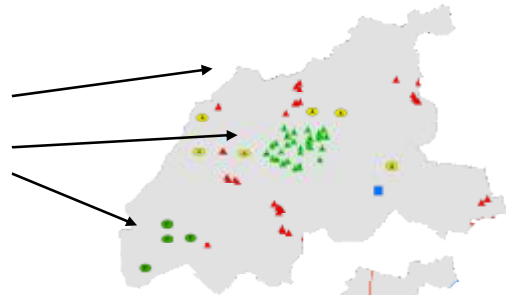
The screenshot shows the BEn Energy Register web application interface. At the top, there is a header with the BEn logo and a navigation bar. The main content area is a map of Europe with various data layers overlaid. The interface includes a left sidebar for navigation, a top toolbar with function buttons, a language selection dropdown, and a right sidebar for additional tools and information. Several orange callout boxes highlight specific features: 'Selection of language' points to the language dropdown; 'Buttons of functions' points to the top toolbar; 'Symbole' points to a symbol on the map; 'Layers / content data' points to the left sidebar; 'Tooltip: Comment on symbols' points to a tooltip on the map; and 'Additional information & Tools' points to the right sidebar.



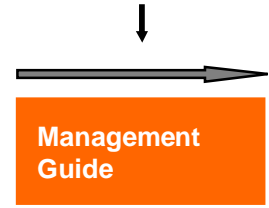
Inquiries Examples

Inquiries to biomass energy register

Show the stakeholders in the region



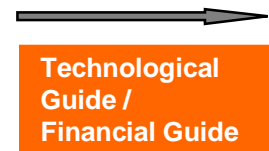
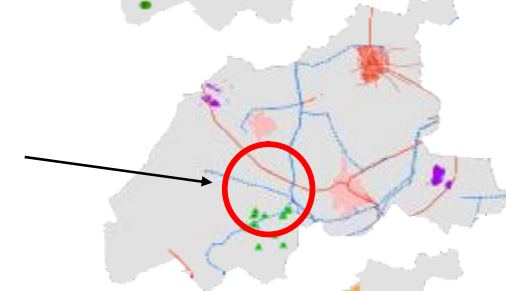
Online Guides
(management, technological, financial)



Actions

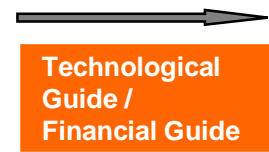
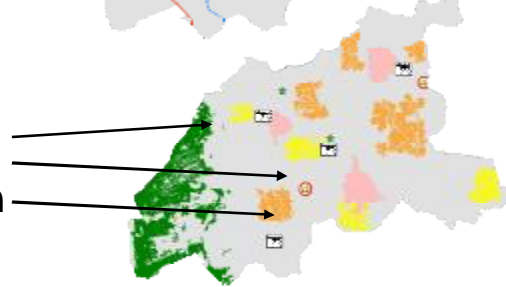
Creation of thematic actor clusters

Show the biomass installations from point XY in a radius of 5 km



Competing biomass demand is known in 5 km radius -> set-up of plant

Show the biomass sources in the region



Change the energy source for fossil hospital heating e. g. to wood boiler/heating



What has BEn to offer?

- Contacts in the biomass sector of the region and the partner country regions
- Template of a Master Plan in the bioenergy sector with a sustainability indicator matrix for future assessment of actions
- Structure and function of a network, i.a. network guides
- Different templates of questionnaires (energy sinks, query for actions)
- Media plan for displaying PR activities
- Expandable web-based bioenergy register; compilation of energy specific data from the model regions (partly OGC conform)
- www.biomassenatlas.de



What is the Biomass energy register capable of?

- Display of punctual and terrestrial data of the biomass energy sector
- Implementation of web mapping service data (WMS data)
- Worldwide independent implementation of punctual data through defined data layers
- General area and length calculation
- Support through tools and document templates (i.a. Master Plan, calculation tools)
- Collection of Best Practice examples and illustration of performed BEn actions



Thank you for your attention!

For more information
please have a look on

www.BEn-project.eu

