

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



Recommendations for development of regional bioenergy networks

Deliverable 2.2

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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 <u>www.bioregions.eu</u>



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Executive summary

The overall objective of this task was to try and gain an insight into key issues, lessons learnt and recommendations from the experiences of existing bioenergy networks in Europe in order to be able to provide concrete recommendations to support the target regions. Issues of particular interest for the BioRegions project were how stakeholders were attracted to join the network, their motivation and interests, what the funding and administration mechanisms of the networks were and how these are maintained as well as any critical success factors identified by the respondents.

A web-based questionnaire of a combined quantitative and qualitative type was derived by the partners and sent to a total of 42 best practice and other relevant bioenergy networks identified by the partners. With a response rate of 81 % the results of the questionnaire provide detailed information about the different networks as well as some tangible recommendations in how to start a bioenergy network, engage stakeholders, fund and administrate the network and maintain momentum.

The overall results of the questionnaire seem to suggest that the initiative and motivation for a typical network start-up generally stems from **joint** identification of political and commercial needs and interests, for example via a meeting with both parties. Furthermore that public bodies, SME's and academic institutions need to be on board right from the start and that funding is primarily sourced regionally.

Key recommendations of the questionnaire can be grouped into two headings; "critical success factors" (referring to the network as it is today) and "lessons learned" (referring to if there was something that could be done differently or better).

Critical Success Factors

- Formulate an attractive vision engaging the stakeholders
- Strong *inclusion* of local stakeholders in decision making process
- Develop *common* targets and development mechanisms
- Motivation of all stakeholders on board
- Fast decision making
- Firm *networking* between organizations and companies
- Good *understanding* and attitudes between businesses and local public administration
- Strong *combination* of know-how and technology

- Communication of results and partial results of the project
- Public relations from the start

Lessons learnt

- Better risk sharing (softening) between SMEs and public sector
- **Public lead** public sector should take a stronger role in paving the way for new biomass systems in their own investments (leading by example)
- Demand *stronger commitment* from the key companies to the cluster process. e.g. membership fee
- **Communication**: be more communicant to show your work and the link with other structures to organize the work and create synergies
- Choose an organizational structure that *enables timely and appropriate decision making*

1. Introduction

The project "Regional Networks for the development of a Sustainable Market for Bioenergy in Europe", hereafter in this report referred to as "*BioRegions*", has the overall purpose to support the creation of "bioenergy regions" in a number of rural areas in Europe. In the context of the project a "bioenergy region" is understood to be a region that derives at least one third of its energy (heat and power) using biomass produced and/or sourced from regional and sustainable sources. For instance using biomass sourced from forestry, wood processing, horticulture or agriculture activities.

BioRegions supports the creation of five such bioenergy regions (referred to as target regions in the project) in representative rural locations in Europe by tapping into the experiences of other regions already well advanced in the use of bioenergy (referred to as "best practice" regions) and direct use of the knowledge compiled in the project.

This support and knowledge comes from five main actions in the *BioRegions* work programme:

- · Identify success factors from best practice regions
- Networking activities in the target regions
- Define Action Plans for establishing five new bioenergy regions
- Support the implementation of the Action Plans in the target regions
- Encourage and support other regions to replicate the project activities

These activities serve to bring together the necessary technical and non-technical knowledge clusters for the establishment of a bioenergy region based on a discerning evaluation of ongoing best practice activities complimented by insight into funding strategies and networking structures.

This specific report covers the work done in task 2.2 "Study relevant experiences" which is an integral part of work package 2 "Networking activities in the target regions".

1.1. Objective

By conducting a targeted study of existing bioenergy regions and bioenergy related networks the overall objective of this task was to try and gain an insight into key issues, lessons learnt and recommendations from the experiences of such networks in order to be able to provide concrete recommendations to support the target regions. Issues of particular interest for the *BioRegions* were critical success factors of the networks, for example: how stakeholders were attracted to join the network, their motivation and interests, what the funding and administration mechanisms of the networks were and how they were maintained.

The study was conducted as a web-based questionnaire which was sent to the best practice regions along with other relevant bioenergy networks identified by the partners. Apart from detailed information about the different networks the findings of the questionnaire also provide some tangible recommendations in how to start a bioenergy network, engage stakeholders, fund and administrate the network and maintain momentum.

1.2. Method and limitations

Given the task in hand the project consortium decided that the most cost and time effective way to conduct the questionnaire was by using a web-based survey platform that the partner LTC had access to. It was also realised that if the *BioRegions* was to be successful in obtaining valuable feedback the questionnaire itself had to be both of a quantitative and qualitative nature allowing space for open ended questions and free commentary.

However it was also noted that such web-based questionnaires sent out per e-mail, especially those that require "effort" to complete, tend to have low response rates. It was feared that the added issue of language (the questionnaire was in English) for many of the non-English speaking networks would also prove a hindrance and therefore a telephone follow-up would be needed to assist respondents.

The questionnaire was sent to named individuals from a total of 42 networks identified by the project and it remained "live" for a period of four weeks during the period October – November 2010. It should also be pointed out that although the response rate was high (81 %) the overall survey population is relatively low (total of 42), that most of the respondents choose to remain anonymous and that not all respondents answered all questions. Therefore the results can only be seen as indicative and suggestive, not as any absolute truths or silver bullet blueprint. However, useful results can be extracted given that more than 30 respondents answered consistently most of the questions and that the targeted respondents were carefully chosen among the most active and developed regions in Europe.

Note also that percentages quoted in the figures or texts are rounded up to the nearest whole number and are relative to the specific result. Since the response rate is low (under 100) the percentages quoted can be misleading and therefore, to minimise confusion, the actual number of responses in each case is also given.

Although not strictly correct the terms "cluster", "network" and "hub" have, for reasons of convenience and to avoid unnecessary confusion amongst respondents, been used as synonymous with one another with the term "network" used in the figures of the results.

2. Description of relevant regions and networks

The partners responsible for the work package and the task (BAT respective LTC) drew up a draft shortlist of possible networks and, after consultation with the other partners, settled on a total of 40 regional bioenergy and bioenergy related networks from which the most relevant are briefly presented below in country order. Their inclusion is solely for illustrative purposes since readers may be unfamiliar with the various types of networks and the potential value of their experiences to *BioRegions*. Not all the selected networks or regions represent necessarily what we want to achieve in our project. However, by widening our criteria and addressing networks that focus on general bio-energy related aspects we collected more information and experiences that are useful for our work.

2.1. Austria

There were two Austrian networks participating in the survey: Burgerland and Upper Austria. Both are target regions participating in European Bio-Business projects co-financed by the Intelligent Energy Europe program.

The region of Burgenland is a target region in the project Make-It-Be on decision making and implementation tools for delivery of local & regional bio-energy chains. The State of Burgenland has been promoting renewable for many years, and set a goal to produce 100% electricity from RES by 2013. The European Centre for Renewable Energy Güssing (EEE) coordinates the "Güssing Model" project. Güssing is the first community within the EU to supply its total energy demand from renewable resources – a local stakeholder chain from the region provides raw materials to production and end-use. In order to facilitate the dissemination of experience in the field of renewable energy sources, a network, including regional, national, and international partners, has been founded The Biomass-Energy-Network rests on five pillars: Demonstration Plants (more than thirty plants around Güssing using various RES-technologies are free for visitors anytime); Research and Development (through the RENET Austria research network); Training and Further Education (a comprehensive programme with events and seminars about innovative technologies and projects); Services (based on the experience in developing energy concepts);Green Energy Tourism (various cultural and sports events, training for green energy tourist guides, etc.).¹ http://www.eee-info.net

The Upper Austria region is one of the target regions of the project BIOPROM which aims to overcome non-technical constraints for the realization of bio-energy projects in densely populated urban areas. In Upper Austria, biomass covers 14 % of the total primary energy consumption and the ambitious goal set forth in the Upper Austrian energy strategy is to double biomass installations (2000 – 2010). The three main areas of importance when using biomass

¹ Decision making and implementation tools for delivery of local & regional bio-energy chains (make-it-be) project

are automatic wood pellet & wood chip heating systems, district heating networks and largescale CHP plants. The O.Ö. Energiesparverband is the regional energy agency which manages a network of companies active in the field of energy efficiency and renewable energy sources.² www.esv.or.at

2.2. Finland

In Finland Motiva Oy is coordinating regional energy networks and also work of wood energy advisers. Local and regional energy offices around Finland work to promote energy efficiency and the use of renewable energy sources. They operate independently to assist local firms and communities, and to help plan and realise various kinds of energy projects.

A network of around 40 expert professional wood energy advisers, mainly based at regional forestry centres around Finland, is available to provide useful advice about the exploitation of wood energy and other forms of bioenergy. Bioenergy and wood energy advisers can provide advice on the following issues: The local availability of energy wood, the properties and quality of locally available energy wood, suitable technologies and equipment for heating facilities, the energy economies of buildings, how to set up a wood energy business, how to plan and prepare a heating plant project and how to devise and realise wood energy projects. The most active bioenergy networks are situating in Central and Eastern Finland.

Bioenergy network in the Central Finland region

Central Finland is recognized as the Bioenergy Province in Finland where utilisation of bioenergy is at exceptional high level. Today, already half of the total energy consumption is covered by local biomass. 80% of fuels in heat and electricity production come from biomass sources. Bioenergy is utilised in large variation of different applications.

Roots for this favourable situation can be found as far as 40 years ago. The Vapo company, which is the leading biomass fuel supplier for energy production in the Baltic sea region, moved their head-quarters to the city of Jyväskylä, the capital of Central Finland in 1973. VTT – the Technical Research Centre of Finland established a bit later the Laboratory for Indigenous fuels to Jyväskylä, too. These two organisations have played the major role in bioenergy development during the past decades, and hence generated lot of activities and attention to bioenergy in their surroundings. The knowledge gained there has accumulated into the local society.

The local forest industry has played also an important role providing skilful structures for biomass supply and handling. Forest industry is a big energy producer and consumer, too. The Regional Council has supported the regional energy sector's development by collecting each year among the key-players an annual Memorandum of Understanding on focal energy

² Regional specific analysis of the questionnaires and compilation of the translated and transferred results on an integrated project level. Summary Report BIOPROM

investments and development ventures foreseen in coming years. Local annual meetings and seminars between the energy sector actors have been organized, as well, in order to collect people in the same hall to discuss about the targets and measures. The conversion of the main power plant of Jyväskylä from coal to biomass in early 1990's triggered a huge investment boom among the energy producers, resulting to 9 biomass fuelled CHP plants with thermal capacity of 1,540 MW, and numerous biomass fuelled heating plants in different scales. These energy producers create an exceptional biomass market in the region now.

Exceptional bioenergy market is also an excellent environment to develop competitive knowhow in bioenergy systems. Interaction between the different parties of the bioenergy business is crucial for birth of innovations and rapid dissemination and exploitation of new knowledge. In addition to the above mentioned organisations, the Forestry Centre of Central Finland, the Jyväskylä Science Park, the JAMK University of Applied sciences, Finbio – the Bioenergy association of Finland, Jyväskylä university, many consulting companies, forest owners and the bioenergy producers have created a close and intensive bioenergy society. Co-operation has been organized in many ways, e.g. through the so called. Benet network and Dynamic Bioenergy cluster initiative.

Wood energy network in Eastern Finland (Wenet)

The other important bioenergy region is Eastern Finland, driven by the Wenet network. Wenet is a network of leading experts, organisations, manufacturing companies and suppliers offering tailored sustainable energy solutions which cover e.g. the entire wood energy value chain as well as modern district heating systems. The Wenet network is managed by JOSEK Ltd, a non-profit Joensuu Regional Development Company, together with the Universities of Applied Sciences of North Karelia, Savonia and Mikkeli and Kajaani University Consortium. The project is co-financed by the EU Regional Development Fund (ERDF), the regional councils and regional development companies of Eastern Finland, the town of Varkaus, and the Wenet member companies.

The plan to form a wood energy network was initiated in 2002 and it was established in 2004. After three years of successful experiences the Wenet network was expanded to the other provinces of Eastern Finland: Kainuu, South and North Savo. Within the Wenet network is a range of companies of harvesting and combustion technologies, managing of logistics and resource planning, heat-retaining stove manufacturing and modern district heating systems.

2.3. France

Rhône-Alpes (RAEE) participates in the BIOPROM project co-financed by the Intelligent Energy for Europe program which aims to overcome non-technical constraints of the realization of bioenergy projects in densely populated urban areas. Energy wood is the most developed form of bio-energy in Rhône-Alpes. It was therefore decided to reinforce existing developments (pellets, district heating) or to target new sectors such as social housing. The activities performed in the region include the creation of different networks: social housing and wood energy, town planning and sustainable development, supporting pure plant oils and use of grain energy in local authorities. Moreover, Rhônalpénergie-Environnement through the Bioprom project is supporting other bio-energy initiatives such as the implementation of a wood boiler in the region of Saint Fons, carrying out feasibility studies to develop the use of wood energy, studying the possibility of creating a district heating network in the area, etc.³ www.raee.org

2.4. Germany

The objective of the German governmental program to select and promote "Bioenergie-Regionen" is to establish effective operating networks in rural regions very suitable to enhance bio-energy development.

The Ministry selected the regions based on the following criteria:

- Innovative concepts
- Development of regional added value
- Networking
- Transfer of knowledge
- Motivation of stakeholder from public, politics and economy

The 25 winning Regions, highlighted in the map in the following page, are peripheral rural districts with important farming and forestry activities. Most of them are endangered of rural depopulation especially of the younger generation.

Most of the regions were contacted as part of the BioRegions survey. However, only three of them are described here as examples.

BioEnergieDialog Oberberg Rheinerft (Nordrhein-Westfalen)

Both cooperating regions located in the district of <u>North Rhine-Westphalia</u> are predominantly rural farmland. Core skills of one region should be developed in the other region and vice versa. Both regions act as best practice for one competence (Logistic for REK and Bio-energy for BOK) and support the other on its development.

This process will be accelerated by mutual transfer of knowledge. Synergies will enhance the quality of development in terms of climate protection and energy efficiency. The strategy to achieve energy self sufficiency consist of the construction of a centre of excellence for energy, a manual for the development of peripheral logistics concepts and professional training for business ventures among others.

³ Publishable result-oriented Report BIOPROM. *Stuttgart Region Economic Development Corporation* (2007)

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The overall project is divided into four phases. A: Concept for logistic, B: Concept for biomass potential in the regional action plan. C: Workshops for transfer of know-how D: Pilot projects in both regions. Further information can be found on: <u>http://www.biotec-rhein-erft.de</u>



Figure 1 "25 Bioenergie Regionen" in Germany

Region Mecklenburgische Seenplatte (Mecklenburg-Vorpommern)

Founded in 2009, the main activities of the network in the field of renewable energies are: project management, professional training, dissemination, etc. The target is to achieve energy self sufficiency through the coordination of actions on know how transfer and networking activities. The initiative seeks the social and economic development of the region in order to reach the independence from national subsidies and achieve full employment. The vision of this network has a close connection with other initiatives for the development of rural regions in the fields of culture and tourism. Further information available on: <u>www.seenplatte-bioenergie.de</u>

Natürlich Rügen - Voller Energie (Mecklenburg-Vorpommern)

Rügen is a small island located in the North Sea and covers an area of 975 km². The project Natürlich Rügen-Voller Energie has the target of getting by 2020 at least one third of its primary energy needs from biomass. This will be achieved through energy savings and the use of

efficient biomass technologies across the whole supply chain. The project will help to cover the increasing energy demand from tourism by utilizing the major biomass potential of the region from agriculture and forestry. During the next three years, the region will demonstrate the regional benefits from the utilization of regional energy sources, i.e implementation of pilot projects of biogas-driven buses. The strategy will focus on green tourism and engagement of local stakeholders. Further information can be found on: <u>www.ruegen-voller-energie.de</u>

2.5. Poland

The Gostynin Lake District in Poland is a target region of the bio-business project BEn cofinanced by the Intelligent Energy for Europe program. This project started in November 2008 and during the three years of duration a user-friendly regional energy planning tool will be developed. The polish region just started a few years ago with the initiative of creating a bioenergy network and between the activities developed in the region are regional meeting with representation of local administration, farmers, SMEs; verification of biomass investments possibilities by the BEN team in the region, tour with actors and experts to visit biomass installations, etc. The region has been supported in this project by the Gostynin Lake District Tourist Communes Association in cooperation with the Polish Biomass Association. (www.pojezierzegostyninskie.pl , www.polbiom.pl)

2.6. Slovenia

The Slovenian network participating in the survey is the Slovenian Forest Service, project partners in the bio-business project MAKE it BE. In Slovenia, biomass has started to penetrate the market. In electricity production is the second largest energy source after hydro energy. Woody biomass is the main renewable energy source (RES) used for heating, with a production of 430 ktoe in 2004. There is high potential to increase solid woody biomass based energy usage in Slovenia due to an extensive forest area. National support instruments for bio-energy in Slovenia include: feed-in tariffs; subsidies using a tender scheme by the Agency for Energy Efficiency and RES; credit schemes; and attractive conditions for private households (basically giving back the Value Added Tax). Field activities are now oriented to the promotion of woody biomass harvesting in private forests. These include the promotion of forest owners associations, extension, training of forest owners and SFS Staff on new technologies and other specific wood energy aspects. In response to the growing interest on bio-energy in the country, a thematic internet portal provides easy access to state-of-the-art information on all aspects of woody biomass at municipal level. www.zgs.gov.si/eng/

2.7. Sweden

A total of eleven networks of varying location, age, focus area and organisational status were selected from Sweden. However several of them have very similar setups being more or less regional replications of each other, so only five of them are described here. The networks have been listed in alphabetical order and their websites included for future reference.

Bioenergy Småland

Founded in 2003 **Bioenergy Småland** is a regional public-private bioenergy network project hosted in the regional Energy Agency Southeast Sweden and covers the counties of Kronoberg, Kalmar and Blekinge. The network has about 20 members including companies, utilities, public bodies and research institutions. The object of the network is to create new business, enlarge the results and increase the turnover for the businesses involved in the project thereby increasing the use and the dissemination of Swedish bioenergy technologies and systems. Work is carried out in project form. Further information can be found on www.energikontorsydost.se/

Biofuel Region

Founded in 2003 **BioFuel Region** has about 25 stakeholders representing municipalities, county councils and administrations, federal authorities and private enterprises. It is geographically made up of the counties of Västernorrland and Västerbotten in the north of Sweden. Regional co-operation is used as a key driving force to implement the development of renewable fuels, based on biomass from forests, agricultural land and recycling in order to address climate change and energy supply. The vision for BioFuel Region is to be a world-leading region in sustainable transport based on biofuels and bioproducts from renewable raw materials. The focus is therefore to be in the forefront of societal change, industrial and regional development, and to increase the availability of renewable raw materials. The BioFuel Region strategy is to promote and lead development by mobilizing, committing and activating as many potential forces as possible in each respective region. Operational work is organized in relatively independent groups, which are closely connected within different areas of the biofuel developmental chain i.e. raw materials, production, distribution, vehicles, laws and regulations, and consumer information. Further information can be found on www.biofuelregion.se/

Biogas Syd

Founded in 2005 **Biogas Syd** is regional cooperative network located in southern Sweden. Hosted as project within the regional energy agency the network has around 20 members comprising of companies, public and private research institutions and other stakeholders with an interest in promoting the production and use of biogas in southern Sweden. The main work focus of the network is biogas development through cooperation, capacity building, marketing and business development. In particular knowledge dissemination and awareness raising activities such as lobbying, training workshops and seminars to increase the acceptance and perception of biogas as a fuel, biogas production as an industry and biogas systems as a powerful tool to help fulfil environmental objectives. Further information can be found on <u>www.biogassyd.se</u>

Biogas Väst

Founded in 2001 **Biogas Väst** is located in the Västra Götaland region, southwest Sweden. It is also the world's first regional project cluster for biogas as vehicle fuel. Some 30 stakeholders

from privately and publicly owned companies, organizations, public authorities and municipal authorities make up the core of this unique Public-Private Partnership. The concept has been a source of inspiration and has been copied not only in Sweden but also internationally. The overall aim is to stimulate the market development within biogas production, distribution and development of the gas-fuelled vehicle market with the EU vehicle fuel directive as a key driving force. The cluster works across the whole biogas chain; substrates, production, distribution, market, vehicles and research & development as well as working to develop skills and concepts that can be used for export. As a result the cluster offers a range of services such as access to investment and financing programs including venture capital, EU funding and other government funding, business development including co-operation with new companies and agencies in the industry, experience exchange and networking in company clusters within waste, energy, water purification, transport and automotive manufacturing, technology development projects in co-operation with the agencies involved in the project, co-ordination of production with marketing projects, communication projects that include information to decision-makers, influencing public opinion. Further information available on <u>www.biogasvast.se</u>

Sustainable Business Hub (SBHUB)

Founded in 2003 **Sustainable Business Hub** is a non-profit membership organisation with over 100 members located in the Skåne region in southern Sweden. The purpose of SBHUB is to help companies whose products or services have a particularly high environmental profile by creating networks between businesses and organisations in order to successfully market sustainable products and ideas. SBHUB is a key player in environmental business development in southern Sweden and collaborates with businesses, universities and institutes, utilities, municipalities, embassies and the Swedish Trade Council. The companies Sustainable Business Hub supports (members) sell products, systems, solutions, services and know-how to a worldwide client base and are mainly focused in the following fields: Energy & CO₂-reduction, Waste management, Sustainable building & urban development, Water treatment, Air quality control, - Energy efficient transportation, Communication for sustainability. Additionally the network organises qualified technical visits to selected world class reference installations within the region as well as technical seminars and match-making activities in Sweden and abroad. Further information available on <u>www.sbhub.se</u>

2.8. United Kingdom

The English networks participating in the survey are Highland Birchwoods and Nordwoods. These regions are involved in different bio-energy projects co-financed through the Intelligent Energy program.

Highland Birchwoods

They participated in the Bio-business project MAKE-it-BE co-financed by the Intelligent Energy Europe, supporting the region of Scottish Highlands. Highland Birchwoods is a project based organisation formed as a charitable company limited by guarantee, and operates throughout

Scotland. Core funding is provided by the three partners in the organisation: Forestry Commission Scotland, Scottish Natural Heritage and Highlands & Islands Enterprise. Through its forestry and rural development expertise the organisation has become increasingly active in developing biomass as a renewable energy resource. It currently delivers advice on wood fuel matters throughout the Northern half of Scotland on behalf of Forestry Commission Scotland and is also involved in the development of two transnational projects looking at biomass in its broadest sense:PelleTime (Northern Periphery Programme) and BOPEC (North Sea Programme). www.highlandbirchwoods.co.uk

Nordwoods

The nordwoods network is supported by Rural Development Initiatives Ltd (RDI) in the Biobusiness project Ben. It is a not-for-profit company which included two woodland initiatives in the United Kingdom, Northwoods and Yorwoods. RDI has proven track record in delivering projects in support of the forestry, farming and land-based industries of the UK, including business support programmes, research activities and training courses. The aim is to help local woodland business expand into new markets, keep up to date with training and skills and new legislation, access grants or just act as a sounding board for new ideas. In recent years many regional, community and private initiatives emerged in the North East which is developing into a Britain's model biomass energy region. Just to mention a few: NEWFuels wood fuel suppliers group, Alcan power plant (420MW) co-fired with biomass, Wilton 10 a wood-fired biomass power station (30MW), largest known biomass heating boiler in the UK installed in a chipboard factory in Hexham (50MW), 35 small scale biomass heating sites and 12 landfill gas installations operating in the region. Project BEn is aiming to link the existing initiatives and develop a sustainable biomass supply chain on that basis. www.northwoods.org.uk

3. Background and current activities

To provide a structure to the report the results of the questionnaire are presented in the following three chapters; chapter 3 deals with the general background and current activities of the network, chapter 4 deals with the network start-up phase and chapter 5 presents recommendations by the respondents. Observations and reflections on the results are treated as running commentary in the text as they appear and a more detailed elaboration on the key findings are dealt with in chapter 5.

3.1. Respondent context

The purpose of the opening section of the questionnaire was to put the respondents into context. As shown in figure 2 below a total of 34 responses (from 34 networks - one per respondent) in 9 countries were received within the time frame giving a high (81 %) overall response rate. Germany has a seemingly high proportion of networks which is partly due to the high representation of FNR networks.



Figure 2 Network location

Figure 3 shows the year of establishment (31 respondents). Interesting to note is that just over 50 % (17) of the interviewed networks were established within the last decade (2000 - 2010) and two were established 30 or more years ago as shown in figure 2 below.

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Figure 3 Year of establishment

More importantly for the quality of responses, 93 % of the respondents (30) held senior positions (project manager or director) within their respective organisation as seen in figure 4.



Figure 4 Respondent position

Furthermore, as illustrated in figure 5, over one third (37 %) of respondents (30) had been with their organisation from the very start.



Figure 5 Time with the network

3.2. Resource availability

The purpose of this sub-section of the questionnaire was to gather a more detailed description of the natural resources available in the network regions.

The respondents were asked to indicate on a scale of 1 - 10 where 1 is "Very limited" and 10 "Very plentiful" with 5 representing a "neither or" mid-point. Of course the individual responses are entirely subjective and not an expression of measurable data such as logging residue volumes. They are an indication of the respondents' perception based on their own reference frame yet it is reasonable to assume that most respondents are relatively well versed in their regional resource availability and usage and therefore a qualified enough guesstimate.

Figure 6 illustrates the availability of biomass resources in the region (28 respondents). As perhaps expected most regions were described as being in the upper regions limits of the scale with 7.46 as the average "value" for the group as a whole.



Figure 6 Availability of biomass resources

Using the same scale as above respondents were also asked to rate the availability of any other renewable energy resources such as hydro or geothermal found in their region. Here the response levels as illustrated in figure 6 are more spread resulting in 5.86 as the average value for the entire group (28 respondents).



Figure 7 Availability of other renewable energy resources

3.3. Business and activity concentration

Having established the availability of resources the next sub-section of the questionnaire aimed to describe the concentration of bioenergy businesses and activities relative to other sectors within the region. Again respondents were asked to indicate on a scale of 1 - 10 where 1 is "Very weak/few" and 10 "Very strong/many" with 5 representing a "neither or" mid-point. As noted previously the responses are subjective and entirely dependant on the respondents' own reference frame. However they give an indication as to how each respondent perceives their own network.

As figure 8 shows, the responses are spread throughout the scale although with a majority in the above average end of the scale, the average value for the group (29 respondents) is 6.76. Instead it is interesting to note that about 21 % indicated that they had below average or "weak" concentration of bioenergy business and activities. Therein lies perhaps a reason to create a network in an effort to get activity started.

In comparison, figure 9 displays an even more smeared rating spread, the average value for the group (28 respondents) decreasing to 5.71 for the concentration of "other" RE businesses. As explained in 2.2 it is also reasonable here to anticipate that the respondents are likely to be more aware of regional activities within the entire renewable energy sector than they would be of other industrial sectors.



Figure 8 Concentration of bioenergy business and activities



Figure 9 Concentration of other renewable energy business and activities

3.4. Network stakeholders

Before the *BioRegions* partners can engage potential stakeholders in the target regions they must first be identified. Although this is in itself a separate task albeit within the same work package (task 2.1) the opportunity was taken with the questionnaire to enquire about stakeholders; who they are, what they do and their importance to the network.

Figure 10 shows a breakdown of different network member or stakeholder categories as they look today. The purpose of this question was twofold; to identify the different categories and roughly estimate their share of the total network membership in 25 % intervals. Note that multiple responses were possible i.e. a network can indicate and rank any combination of member categories and each bar illustrates responses to that specific category. The percentages are thus only relative to the total number of responses to each category. The total number of responses for each category is obtained by adding the figures for the category bar. For example "Others" had a total of 6 responses and the result is interpreted as 83 % (of those who responded to the category "Others") indicated that "Others" make 0 - 25 % of their network membership base whereas 17 % were unsure.



Figure 10 Network member categories and their relative share of the network membership

Although at face value seemingly complex to digest, figure 10 actually graphically illustrates very well the differences between the respondent networks. After all these reflect their current network membership make-up, and to some extent the regional resource availability and relevant business concentration. For instance a network that has over 75 % of its members as SME's is perhaps likely to be well established and providing value for it's members, SME's tend not to waste time in such organisations if the benefits are not tangible. It is also interesting to note the categories that "score" high values ("navy blue" respective "marron red") as this is also an indication of their relative importance which becomes more evident later in the report.

To gain a better understanding as to why networks have these different stakeholder organisations or member categories it is worth taking a look at what type of activities these organisations are involved in and can contribute to the network.

As can be seen in figure 11 the network stakeholders or members represent a very broad range of activities, in essence a cross-section of public and business services as well as bioenergy specific and or energy related activities.

Note that multiple responses were possible i.e. a network can have any combination of stakeholder activities which is why the total number of responses (171) is higher than the total number of respondents (27).



Figure 11 Network stakeholders/member field of activities

The relatively small shares (between 5 and 13 %) for each activity category together with the high number of responses suggest that most networks have several of these different stakeholders or members as a resource within their network. The average for the group as a whole (171/27) is six of the above activities.

"Other(s)" was specified as "dissemination activities", "land management" and "manufacturing of components". Together with other factors this is of course what makes each network unique.

3.5. Organisational forms and sector focus

The next sub-section of the questionnaire examined the issue of organising the network itself and describing the sector(s) focus of the network.

As shown in figure 11 just over half of the networks (55 % of 44 responses) were currently registered as "non-profit" or "associations". However readers should note that respondents (27 in total) were in fact able to provide multiple answers. The reason for this was to capture the fact

that some networks, especially those in a start-up phase, have not yet a legal status but often operate in project form hosted by a third-party organisation.

It should also be mentioned that all the German FNR networks (which account for a large share of the respondents, see figure 1) are registered as non-profit organisations. With this in mind it is worthwhile noting that networks were found to register in all different forms of organisation as illustrated in figure 12.



Figure 12 Legal and/or operational form of the organisation

"Other" was elaborated as being "Private cooperative". Organisation types such as "Dept./section/project hosted within..." or "Project consortium" all suggest a temporary organisational status and likely to change over time i.e. end of project.

Moving on to the sector focus of these networks (figure 13 below) just under half of the networks 41 % (of 29 respondents) work with bioenergy issues only whereas just over half 52 % work with bioenergy and other energy related issues or sectors.



Figure 13 Current sector focus of the network

A closer look into the bioenergy sub-sectors that the networks focus on (figure 14) reveal a relatively even share between "Biogas", "Biofuels", "Solid biomass" and "Waste/recycled". Multiple responses were possible here i.e. a network can work with any combination of subsectors which is why the total number of responses (83) is higher than the total number of respondents (28).



Figure 14 Bioenergy subsectors

Peat was included as it is considered (at least in the Nordic and Baltic countries) to be a

renewable biomass that can be produced sustainably, and it is usually co-fired with wood in larger district heating or combined heat and power plants. "Others" was clarified as being "agrobiomass" respective "algae".

A similar breakdown (figure 15) below was regarding any other energy related issues or sectors that the network also worked with. Again multiple responses were possible i.e. a network can work with any combination of subsectors which is why the total number of responses (111) is higher than the total number of respondents (27).



Figure 15 Other energy related sectors

Note that the total number of respondents (27) is almost the same as the earlier question about bioenergy subsectors (28 respondents, see figure 13) despite that 12 respondents indicated earlier that their networks worked with bioenergy only (see figure 12). The reason for this apparent contradiction is that the options were not strictly confined to renewable energy sectors. Indeed energy efficiency, sustainable construction, waste management and waste heat recovery can also be incorporated into broader bioenergy issues and projects for a bioenergy only network just as respondents have interpreted the question. "Others" was explained as "fire management", "forestry" and "district heating/combined heat and power".

3.6. Network activities

This section set to identify and quantify current clients and activities of the networks. Figure 16 shows that networks target clients/beneficiaries found to be evenly spread between the "General public", "Private sector" and "Public sector". "Others" was explained as "Universities".



Figure 16 Client/beneficiary sectors

Multiple responses were possible i.e. a network can serve any combination of subsectors which is why the total number of responses (74) is higher than the total number of respondents (29).

Of interest to *BioRegions* is to establish where clients/beneficiaries to the networks are located, if they are indeed predominately local/regional or if the networks operate further afield. Multiple responses were possible i.e. a network can have any combination of client/beneficiary locations which is why the total number of responses (84) is higher than the total number of respondents (28).

As can be expected figure 17 shows that virtually all networks (27 out of 28 respondents) have "Local/regional stakeholders" as clients/beneficiaries whereas 24 had also "National stakeholders" suggesting at least some operations on a national level.

Of particular interest though are the high response rates for international clients/beneficiaries (both within and outside of the EU) suggesting participation in transnational activities such as EU-funded or other international projects.



Figure 17 Client/beneficiary location

With networks apparently operating on local, regional, national and international levels it begs the question what is it they do? Figure 18 below sheds some light and shows that the products and/or services provided by the networks vary from information and advisory services to research and development activities. Naturally networks provide different types of products and/or services to different types of clients/beneficiaries and therefore the total number of responses (106) in figure 18 is higher than the total number of respondents (27).



Figure 18 Types of products/services provided

Almost all networks (26 of 27 respondents) provided "General advisory services" and "Project management" and most (24 of 27 respondents) also "Educational services". However around half of the networks provide more qualified services such as "Research & Development", a nd "Specialist consultancy", which explains international clients/beneficiaries. "Others" was explained as "Testing services" which can be considered as "Specialist consultancy service".

3.7. Network financing and staffing

Given the range and variation of products and/or services provided by the networks, especially the more qualified services, the issues of network financing, service pricing policy and staffing are all of particular interest to *BioRegions*.

Figure 19 shows a graphical breakdown of the current financing source(s) for the networks with the "navy blue" and "marron red" being the "important" colours. The purpose of this question was twofold; to identify the different sources of funding and rank their order of importance on a 5 point scale ranging from "Very important" to "No importance".

Note that multiple responses were possible i.e. a network can indicate and rank any combination of categories and each bar illustrates responses to that specific category. The percentages are thus only relative to the total number of responses to each category. The total number of responses for each category is obtained by adding the figures for the category bar. For example "Others" had a total of 6 responses and the result is interpreted as 17 % (of those who responded to the category "Others") indicated that "Others" were "Very important", 33 % indicated that "Others" were "Important" another 33 % that "Others" had "No importance" and 17 % were unsure.



Figure 19 Current sources of financing

As illustrated in figure 20 "Local/regional co-funding" and "National co-funding" are by far the most important sources of funding, scoring above 80 % as "Very important" and/or "Important". In other words over 80 % of the respondents (relative each respective category option) ranked these financing sources as very important or important. "EU co-funding", "Others" (unspecified) and "Donations in kind" scored just above 50 % using the same ranking scale.

Observe also the distinction between "Grants" and "Donations in kind" the former meaning public non-repayable whereas the latter can be sponsorship of personnel etc. "Private/corporate donations" refer to non-public non-repayable funds such as from foundations or trust funds. The distinction is well illustrated as it seems that networks do not rely on grants (unimportant or no importance whereas donations in kind are very important or important to over 50 % of respondents to that category.

Significant is also that "Income from sales" scored just over 30 % bearing in mind that some networks operate as profit making entities (see figure11). Therefore charging market rates for services rendered as shown in figure 20 is not surprising. Unsurprising too is that most networks (22 of 27 respondents) provided products/services free of charge.



Figure 20 Pricing policy of network products/services

What is interesting though is that since the total number of responses (46) is higher than the total number of respondents (27) this seems to imply that some networks have differentiated pricing policies depending on the client/beneficiary and/or service/product and perhaps irrespective of the organisation form. After all non-profit doesn't necessarily mean not charging a fee for services provided. It is an important issue to keep in mind.

As the respondent networks are active organisations providing products and services to clients and beneficiaries it also stands to reason that they are in some way staffed. And staff are either directly employed by the network organisation (paid) or voluntary, which in context of *BioRegions* means unpaid by the network organisation but either paid through other organisations (donations in kind) e.g. a host or indeed voluntary i.e. on own time.



Figure 21 Number of employees paid and voluntary

Figure 21 above gives an indication of the size of the network organisations. Staffs numbers are given as full time, any part-time staff are recalculated as full time equivalents by the respondents (27 in total). As seen most networks are small organisations with up to 9 full time paid staff. 3 networks are large organisations and it is likely that these networks are departments or result units within a larger organisation such as a Chamber of Commerce or a Research Institute.

The use of voluntary staff seems to be more common in the smaller organisations. Readers should be reminded though that this is likely to be due to the fact that quite a number of networks are still in the process of being established (see figure 3) and currently operate in project form (see figure 12). It is no stretch of the imagination to suppose that a number of these will not "live" after their current project life whereas others will continue after transformation into another organisational entity.

Now that the networks have been described in some detail the final question in this section of the questionnaire (and this chapter) simply asked to indicate the current annual turnover of the network.







The purpose is to give target regions a ballpark figure as to what sort of financial size a bioregion network may have and, more importantly, the financial potential of a successfully established network. In keeping with the number of paid staff (figure 21) figure 22 above shows that the majority of networks (who indicated a figure) have an annual turnover in the 100 000 – 1 400 000 euro range.

4. Network start-up

So far chapter 3 has provided a good indication as to the operational content and context of typical bioenergy networks. In this chapter the focus is on the questionnaire section relating to the start up conditions and circumstances for the network. This chapter has four subsections; source of the first initiative, key motivators or driving forces behind, key stakeholders to have on board from the start and finally sources of initial funding.

4.1. Source of the first initiative

The question in this part of the questionnaire allowed multiple answers which imply that the results show a ranking based on the relative importance of each option to the respondent. There was no fixed limit to the number of responses, in other words a respondent could tick each of the categories if he or she wished. This means that all the results are directly comparable to one another. The total number of respondents was 27.

As illustrated in figure 23 below a clear majority 70 % (19 respondents) indicated that the first initiative or idea came from a "Public body" and 30 % (8 respondents) indicated that it was from an "SME". In the *BioRegions* context the options "Farmer" and "Forest owner" can also be considered as businesses which, when added to "SME" gives a total of 67 % (18 respondents). In other words respondents are placing equal importance to public and private for the source of the initiative or idea to starting a network. It is quite feasible to think that the idea may have been sprung from a meeting between the different parties.



Figure 23 Source of the first initiative

Furthermore it is important to note that the option "Previous project" indicates that some sort of work has already been done, for instance a feasibility study, with a result or recommendation to start such an organisation. It is not unreasonable to assume that the options "School/Institute or university" and "NGO" also suggest background work or research has been done, albeit for different objectives. Grouping these options together 52 % (14 respondents) seem to suggest that the first initiative of idea is based on the outcome of previous work.

4.2. Key motivators or driving forces

Again the same multiple response function as described in 3.1 above was used here with 27 being the total number of respondents here too. Figure 24 shows that again a clear majority 74 % (20 respondents) indicated that the key driving force was "Political" such as regional development and 44 % (12 respondents) indicated "Commercial" as a motivation. 26 % (7 respondents) indicated "R&D driven" as a key motivator which when added to the "Commercial" option makes up a total of 70 % (19 respondents). This seems to suggest a balance between political, commercial and academic motivational interests for starting a network within a given region. That is not to say that the motives were the same.



Figure 24 Key driving forces

Interesting enough, only 7 % (2 respondents) indicated "Public/NGO pressure" as a driving force whereas 30 % (8 respondents) indicated "General/ideological interest". This seems to suggest that few respondents felt that their networks were "pressurised" into existence – a "have to do something" situation (reactive) as opposed to a "wanting to do something" (proactive). "Other(s)" which was specified as "statutory bodies" is perhaps the exception and a possible example of

being "pressurised" into doing something.

Finally 33 % (9 respondents) indicated "Financial" as a key motivator. It is of course possible to interpret this as an expression for "when there is funding, there is a project". Indeed if this option had a very clear majority and the others had low responses one may reasonably suspect this to have been the case. On the contrary, given the relative low ranking it is more than likely that for most respondents it is an expression for timing, that funding was available at the right time to be able to realise the formation of the network. After all for the other 67 % (18 respondents) the availability of funding at that moment in time didn't seem to be a key motivation.

4.3. Key stakeholders

Figure 25 shows a graphical breakdown (like figures 10 and 19) of the key stakeholders necessary for networks to have on board with the "navy blue" and "marron red" being the "important" colours. The purpose of this question was twofold; to identify the key stakeholders and rank their order of importance on a 5 point scale ranging from "Very important" to "No importance".

Note that multiple responses were possible i.e. a network can indicate and rank any combination of categories and each bar illustrates responses to that specific category. The percentages are thus only relative to the total number of responses to each category. The total number of responses for each category is obtained by adding the figures for the category bar. For example "Others" had a total of 6 responses and the result is interpreted as 17 % (of those who responded to the category "Others") indicated that "Others" were "Unimportant", 17 % indicated that "Others" were of "No importance" and 66 % were unsure.

As figure 26 illustrates three types of stakeholders came across as being "Very important" or "Important" to have on board all scoring 80 % or higher ranking (i.e. 80 % or more of the respondents indicated that option was very important or important). In descending order these were "Public body", "SME" and "School/university".

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Figure 25 Key stakeholders to have onboard

As can be expected both "Farmer" and "Forest owner" scored high percentages on the same "Very important" or "Important" scale (approximately 70 % respective 55 %). After all they both represent resources of the network. The differences reflecting the regional differences; for instance the Nordic countries and Baltic countries have a significantly higher proportion forest cover than other countries but had a fewer number of networks interviewed (see figure 2).

"Private person" also scored high (over 60 %) and here can be interpreted as an expression to have people who have demonstrated their personal interest as opposed to that of an organisation they may work for or represent, on board.

Also interesting to note is the relative importance of having "Large company" and "NGO" both scoring just over 40 % as being "important" or "very important" to have on board. Apart from being an expression for regional differences i.e. some of the regions have large companies within bioenergy it also suggests that although these stakeholders may not have been key initiators (see figure 23) it is still important not to overlook them if they are present in the region.

Finally it is worth comparing the results shown here with section 3.4 Network stakeholders and their activities (figures 10 and 11).

4.4. Sources of start-up funding

Using the same scale as in 3.3 above, figure 26 depicts the sources and ranking of funding for the start-up phase of the networks. Three sources of funding came across as being "Very

important" or "Important" all scoring 70 % or higher ranking. In descending order these were "Local/regional co-funding", "Grants" and "National co-funding".



Figure 26 Start-up funding

Again as mentioned with figure 19 note that the distinction between "Grants" and "Donations in kind" is that the former is public non-repayable whereas the latter can be sponsorship of personnel etc. "EU co-funding" was the only other significant source of funding scoring 50 %.

However it is interesting to compare with figure 19 as networks clearly show a shift from "Grant" dependence in the start-up phase to "Grant" independence, an increase of dependence on "Income from sales" and "Donations in kind" once they've become more operational. Dependency on "Local/regional co-funding", "National co-funding" and "EU co-funding" seem to remain at the same level.

It should be pointed out that these results are not to be confused with the response in figure 24 in section 3.2 when asking for key motivators. Here the question refers to a specific moment in time, the start-up phase of the network which may of course be the same time but more than likely not.

Although various grants and co-funding are undoubtedly important for enabling the formation of many of the networks the BioRegions partners are aware that there may also be other types of initiatives or support schemes not explicitly covered by any of the categories. Therefore a specific question was posed in the questionnaire with the purpose of at least capturing the

existence of such schemes. Figure 27 below verifies that other initiatives or support schemes existed and were an influence for the development of a majority of the networks. Regional schemes appear to have been the most prevalent. The details of how these support schemes assisted and how decisive they were in influencing the networks remains however unknown. The total number of respondents was 27 and multiple responses were possible.



Were there any other initiatives or support schemes that influenced the development of your organisation?

Figure 27 Other support schemes

5. Recommendations and reflections

Again the overall objective of this task was to try and gain an insight into key issues, lessons learned and recommendations from the experiences of bioenergy networks in order to be able to provide concrete recommendations to support the target regions. This was done by conducting a targeted study in the form of a web-based questionnaire of existing bioenergy regions and bioenergy related networks both in the best practice countries and elsewhere. Apart from the limitations highlighted in chapter 1.2, asking the *right* questions is the core of any questionnaire. Furthermore a fundamental issue for its construction is do the respondents *understand* the question, are they *able* to answer the question and finally, are they *willing* to answer the question openly?

Looking to the results of the *BioRegions* questionnaire as a whole the answer is yes, it seems that the right questions were being asked. A striking feature is the high level of response congruency between the different sections of the questionnaire which strongly supports the case that respondents indeed understood the questions, were able and willing to answer candidly. And in doing so they were also the right recipients of the questionnaire in the first place (see figures 5 and 6). This is important as it gives credibility to the responses and results.

In the final part of the questionnaire the respondents had the opportunity to, in their own words, sum up their experiences. Firstly describe what they felt were the critical success factors for their network. Secondly if given the opportunity to start all over again, describe what they would do differently. Their recommendations along with reflections from the best practice regions of the BioRegions project are discussed under the headings below and a summary of the recommendations are found at the end of this chapter.

5.1. Formation process

Although many of the respondent networks have evolved in terms of organisational form and now represent a multitude of organisational formats and sizes (see figure 12) all can be traced back to an initiative or idea which has laid the basis for the network in the first place (see figure 23). In other words formation of the networks themselves was the way to bridge the status quo, a situation in which each single stakeholder despite having own motivations and, in some cases enough own resources, would also be limited by their own structures.

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Figure 28 Model of network formation process

The formation process itself has been described by respondents in different ways but the key objective remains common to all; that is to initiate, motivate, mobilise and support the active buy-in of different stakeholders around a shared vision, action plan and organisational structure for the network. As shown in figure 28⁴ above the basic model for this network formation process seems to go through four general iterative phases, i.e. the diagnosis, idea, focusing and collective action phases. The model itself is a most useful tool for the target regions and well worth elaborating on.

As vividly described by Christensen⁵, these phases "together resemble a collective and systemic learning cycle in which the system transitions from some type of awareness of a need to do something (awareness) to an insight and understanding of why (sense-making), an effort to prepare for how that need is to be addressed (preparation for action), and the direction in which the movement is to proceed. This then leads to the creation of a common (integrated and contact-generating) forum for collective action in which a systemic learning process (via, e.g. the identification and "embodying" of results) creates lasting structural capital which drives the regional development process forward."

⁴ Christensen, L. (2005), *Formation for Collective Action – The Development of Biofuel Region*", Stockholm Nutek Förlag, 80

⁵ Christensen, L. (2005), *Formation for Collective Action – The Development of Biofuel Region*", Stockholm Nutek Förlag, 79.

5.2. Time to earn trust

Time and available resources (people, money, facilities etc) along with the window of opportunity (e.g. project, investment etc) are factors that come into play. After all, talk is cheap and without action won't get anything done. However that being said one must remember that the networks themselves are characterised by having heterogeneous stakeholders or members (see figure 10) all with different motivating forces, operational constraints, mindset and not least the network objective perceptions, especially at the onset. In other words stakeholders must undergo their own individual processes within the framework of the original initiative. These undoubtedly lead to apprehensions, misgivings and misinterpretations, especially if organisations normally in competition with one another e.g. companies are involved and may possibly lead to a consolidation or new network stakeholder constellation, different from the original envisaged by the initiative.

The key message here from respondents is that stakeholders must, as Christensen⁶ also puts it, *"first be given room to differentiate themselves, identify their differences and establish their own identities before they can accept being integrated into a larger context*", here the context being the network context. As expected such an integration process takes time and requires a certain amount of "talk" before enough trust is built up between the various stakeholders and enough confidence in the process itself before the initiative can actually establish a formal entity.

As described by the respondents a lesson is that one is likely to underestimate the time needed when launching an integrative initiative such as a BioRegion and a plausible reason as to why other such projects or initiatives stagnate or fail. The recent establishment and organisational format of some of the respondent networks, i.e. less than two years in existence and organisation types such as "Dept./section/project hosted within..." or "Project consortium" (see figure 12), together suggest a temporary organisational status and perhaps represent the first collective action of the model cycle in their efforts to build trust within the network. Time will tell if they become successful in terms of creating a new viable entity.

5.3. From project- to process management

Another aspect that clearly comes across from the respondents is the initial presence of strong individual leaders not least as initiators. However, process management is a function which, in most cases, is carried out by more than one person and characterised by distributed leadership. Strong and neutral individual leadership, in a traditional and project managerial sense, is an important part of the process management function but not the main function.

This leads to another important issue that comes across from the questionnaire regarding the process management of the initiative. As each stakeholder is an autonomous entity, one cannot impose leadership by traditional organisational managerial means while at the same time, the

⁶ Christensen, L. (2005), *Formation for Collective Action – The Development of Biofuel Region*", Stockholm Nutek Förlag, 63.

process itself must move ahead or fade, project management needs a strong ability to mediation. Therefore it becomes a balancing act of facilitating "being" in order to enable change, but that the change and development (becoming/formation) are a result of the actions of all of the autonomous stakeholders. The process management must thus have both the ability to lead and drive a process and ensure that a number of projects are initiated, executed and concluded, even if they do not carry them out themselves.

According to the representation provided above, the iteractive process management function also requires a balancing act between "embodying" and "integration" and between "exploration" and "exploitation" if it is to have the practical ability to, for instance:

- generate and provide an up-to-date diagnosis relating to an up-to-date analysis of the surrounding world in order to identify, draw attention to and raise awareness regarding the actors' needs and assumptions, and lay the foundation for a regional self-image/identity, i.e. this is who we are, and this is what we have to work with;
- arrive, together with the stakeholders, at a desired common direction in which to proceed, and at a vision or goal image, based on what we are willing and able to do;
- create the conditions necessary for continuous preparation for action by regularly identifying and communicating both values and results, and making room for creative ideation and solid project planning;
- initiate, execute (even if not autonomously) and conclude a number of strategic projects,
- ensure a collective learning process by identifying and testing various working hypotheses, drawing conclusions and identifying areas which warrant future exploration and development.

Christensen concludes that this line of reasoning also indicates that a process management requires a number of different qualities, and that it is impossible or at least unreasonable, to speak of the process manager as an individual and that instead should view process management as a function. Henton and Walesh⁷ (1997) and Montana et al. (2001) stress this rationale by identifying six different areas of competence (initiation, visualisation, assessment/adaptation, development/mobilisation, and renewal) and twelve different functions (the initiator, the networker, the thinker, the visionary, the teacher, the organiser, the integrator, the driver, the agitator, and the mentor) which a process management must possess in order to be able to facilitate a development process or manage a system initiative.

5.4. (Credible) communication

The other aspect closely linked with both preceding sections and which also stands out amongst respondents as a continual effort, both as critical success factor and something that can be

⁷ Hentom & Wales. (1997) Social responsibility of business, California.

improved, is communication. The importance of credible internal and external communication, the ability to "sell and tell" the initiative story, and the realisation that it is a continual ongoing process cannot be overemphasized. Describing, discussing and explaining the pre-conditions, assumptions, objectives and vision, establishing and building trust, encouraging motivation and promoting a shared proud sense purpose and participation, earning a voice of credibility, creating a sense of urgency and excitement to attract the "wait and see" stakeholders all come from having good communication and discussion climate. Especially the continuous presentation of progress and results should achieve care and attention.

5.5. Global – being regionally international

Another reflection is that several respondent networks operated on the international arena which also seems to tie into contemporary research on clusters and innovation systems. For instance as summarised by Asheim⁸ it is usually not enough with initiatives on a regional level in order for companies to continue being innovative and competitive as they need to continually have access to the best brains, suppliers, production resources etc irrespective of geographical localisation. Indeed multinational companies are beginning to make their presence known in clusters as clusters are becoming more important to them because of the social interaction, trust and access to the local institutions already established. This seems already to be the case for some of the respondent networks (see figure 10 and 25) as they have large companies as stakeholders and it is not unreasonable to assume that a proportion of these large companies are in fact multinationals.

Conversely regional networks also need to work with other networks, stakeholders, institutions etc outside their region in order to complement local skills, technologies, products, services and competencies with outside ones to bridge regional limitations in order to maintain the attractiveness and competitiveness of the network. Networks that display a high level of inward, regional focus tend to stagnate as certainly companies lose interest very quickly. Another way of looking at it is comparing a network to a social media such "Linked In" and degrees of contact.

From a political regional development perspective such clusters, networks and regional innovation systems like science parks or business incubators are very important for stimulating the development of innovative and competitive companies and regions. They can provide a favourable forum for sharing knowledge and networking building on existing clusters or networks in the region or be newly created based on the regional resource strengths but, in themselves, do not represent a political universal quick fix solution.

5.6. Power of public procurement

A commentary or remark that comes across from the questionnaire raises the issue of the public sector taking the lead by example, for instance converting oil-fired heating in schools to biomass

⁸ Asheim, P. et al. (2005), "Kluster, regional innovationssystem och lärande regioner", Innovationer – Dynamik och förnyelse i ekonomi och samhällsliv, Lund: Studentlitteratur, 33-60.

fired systems. This can be particularly significant and useful if technology procurement is seen as a means to act as a market catalyst to help introduce a new product or service to the marketplace. In other words technology procurement, from the public sector perspective, could be defined as a "bidding process to stimulate and promote the development and market introduction of a new technology", buying something that does not already exist (on the local/regional/national market).

As respondents represented a total of nine different countries (see figure 2) with different regional and national regulatory stipulations it is not possible to go into any detail other than remind target regions not to forget such projects. Studies⁹ carried out in the Nordic countries conclude that technology procurement (in the environmental sectors) is a powerful tool if the right conditions exist. The recent rise in interest for biogas as a vehicle fuel and the formation of biogas networks in Sweden can be seen in part as an expression for such technology procurement.

5.7. Summary of critical success factors and lessons learned

In the final part of the questionnaire the respondents had the opportunity to, in their own words, sum up their experiences. Firstly describe what they felt were the critical success factors for their network. Secondly if given the opportunity to start all over again, describe what they would do differently. These comments were then grouped into key words (marked in bold).

Critical Success Factors

- Formulate an attractive *vision* engaging the stakeholders
- Strong *inclusion* of local stakeholders in decision making process
- Develop *common* targets and development mechanisms
- Motivation of all stakeholders on board
- Fast decision making
- Firm *networking* between organizations and companies
- Good *understanding* and attitudes between businesses and local public administration
- Strong *combination* of know-how and technology
- Communication of results and partial results of the project

⁹ Stigh L. (2007) *Technology Procurement in Sweden - Subreport, Nordic Council of Ministers project 33 10 46*, Ås, Jegrelius Research Centre

• Public relations from the start

Lessons learned

- Better risk sharing (softening) between SMEs and public sector
- **Public lead** public sector should take a stronger role in paving the way for new biomass systems in their own investments (leading by example)
- Demand *stronger commitment* from the key companies to the cluster process. e.g. membership fee
- *Communication*: be more communicant to show our work and the link with other structures to organize the work and create synergies
- Choose an organizational structure that *enables timely and appropriate decision making*
- Strong inclusion of local and regional public authorities from the start
- Establishment of a turntable for logistic and know how
- Choice of a legal form with many advantages
- Support from the regional population has to be maintained
- Realistic calculation of personnel and financial resources
- Neutral project management without lobby
- Project management needs ability to mediation
- Possibility for fast management decisions
- Integration of financially capable project execution organisations
- Continuous presentation of part time results
- Publicity with a unique feature

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

Annex 1. Questionnaire



Welcome to the BioRegions survey!

The BioRegions Project supports the creation of "bioenergy regions" in rural areas of Europe, aiming to supply at least one third of the heating and electricity needs by fuels produced from regional and sustainable bioenergy sources. The project focuses initially in selected areas in France, Ireland, Bulgaria, Latvia and the Czech Republic, through the following actions:

- 1. identify success factors in "best practice" regions
- 2. networking activities in the target regions
- 3. define Action Plans for the selected regions and support their implementation
- 4. encourage and support other regions to replicate the project activities

The purpose of this survey is to collect information from areas that have already achieved good progress in the exploitation of their local bio-energy resources. The collected information will be evaluated and will result in a number of recommendations for regions that are now starting to plan their transition to bioenergy.

The survey is intended for stakeholders from regions that are already playing a key role in the drive to increase the sustainable and efficient use of local bioenergy. The assumption is that these local activities are driven by an "organisation" that brings the local stakeholders together.

The questions are about the structure and operation practices of this "organisation" and should take about 7-10 minutes of your time to complete. The content of your response remains anonymous as the results are compiled as aggregate or percentages.

For further information about the survey or BioRegions project, please contact Alan Sherrard, e-mail: alan@ltc.se, phone: +46 36-30 57 05 or visit the project website on www.bioregions.eu.

Thank you in advance for your cooperation, your contribution is greatly appreciated.

P.S. As a token of our appreciation we will randomly choose a single respondent that has completed the survey (and supplied their contact details) in a draw. The prize consists one free entrance ticket to the next European Biomass Conference that will take place in May 2011!

1. Your organisation is located in

Country

- Austria
- Belgium
- Bulgaria
- Denmark
- Estonia
- Finland
- France
- Greece
- Ireland
- Italy
- Latvia
- Lithuania
- Luxembourg
- Malta
- Netherlands
- Poland
- Portugal
- Romania
- Slovakia
- Slovenia
- Spain
- United Kingdom
- Sweden
- Czech Republic
- Germany
- Hungary
- Other
- 🗌 n/a

If "Other" please specify

2. Your organistation was founded/established/started

Year	
	2010
	2009
	2008
	2007
	2006
	2005
	2004
	2003
	2002
	2001
	2000
	1999
	1998
	1997
	1996
	1995
	1994
	1993
	1992
	1991
	1990
	1989
	1988
	1987
	1986
	1985
	1984
	1983
	1982
	1981
	1980
	1979 or earlier
	n/a

3. Your position or role in the organisation is

CEO/Managing Director

- Researcher
- Project Manager
- Marketing/PR/Communications
- Other
- 🗆 n/a

If "Other" please specify

4. Have you been involved in the organisation since the start or establishment of it?

□ Yes □ No □ n/a

If "No" when did you join (year)?

5. Please choose the level that best describes the region in which your organisation is located

The purpose of these statements is to put your organisation into a "geo-socio" context i.e. access and availability of natural and human resources. Use the slider to indicate a score between the two given values.

The concentration of bioenergy related activities and businesses in the region is:

Very weak/few
2
3
4
5
6
7
8
9
Very strong/many

The concentration of other renewable energy related activities and businesses in the region is:

- Very weak/few
- □ 2
- □ 3
- □ 4
- □ 5
- □ 6
- □ 7
- □ 8
- □ 9
- Very strong/many

The availability of biomass resources (e.g. via agriculture, forestry etc) in the region is:

- Very limited 2 3 4 5 6 7 8 9
- Very plentiful

The availability of other renewable energy resources (e.g. hydro, geothermal, tidal, wind) in the region is:

ıl

6. Choose the option(s) that best describes how your organisation is currently registered and/or running as

It is possible to choose more than one answer if it more acurately describes your situation.

Our organisation is registered/run as a:

	Private limited company
	Public limited company
	Non-profit organisation
	Voluntary organisation
	Foundation, trust or charity
	Project consortium or syndicate
	Association, federation or confederation
	Institute
	Dept./section/project hosted within an institute or university
	Dept./section/project hosted within an association, federation or confederation
	Dept./section/project hosted within a chamber of commerce
	Dept./section/project hosted within a local/regional authority/council
	Dept./section/project hosted within a regional energy agency
	Other
	n/a
If "Other"	please specify

7. Please choose the option that best describes the type of organisation

The purpose of this question is to describe how your organisation is made up and operates on the marketplace.

Organisation type

- Network (i.e. members come from both within and outside the same geographical or administrative region and interact on an ad-hoc basis)
- Cluster (i.e. members focus on specific business value chain(s)/activities or share specific resources and come from the same geographical or administrative region)
 Hub or node (i.e. members focus on specific business value chain(s)/activities or share specific resources but come from different geographical or administrative regions)
- Other
- n/a

If "Other" please specify

8. Choose the option that best describes the current sector(s) focus of your organisation

- Bioenergy only (incl. forestry, agriculture, horticulture)
- Bioenergy and other energy related sector(s)
- 🗆 n/a

Please select the bioenergy sub-sectors that may apply

- Biogas (incl. landfill & sewage gas)
- Solid biomass (e.g. chips, pellets, logs)
- Biofuels (e.g. black liquor, bio-ethanol, bio-diesel)
- Peat
- Waste/recycled e.g. post-consumer wood, sewage sludge, slaughter waste)
- Other(s)
- 🗆 n/a
- If other(s) please specify

Please select any other energy related sector(s) that may apply

- Wind energy (onshore, off-shore and/or micro)
- Solar (photo-voltaic and/or thermal)
- Hydro (micro, small and/or large-scale)
- Marine, wave, currents, tidal
- Geothermal (incl. heat pumps & waste heat recovery)
- Waste management (incl. energy from waste)
- Hydrogen and/or fuel cells
- Energy efficiency
- Sustainable construction, green urban planning
- Other environment incl. water
- Other

If other(s) please specify

9. Current activities of your organisation

Please select all those that apply.

Our organisation provides products and/or services that target/involve the:

- General public
- Private sector
- Public sector
- Members (of the organisation) only
- Other(s)
- Unsure or n/a

If "Other(s)" please specify

Clients/beneficiaries of the organisation are

- Members (of the organisation) only
- Local/Regional stakeholders
- National stakeholders
- 🗆 EU
- International (outside EU)
- Other(s)
- Unsure or n/a

If "Other(s)" please specify

The organisation provides/performs:

- Research & Development (basic and/or applied)
- Project management (incl. EU)
- General advisory/informational services
- Specialist consultancy services
- Educational and/or training services
- Other(s)
- Unsure or n/a

If "Other(s)" please specify

The products/services are provided to clients/beneficiaries/members

- Free of charge
- At subsidised or discounted rate
- At market rate
- Other(s)
- 🗆 n/a

If "Other(s)" please specify

10. Indicate the total number of people currently employed (paid and/or voluntary) by your organisation

For any part-time staff please recalculate their time as full-time equivalents (FTE), e.g. two staff at 50 % = 1 FTE:

Number of employees							
	0-1	2-9	10-49	50-249	>250	Unsure or n/a	
Paid staff							
Voluntary (unpaid)							

11. Establishing the organisation

The purpose is to try and describe the different intiators and motivations behind starting the organisation, please choose all options that apply.

The first initiative or idea to founding the organisation came from

	SME
	Large company (>250 employees)
	Forest owner
	Farmer
	Private person
	NGO
	School/institute or university
	Public body (e.g. local authority)
	Trade Association/Chamber of commerce
	Previous project
	Other(s)
	Unsure or n/a
If "Other(s)" please specify

The key motivators, incentives or driving forces behind this initiative

- Commercial (i.e business idea)
- Political (e.g. regional development, employment)
- General/ideological interest
- Financial (e.g. availbility of funding incl. EU)
- Public/NGO pressure
- R&D driven
- Other(s)
- Unsure or n/a
- If "Other(s)" please specify

Can you describe how the initiative emerged or developed?

12. Members/shareholders

Please indicate the member categories in your organisation and estimate their relative share of the total number of members

	Over 75 %	50 - 75 %	25 - 50 %	0 - 25%	n/a
SME's					
Large companies (>250 employees)					
Forest owners					
Farmers					
Private persons					
NGO's					
Academia/education					
Public bodies (e.g. local authorities)					
Associations/chamber of commerce					
Other(s)					
Unsure or n/a					
If "Other(s)" please specify					

13. Members/stakeholder field of activity

Please indicate all the products and/or services provided by members of your organisation.

- Research & Development
- Technology & machinery manufacturers & suppliers
- Engineering & project consultancies incl. subcontracting
- Biomass/biofuel producers & suppliers
- Agricultural, horticultural and/or forestry production and/or contracting services
- Heat, cooling and/or power utilities
- Operation & maintenance services
- Harvesting/collection, transport, distribution, storage & logistics services
- Financial & insurance services
- Education & training providers
- Waste and wastewater management and/or treatment services
- Other services allied to the bioenergy sector
- Other(s)
- Unsure or n/a

If "Other(s)" please specify

14. Financing the organisation

Please indicate the source(s) of funding during start-up phase of the organisation and estimate its relative importance

	Very important	Important	Indifferent	Unimportant	No importance at all	Unsure or n/a
Income from sales						
Private and/or corporate donations						
Public grants						
Donations in kind						
Local/Regional co-funding						
National co-funding						
EU co-funding						
Other(s)						
n/a						

If "Other(s)" please specify

Please indicate the current source(s) of funding for the organisation and estimate its relative importance

	Very important	Important	Indifferent	Unimportant	No importance at all	Unsure or n/a
Income from sales						
Private and/or corporate donations						
Public grants						
Donations in kind						
Local/Regional co-funding						
National co-funding						
EU co-funding						
Other(s)						
n/a						
If "Other(s)" please specify						_

15. The organisation today

The purpose is to try and describe if any change has been made compared to when the organisation was founded. Please choose all options that apply.

Which if any stakeholders were/are the most significant to have on board?

	Very important	Important	Indifferent	Unimportant	No importance	Unsure or n/a
SME						
Large company (>250 employees)						
Forest owner						
Farmer						
Private person						
NGO						
School/institute/university						
Public body (e.g. local authority)						
Trade association/chamber of commerce						
Other(s)						
None						
If "Other(s)" please specify						_
Please gives reasons for their impor	tance					

Were there any other initiatives or support schemes that influenced the development of your organisation?

	Local
	Regional
	National
_	011-(-)

Other(s)No there

No there were no other intiatives or support schemes

Please describe what these intiatives or support schemes were and how and why they influenced your development

16. Annual turnover

The purpose is to try and quantify in monetary terms the value of bioenergy related activities.

Indicate/estimate the most recent annual turnover of your organisation

- < 100 000 €
- □ 100 000 499 999 €
- 500 000 1 399 999 €
- □ 1 400 000 6 999 999 €
- 7 000 000 39 999 999 €
- > 40 000 000 €
- Unsure or n/a

17. Lessons learned

Could you describe what are the Critical Success Factors for your case?

If you were to start over again what (if anything) would you do different?

Is there anything else you would like to add?

18. Data protection

The data received from this survey is intended for internal project use and for the use of the European Commission only.

The project partners are required to treat all information in strictest confidence. The results of the survey are to be presented in aggregated form.

Do you consent to having your name/organization published for promotional/dissemination purposes of the BioRegions project e.g. via website, newsletter, flyer etc?

- Yes, I agree my contact details are supplied below
- □ No

Would you like to be kept informed about the BioRegions project e.g. upcoming workshops, outcomes etc?

- Yes, please keep me informed (address supplied below)
- No

Do you wish to participate with your e-mail address in the draw for a free entrance ticket to the next European Biomass Conference in 2011?

- Yes please include me (address supplied below)
- No

If "Yes" to any of the above questions please include you contact details here!

Thank you!

That was the final question. You will shortly be redirected to the BioRegions website.

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