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COOPERATING FOR SUCCESS.

EUROPEAN UNION
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Strategic plan for meta cluster development

Energy and Environment working group

Centre for research and innovation - CVVI

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Background

Collaboration between clusters can result in many benefits including expanded international network and linkages to global value chains and strengthened cross-fertilisation.

In recent years we have seen an increase in efforts in order to develop different strategic networking and commercial collaboration among clusters in EU and globally. We have seen the launch of different virtual and network platforms developed in the frameworks of different EU-financed programmes.

Clusters Cord projects aims to develop a base for direct cooperation among existing actors, as a sustainable result of the project. Members of the Energy and Environment working group have during the past meetings agreed that they would like to move from encouraging networking and learning among cluster managers towards true commercial collaboration. Their main aim is to expand international linkages and strengthen the global value chains in order to access markets or/and critical technologies.

Strategic Plan is the next and very important step towards meta-cluster creation. The inputs for the Strategic plan were mainly collected during the facilitation phase, scanning activities as well as 1st Energy and Environment Exchange forum, held in Linz, Austria. Additionally, further data were collected by CVVI as the working group leader from the side of involved clusters.

Strategic planning is a process of defining the strategy, or direction, and making decisions on allocating its resources to pursue this strategy. In order to determine the direction, it is necessary to understand the current position and the possible avenues through which it can pursue a particular course of action.

Source: Freedigitalphotos.net

1. Aim of the Strategic Plan

Main aim of the Strategic Plan is to encourage sustainable transnational co-operation among clusters.

The European Union has recognized the support of clusters collaboration as an indispensable part of the innovation support and has taken efforts to establish strategic partnership among existing players within the innovation system in order to ensure sustainable growth of the EU economy. Such collaboration will also enable fostering the excellence and world-class performance of present clusters.

Strategic plan deriving from the Energy and Environment working group was elaborated in cooperation of all Energy and Environment cluster managers, external experts as well as the project partners in order to create a sustainable cooperation. Such cooperation should lead to improvement of the services, methods and processes through the cooperation and exchange of experiences.

On the basis of the Energy and Environment working group meetings during the Benchmarking conference, during the Exchange forum as well as by e-communication, the inputs for the strategic plan creation were mapped and elaborated.

*Picture **1**: Process of Strategic Plan creation*

Source: own

This Strategic plan is the important base for the future creation of meta clusters or other transnational clusters network.

2. Summarization of the Thematic Scan

Thematic Scan of the Energy and Environment working group gave us a basic overview about the involved clusters, their regional frameworks and basic interests to cooperate and create so called meta cluster.

Clusters involved in the Energy and Environment working group are coming from 6 relatively different Central European countries, where EU 15 as well as new member states are represented. Indeed, each of them is faced by the different framework conditions in their regions. These differences in the framework conditions can be recognized on the policy level and the stage of development of particular region / state as well as by cultural characteristics.

The composition of the meta cluster in this mixed and multidisciplinary nature of the group must be understood as an opportunity rather than a weakness or a threat for the future collaboration. It was also recommended that more clusters are to be invited to participate as to enhance the potential for cross-fertilization and common collaborative projects development.

The clusters must concisely determine what kind of collaboration or partnership they are looking for. To do so, it is crucial for them to have access to relevant information on market opportunities and threats. Clusters must be able to identify opportunities, consider them and prioritize. As far as the Clusters Cord project is concerned, it is vital to be aware especially of the cross-cluster opportunities present in Central Europe. None of the clusters is currently involved in neither national nor regional network in their field of operation.

During the scanning activities, clusters included into the Energy and Environment working group expressed their main interests and reasons why they would like to be involved in a meta cluster. All of the cluster members shared their “supply” as well as “demand” to participate in meta cluster. There inputs were summarized in the Thematic Scan where already some potential services and common areas of cooperation were defined:

- Intelligent concepts for EU projects with direct benefits for members of the cluster
- Ease the entrance for the members of the cluster to international markets
- Participation on common Research and technological projects in and outside of EU for clusters and its members
- Sharing of best practices among clusters and its members
- Internationalization in order to prepare clusters for global competition and to open new business opportunities

2.1 Current meta-cluster and networking initiatives

Indeed, there are already several networking initiatives developed on the European level. Namely, the European Commission provides support for innovation through a series of initiatives and actions aimed at providing financial support to business supporting actors, innovators, SMEs, notably start-ups, by developing and testing new forms of business support and facilitating transnational cooperation with a view to mobilising more resources for the creation of a European Innovation Space.

DG Enterprise and Industry supports this aim through the CIP financial instruments, through policy cooperation under the PRO INNO Europe ® initiative, partnership platforms between European innovation professionals under Europe INNOVA and through the IPR Helpdesk that provides assistance on intellectual property issues for EU funded projects.

The Enterprise Europe Network will play a key role in the wider roll-out of the resulting innovation tools and services by providing customised information, guidance and training on the benefits to SMEs and business support providers throughout Europe. These initiatives are financed by the Competitiveness and Innovation Framework Programme (CIP).

European Cluster Collaboration Platform and European Cluster Observatory are two the most noted platforms on the European level related to all industries:

- **European Cluster Collaboration Platform**

The European Cluster Collaboration Platform provides online information and networking support for clusters and its members, aiming to improve their performance and increase their competitiveness through the stimulation of trans-national and international cooperation. The aim of this platform is to facilitate cluster cooperation, both between cluster organisations, as well as between cluster members (companies, R&D institutions, other players).

The European Cluster Collaboration Platform is an instrument provided by DG Enterprise & Industry. “Striving for excellence” represents the mindset of those cluster people who intend to bring their clusters to an excellent level of performance. The European Cluster Collaboration Platform is a user-driven instrument. The basis for its development lies in the results of the largest European survey among cluster organisations and cluster policy makers. 420 cluster players provided detailed input regarding their expectations from such an online portal that were considered in the technical development.

- **European Cluster Observatory**

The European Cluster Observatory is an online platform that provides a single access point to information and analysis of clusters and cluster policy in Europe. The Observatory which was launched in 2007 is now offering a range of new services. It provides data and analysis on clusters and competitiveness, a cluster library, and a classroom for cluster education.

The European Cluster Observatory also produces analysis and reports on regional competitiveness conditions, transnational cluster networks, clusters in emerging industries and studies on better practices in cluster organisations.

The Observatory target groups are mainly:

- Policy makers and government officials at the European, national, regional and local levels;
- Cluster management staff;
- Academics and researchers.

Moreover, there are already some networks / associations existing which refer only to the Energy and Environment working group and are working **on the global level**:

- **ICN – International Cleantech Network**

The International Cleantech Network (ICN) is a network of cleantech clusters in the cleantech regions, aiming to generate new business opportunities, enhance competitive advantages and create value for companies, knowledge institutions and local authorities across cluster regions.

The purpose of creating an international collaborative platform between cleantech clusters is to enhance knowledge-sharing between businesses, knowledge institutions and local authorities and to improve collaboration between the regions in which the clusters are located in order to give them competitive edge in the battle for new technologies, talent and markets share.

ICN's vision is to build up strong global connections between leading cleantech clusters in order to create superior value for cluster members. ICN would like to represent the leading clusters from the world's green growth economies from North America, Asia, Europe and South America. ICN creates value in five key areas:

- **Partnership-building** between companies, knowledge institutions and local authorities. ICN strives to open doors and match business opportunities in each cluster with leading competencies in other partner clusters.
- **Opportunity spotting and market insights** providing up-to-date information on projects, funding, and test and demonstration facilities.
- **Entrepreneurship and incubation activities** supporting start-ups and SME's with mentoring, overviews of funding sources and value-adding international partnerships.
- **Education, research and exchange programmes** between companies and knowledge institutions in the clusters will form part of ICN's mission to expand the pool of highly-skilled workers and thereby create growth for the cluster stakeholders.

- **Cross-regional transparency**. ICN will conduct supply chain studies/asset mappings of the cleantech industries, mapping of cleantech test and demonstration facilities and create a tool for creating an overview of the clusters' competencies.

- **GCCA - Global Cleantech Cluster Association**

Global Cleantech is a non-profit association, headquartered in Atlanta, Georgia, U.S. that creates conduits for companies to harness the tremendous benefits of international cleantech cluster collaboration in an efficient, affordable, and structured way. Global cleantech provides a gateway for established and emerging cleantech companies to gain exposure to potential investors, new markets, influential networks, innovative technologies and best practices. GCCA was founded by Swisscleantech, the Finnish cleantech Cluster, and Watershed Capital Group.

GCCA creates momentum and moves the cleantech market by investigating, screening, and advising best in class cleantech companies across the globe. GCCA guides cleantech companies from a compelling technology or service idea to viable business models, sustainable jobs, and attractive Return on Investment for founders, incubators, and investors. GCCA is an independent, reliable and credible voice filtering out the noise in the cleantech arena. GCCA is headquartered in Atlanta, GA as a Nonprofit Organization as a gateway for global collaboration. GCCA serves a conduit to attract and service the most advanced and promising cleantech sectors.

GCCA focuses on a variety of sectors in cleantech: Water, Energy, Solar, Wind, Biomass, Alternative Fuels, Energy Efficiency, Smart Grid, Energy Storage, Energy production – utility scale, Carbon Technologies – Net Zero Innovation, Transportation, Building and Construction materials and Air.

2.2 Industrial outlook

Energy drives modern economies and is the key to the development of our society. The issues and challenges connected to the Energy policy require action at European level; no single national government can address them successfully alone.

The importance of energy policy is well reflected in the multi-year EU budget for 2014-2020. Funding priorities over this period will be infrastructure, technology, energy efficiency and renewables, and improving nuclear safety and decommissioning.

Clusters are a good intermediary representing the interests and visions of their members and are eligible and competent partner in a national/regional dialogue related to this industry. By working in meta clusters, European industry can develop energy sectors which best meet the needs of citizens and our economy, whilst minimising damage to our environment.

Energy and environmental policies are inextricably linked. All energy production and consumption has environmental impacts. Whilst it is often tempting to overlook the environment during difficult economic times, the challenges of producing and using energy resources sustainably and protecting our natural environment equally represent an opportunity to pursue sustainable economic growth.

In many regards energy and environmental objectives go hand in hand, such as (source: EU Commission/Environment/ Energy and environment):

- Energy efficiency and reducing energy use: saving energy can help avoid impacts associated with extractive industries and with energy generation, transformation, distribution and consumption in general. It can help reducing GHG emissions, air pollution, impacts to surface and ground waters, habitat fragmentation and biodiversity disturbance through infrastructure and land use, etc. The EU has put forward several measures to improve efficiency at all stages of the energy chain and it is aiming for a 20% cut in Europe's annual primary energy consumption by 2020.

- Measures to increase the share of sustainable renewable energy sources in the energy mix can lower overall environmental and climatic pressures compared to other forms of energy. Such measures can also contribute to improved resource efficiency where they result in a more efficient utilisation of non-recyclable waste streams.

- Measures aiming at using resources in a more efficient way also contribute to reducing energy demand: this is in particular the case when products are re-used, materials recycled, when all production and consumption chains are organised in a more efficient way.

However, under some circumstances, energy-environment interactions can entail a number of risks or trade-offs, whether related to climate, air, land, biodiversity, waste or water. EU environmental legislation and the Commission's Resource Efficiency agenda are there to ensure that EU policies make the most of all the potential for reducing risks and impacts of resource and energy consumption. This will bring direct and indirect health and environmental improvements, reduce imports and allow the EU to better compete internationally in a world of constrained resources.

2.3 Scan of cluster potentials

In the Central Europe there are many clusters established in the field of Energy and Environment. Below is presented a map which shows the dispersion of the clusters across the Central Europe area:

*Picture **2**: Energy and Environment clusters across the CE*

Source: ClusterCollaboration.eu

The table no 1 below presents the list of all potential clusters across the Central Europe area which could join the Energy and Environment meta cluster platform. Some of them are already involved; however there are still a lot those who could potentially join it as well.

On the list below are mentioned both, industrial clusters as well as clusters focused on cross-industries or competence based clusters, that are by its structure maybe not directly matching the meta cluster, but there an important and significant potential overlap is found.

*Table **1**: List of relevant clusters (within the Central Europe area) to be included to the Energy and Environment meta cluster*

Region	Cluster	Web page	Part of EE meta cluster?
Austria	Umwelttechnik-Cluster	www.umwelttechnik-cluster.at	Yes
	Cluster Renewable Energies Tyrol	www.standort-tirol.at	No
	ECO WORLD STYRIA	www.eco.at	No
	Austrian water	www.austrianwater.at	No
	Environment Technology Cluster - Network Energy Efficiency	www.netzwerk-umwelttechnik.at	No
	Oekoenergie-Cluster	www.oec-en.at	No
Czech republic	CREA Hydro & Energy Cluster	www.creacz.com	Yes
	ENERGOKLASTR	www.energoklastr.cz	Yes
Germany	Netzwerk Umwelttechnologie	http://www.umweltnetzwerk.net/home.html	No
	Umweltcluster Bayern	http://www.umweltcluster.net/	No
	Cluster GreenCity Freiburg	www.greencity-cluster.de/	No
	biomastec - Technologies for the Efficient Use of Biomass	www.biomastec.de/	No
	Cluster Energietechnik	www.cluster-energietechnik.de	No
	Thermie network	www.thermienet.eu	No
	Energiewirtschaft/Energietechnologie – EWET	http://www.ewet-bb.de/	No
	FEE - Fördergesellschaft Erneuerbare Energien e.V. Cluster	www.fee-ev.de	No
	Energietechnik Berlin-Brandenburg	www.zab-brandenburg.de	No
	Baltic Green HealthCare Cluster	www.eco4life.info	No
Hungary	Ecopolis	www.okopoliszklaszter.hu	Yes
	ArchEnerg Renewable Energy Cluster	http://www.archenerg.eu/en/aboutus/	No
	Green Energy and ECO Architecture	http://elohazak.com/	No
	Pannon-Tér Energy and Environmental Management Cluster		No
	GreenTech Renewable Energy Cluster	www.greentechcluster.com	No
Italy	Lombardy Energy Cluster	www.energycluster.it	Yes

	POLIGHT	www.polight.piemonte.it	No
Poland	SIDE-Cluster	www.side-cluster.pl	Yes
	Zielona Lokomotywa	www.zielonalokomotywa.pl	No
	Wielkopolska Renewable Energy Cluster	www.pcc.org.pl	No
	Baltic Eco-Energy Cluster (IMP-BKEE)	www.bkee.eu/	No
	Warmińsko-Mazurski Klaster Razem Cieplej	www.razemcieplej.pl/	No
	Mazowiecki Sojusz Energetyczny	www.mse.mazowsze.pl	No
	Bioenergy for the Region	www.bioenergiadlaregionu.eu	No
	Dolnośląski Klaster Ekoenergetyczny	www.cedres.pl	No
	Śląski Klaster ECO ENERGIA	http://www.klaster-eco-energia.pl/	No
	Euro Centrum Cluster of Energy Saving Technologies		No
	Świetokrzysko-Podkarpacki Energy Cluster	http://www.it.kielce.pl/EN/index.php/national-projects/55-wietokrzysko-podkarpacki-energy-cluster	No
	Podkarpacki Klaster Energii Odnawialnej	http://energia.rzeszow.pl/	No
	Eastern Energetic Cluster	http://www.naszaszkola.pl/WKE/index.html	No
Slovakia	Energy Cluster West Slovakia	www.enks.sk	Yes
	Cluster for Green and Innovative Technologies Support	www.zelenyklaster.ucm.sk	No

Source: Elaborated based on: http://www.clustercollaboration.eu

2.4 Matchmaking of cluster's needs across the CE region

This section gives us the base for the future development of common services of the meta cluster. This section was elaborated based on the inputs mainly from the first meeting of the EE working group in Milan, during the benchmarking conference.

During the process of facilitation the below mentioned common needs and expectations towards joining the meta cluster were presented. These needs were presented in the alignment matrix as shown:

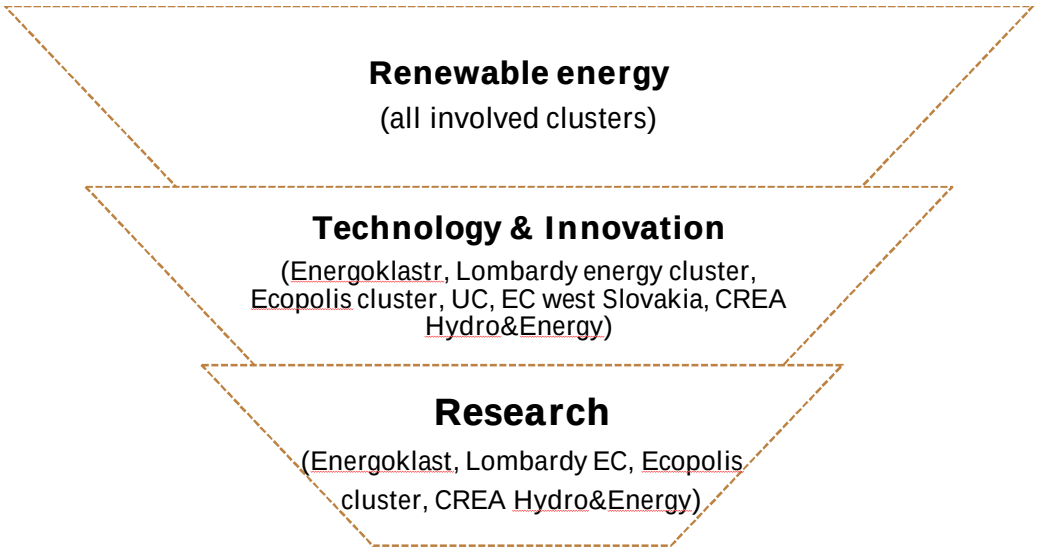
*Table **2**: Alignment matrix of common needs and common offers*

Cluster's common needs and expectations	Cluster's common supply / offers
Common R&D projects	Expertise / technologies in resource and energy efficiency, water, waste, air
Internationalization	Partner's portfolio, distribution channels and local market knowledge
Network building	Common marketing
Sharing best practices	Specific know how in common areas
Fostering the technology transfer	Project development
Exchanging the experiences	

Source: own

At the second level, we looked at the common areas of operation of all involved clusters where the following areas resulted as common:

*Picture **3**: Common areas of operation of involved clusters*



Source: own

3. Meta cluster strategy and objectives

3.1 Meta cluster Vision

Energy and environment meta cluster's vision is to build up strong network of leading clusters within the Central Europe area in order to create superior value for cluster members.

3.2 Meta cluster Mission

Energy and environment meta cluster's mission is to create direct value in order to increase competitiveness on global markets of all involved stakeholders, such as SME's, knowledge institutions and local authorities by means of international collaboration.

3.3 SWOT analysis of Meta cluster

This analysis identifies SWOT elements in view of the meta cluster co-operation in transnational context and has been elaborated based on the inputs from the involved clusters in Energy and Environment working group:

- Better promotion of the Energy and Environment industry towards EU commission;
- Achieving a critical mass to accelerate the transfer of knowledge and know-how;
- Internationalization of the clusters;
- Sharing the access to research and testing facilities, and developing new and better services to clustered firms;
- Strengthening the industry's ability to innovate;
- Generating common projects with real business value
- Generating market for each other's products
- Sharing Best Practices
- Better ability in influencing regional development policies, granting system
- Boosting the interest of potential members
- Access to EU funding

Moreover, we can observe the following **common threats** in relation to Energy and Environment meta cluster creation, identified from the side of the clusters:

- Economy crises and lack of money
- Decrease of cluster members' activity
- Fast increase and development
- Cultural differences
- Lack of trust among clusters

- Differences among the meta cluster members (National/regional, priority differences)
- Without a strong commitment of the members, the meta cluster can become a platform without any real content

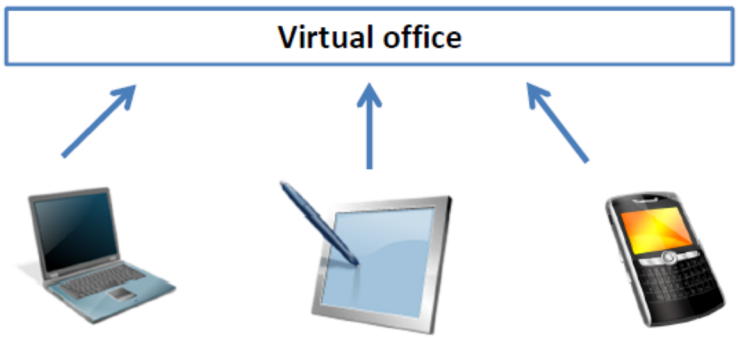
4. Organization structure of meta cluster

4.1 Legal form of meta cluster

Formal legal form of meta cluster for the moment won't be defined, hence the meta cluster is currently settled as open self-initiative network based on non-legally binding agreement.

Cluster managers at the Exchange Forum in Linz agreed that the formal legal form should be defined in later stage. The reason for that lies in the fact that the clusters would like to start their mutual cooperation, based on non-legally binding agreement, in order to deepen the trust at first and explore the opportunities beyond the state of the art. Based on the cooperation results, the legal form will be reconsidered and decided after some time of operation.

Cluster managers agreed that the virtual office is the best solution how to start with low investment costs and therefore low risks of the starting operation. Cluster managers are aware of the important precondition for successful operation of the virtual office. Cluster managers are ready to provide in kind contributions to the network in order to benefit from being a member of it.



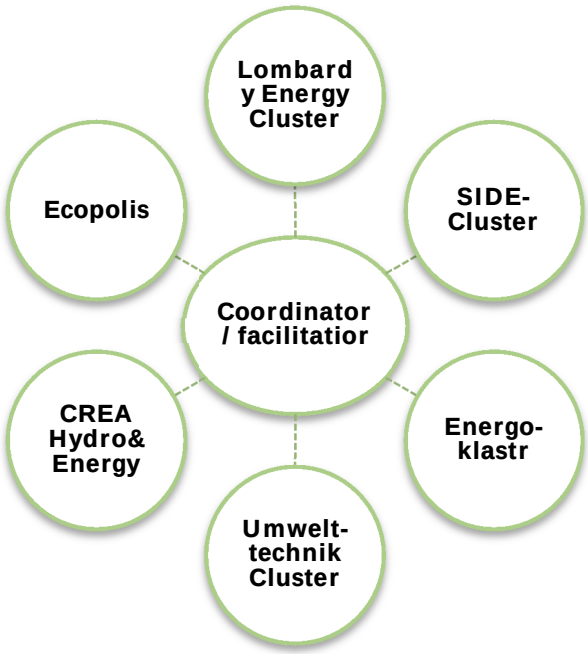
4.2 Organizational structure of meta cluster

Meta cluster consists of 7 members, clusters coming from the Energy and Environment sectors across the Central Europe regions. All 7 members of the meta cluster are an equal member of the meta cluster. All of them have an equal voting and decision making rights.

At the starting point of the meta-cluster operation, the organizational structure will be rather centralized in order to enable effective task allocation, coordination and supervision. The role of the coordinator will be crucial as he/she will have to keep the integrity of the meta-cluster. After the facilitation process will be over, the coordinator/facilitator will step out of the meta cluster and another subject will need to take over the coordination and operation of the meta cluster.

The cluster managers agree that the meta cluster shouldn't become only a communication platform. In order to be effective it should have appointed a person or another entity/cluster to lead and coordinate the activities. At the Exchange forum in Linz the possibility of having one cluster in charge of meta cluster was mentioned. This option will be further discussed after the facilitator will step out from the facilitation process. The clusters will decide about the leading subject based on common consent of all participating clusters and indeed this decision will be interrelated with the decision about the financing of the meta cluster.

*Picture **4**: organizational structure of EE meta cluster*



Source: own

Each cluster involved in the meta-cluster shall appoint a person responsible for representing the given cluster in the meta-cluster. This person will assume the communication on behalf of the cluster and will be the primary contact point for the meta-cluster coordinator.

4.3 Facilitator's profile

Meta cluster Energy and Environment was facilitated by Ms. Tina Igličar on behalf of CVVI – Centre for research and innovation from Czech Republic.

Ms Igličar has been working for the Automotive Cluster of Slovenia as a development coordinator for 6 years. She was responsible for identification, planning and monitoring of projects, identification and development of research resources in domestic and foreign R & D sphere eligible to participate in the acquisition of knowledge and implementation of projects, information exchange and operational communication within the cluster and among the project teams. Moreover, she was responsible to foster the transfer of know-how in cooperation with research and development organizations.

During the facilitation of the Energy and Environment meta cluster, Ms. Igličar was it touch with the cluster managers, she participated on preparation of the Thematic Scan and she coordinated and leaded the working group meeting in Milan, Italy and Exchange forum in Linz, Austria.

4.4 Management Team of meta cluster

Meta cluster's management team consist of the legal representatives of the clusters, involved in the meta cluster.

*Table **3**: meta cluster management*

Cluster name	Representative
Clusterland, Umwelttechnik-Cluster (UC)	Markus Manz, markus.manz@clusterland.at
CREA Hydro & Energy	Břetislav Skácel, bret@creacz.com
Ecopolis cluster	Mr. Andras Farkas, farkas.andras@okopoliszklaszter.hu
ENERGOKLASTR	Jan Rakušan, jan.rakusan@energoklastr.cz
Energy Cluster West Slovakia	Jozef Maudry jozef.maudry@enks.sk
Lombardy energy cluster	Elena Zaffaroni, e.zaffaroni@euroimpresa.it
SIDE-CLUSTER	Edyta Cieślak, info@side-cluster.pl

Source: own

The management of the meta-cluster will draw on proven procedures and techniques. As mentioned, the meta cluster will start its operation as a virtual office and therefore, also management will mainly depend on virtual means of communication in order to minimize the costs and time demandingness of the necessary operations.

Low-cost means of communication and exchanging of information will be crucial in the initial stage of operation, since there will not be any common financial resources available for personal meetings. Clusters will mainly exploit the tools like teleconferencing (using Skype, TeamSpeak or Cisco) and document storages and exchange platforms (e.g. google docs, google+, CIRCA).

5. List of establishing members of meta cluster

Establishing members of Energy and Environment meta cluster are the clusters coming from different regions across central Europe.

*Table **4**: List of establishing members*

	Cluster name	Country	*Year*	*Initiative*	*No. of members*	*Webpage*	Representative	Contact person
1	**Clusterland, Umwelttechnik-Cluster (UC)**	Austria	*2006*	Public	*130*	www.umwelttechnik-cluster.at	Markus Manz, markus.manz@clusterland.at	Siegfried Keplinger, Siegfried.keplinger@clusterland.at
2	**CREA Hydro & Energy**	Czech republic	2008	Private	15	www.creacz.com	Břetislav Skácel, bret@creacz.com	Břetislav Skácel, bret@creacz.com
3	**Ecopolis cluster**	Hungary	2008	Public + private	44	www.okopoliszklaszter.hu	Mr. Andras Farkas, farkas.andras@okopoliszklaszter.hu	Gábor Antal, antal.gabor@okopoliszklaszter.hu
4	**ENERGOKLASTR**	Czech republic	2009	Private	17	www.energoklastr.cz	Jan Rakušan, jan.rakusan@energoklastr.cz	Jiři Musil, jiri.musil@cvvi.eu
5	**Energy Cluster West Slovakia**	Slovakia	2009	Public + private	12	www.enks.sk	Jozef Maudry jozef.maudry@enks.sk	Jozef Maudry jozef.maudry@enks.sk
6	**Lombardy energy cluster**	Italy	2009	Private	>100	www.energycluster.it	Elena Zaffaroni, e.zaffaroni@euroimpresa.it	Chiara Jacini, c.jacini@euroimpresa.it
7	**SIDE-CLUSTER**	Poland	2009	Private	27	www.side-cluster.pl	Edyta Cieślak, info@side-cluster.pl	Edyta Cieślak, info@side-cluster.pl

Source: own

5.1 Clusterland, Umwelttechnik-Cluster (UC)

About Umwelttechnik-Cluster

The Umwelttechnik-Cluster (UC) represents a new platform for Austrian companies from the field of environmental technologies. UC supports the competitiveness and innovation potential at international level with respect to the needs of small and medium entrepreneurs (SME).

Within the cluster, UC links partners in the field of energy efficiency to increase their abilities in competition, cumulate the competence for innovation and enhance the distribution of know-how. UC is mostly comprised by SMEs and R&D institutions along with couple of universities and public bodies.
UC´s vision is to be the competent centre for intercorporate cooperation between suppliers and users as well as research institutions implementing technologies increasing energy efficiency.

The main objectives of the UC are focusing on the field of Energy and Environment (E&E). UC is promoting and supporting the E&E companies and trying to attract companies from other areas to enter this market through showing them the benefits and overall great potential hidden in this field. UC is also supporting the long-term cooperation among partner companies within the cluster consortium.

The main fields of interest

UC´s main fields of interest are focusing on Energy and Environmental area. Within this areas, UC is operating in the following fields:

- Renewable energy
- Energy efficiency in production
- Energy efficiency in buildings
- Technology and innovation
- Environmental technologies

Contact information

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5.2 CREA Hydro & Energy

About CREA Hydro & Energy

CREA Hydro & Energy is a cluster of companies, research institutions and universities working in the field of technologies for water management works, water and waste management and renewable energy resources. Cluster members cooperate in the area of research, product innovations and development, branch promotion, implementation and promotion of various projects in the Czech Republic and abroad.
Cluster cooperates with Czech as well as international companies and provides expert studies, trainings and counselling to various types of subjects from public as well as private sector. CREA Hydro & Energy is a member of National Cluster Association and other committees and working groups. Its members are also members of international cluster associations.

The main fields of interest

- **Renewable resources**

Renewable resources, especially water engineering, was the former field of cooperation of today´s cluster companies and led to the establishment of CREA export alliance (Czech Renewable Energy Alliance).

- **Water management**

Water management including facilities and water constructions of all kinds is the main field of focus of the cluster these days as this field represents the mixture of renewable resources field and waste management. Cluster continues the Czech dam tradition and concentrates on the research and development of new methods and technologies in the field of water management.

- **Waste management**

Waste handling and waste disposal management support the sustainable development of the society today. CREA Hydro & Energy concentrates on the development of specialised technologies and methodologies in this area.

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web: http://www.creacz.com/

5.3 Ecopolis cluster

About ECOPolis Cluster

The main initiative of ECOPolis Cluster is to reduce industrial and agricultural environmental load. The members of the cluster have joined in an effort to establish a sustainable, environment-focused economic development which can be generated by the key innovative sectors in the Central Transdanubian Region. Clustering is supported by the cooperation among economic actors, higher education institutions acting as „knowledge centres“ and municipalities.

ECOPolis Cluster is built on the Pole Programme of the New Hungary Development Plan, which groups clusters that are capable of producing high added value and have significant export and innovative potential.

The cross-industrial membership of the cluster, the ability of providing complex solutions for problems in the environmental industry and wide range of partnerships make the cluster unique at national level in many fields.

ECOPolis Cluster operates through its working groups, which are created by its members on voluntary bases and the connecting factor is their main field of interest. In general, two types of working groups have been developed: professional and operational.

The main fields of interest

The overall objectives of the cluster activities concentrate on the following areas:

- Environmental protection
- Support of innovations
- Generation of investment to improve the entrepreneurial environment
- Sustainable development in the field of research, innovation and education

Contact information

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5.4 Energoklastr

About Energoklastr

Energoklastr concentrates on the cooperation of small and medium enterprises, research institutions, universities and subjects from the public sector in the field of applied research and technology transfer. Its main fields of interest are manufacturing of electric devices, aero industry, automotive industry, IT and construction.

Energoklastr as a regionally oriented project aiming to the area of lowering energetic demand and dependence through the realization of cluster research and development activities operates mainly in the South Moravian region, region Olomouc and Vysočina and central area of the Czech republic.

The main fields of interest

- **Lowering of energetic demands of technologies, machines and equipment**

The goal of this project is a development of company modules – information systems, which allows effective production planning. Energetic savings can be reached by lower stock supplies, effective use of manufacturing tools and optimal usage of material.

- **Lowering of energetic demands of buildings**

Lowering of energetic demands of buildings is number one topic these days. We are convinced that energy savings can be reached through „intelligent" management of energy consumption. Algorithms of statistics identification, predictive management based on mathematical models and automatic setting of regulators are suggested and tested under this project. Building management and setting of parameters are both completely autonomous and are able to adjust itself throughout time in order to reach even more effective savings.

- **Renewable energy resources**

Innovation of wind powerstations which can be used by private property owners as alternative source of electric energy for homes, companies or office buildings is one of the key projects of Energoklastr. The project is concentrating on development of cheaper technologies and on the increase of efficiency of powerstations.

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5.5 Energy Cluster West Slovakia

About Energetický klaster západné Slovensko

Energetický klaster západné Slovensko is a partner institution for the development of the energy industry and technology-oriented companies. Its goal is to support the competitiveness of its members and to create new investment opportunities in the region while using the best human and technological resources available.

Energetický klaster západné Slovensko aims to establish prestigious and modern base for the development of energy industry in Slovakia, which would support the knowledge and economic development of Trnava region. Constant and sustainable technological and educational growth and development are working on the partnership principle.

The main fields of interest

- **Energy industry**

Energetický klaster západné Slovensko acts as a supporting and counselling subject for companies operating in this industry.
The main fields of activities within this area include: science - research & development of the renewable energy resources, energy savings, waste disposal management as source of energy.

- **Regional development**

Support of regional development is one of the key areas of interest with a focus on Trnava region. Energetický klaster západné Slovensko is actively searching for EU project funding opportunities to be implemented in the region. Cluster´s initiative regarding the regional development is also the creation of conditions for the entry of investors focusing on innovations. Regional development is also supported through technology transfer activities.

- **Support of education**

Energetický klaster západné Slovensko is also active in the field of education. Cluster initiative is to connect the field of education with the real demands and needs of companies. Such interconnection facilitates the entry of fresh graduates to work.

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5.6 Lombardy energy cluster

About Energy Cluster

Energy Cluster is the industrial cluster for power generation, transmission and distribution established by Regione Lombardia.

This industrial cluster groups important companies, which are leaders in the field of energy, with a specific intention to promote and to create an integrated supply chain in different fields of energy plant investment and to gather small and medium enterprises.

Energy Cluster network is also recognized as a provider of quality products and services aiming for consolidation of present and future technical expertise in the energy sector thanks to the large number of universities and research centres grouped under Energy Cluster.

The mission of Energy Cluster is to support its members be more competitive as a network and to reinforce the member companies to greater competitiveness, to the growth of product quality and human resources within the cluster. Through these activities and by the increase of synergies among companies and institutions in the chosen regions, the international visibility of the cluster and the field of energy is also being improved.

The main fields of interest

The main activities within the field of interest include **power generation**, **transmission** and **distribution to the end users through the following:**

- Medium/Large conventional utility power plants
- Nuclear power plants
- Renewable Energy: biomass, biofuel, biogas, solar power, wind
- Hydraulic and geothermal power plants
- Actual and future technologies

Contact information

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5.7 Side-cluster

About SIDE CLUSTER

Knowledge and technical development play the leading role for competitiveness and economic progress. By its activities SIDE CLUSTER would like to enable its members to become modern, knowledge-based companies that are able to run their business activities worldwide.

Cluster´s aim is to create cooperation network between local companies, business organizations, local authorities, R&D institutions, foreign partners and other clusters.

For cooperation among companies inside the SIDE CLUSTER it´s important to enable the flow of information in between them, to support the introduction of new technologies and solutions and to promote pro-innovation actions including business activities.

Knowledge and experience exchange are the key factors for successful cooperation which leads to much better results in the overall scale.

The main field of interest

The main field of interest of the SIDE CLUSTER is the **wood industry**. SIDE CLUSTER´s program regarding their field of interest includes the following actions:

- Rational use of wood for constructional purposes
- Promoting wood as building material
- Decrease of house energy consumption
- Support of domestic and international cooperation in the wood industry

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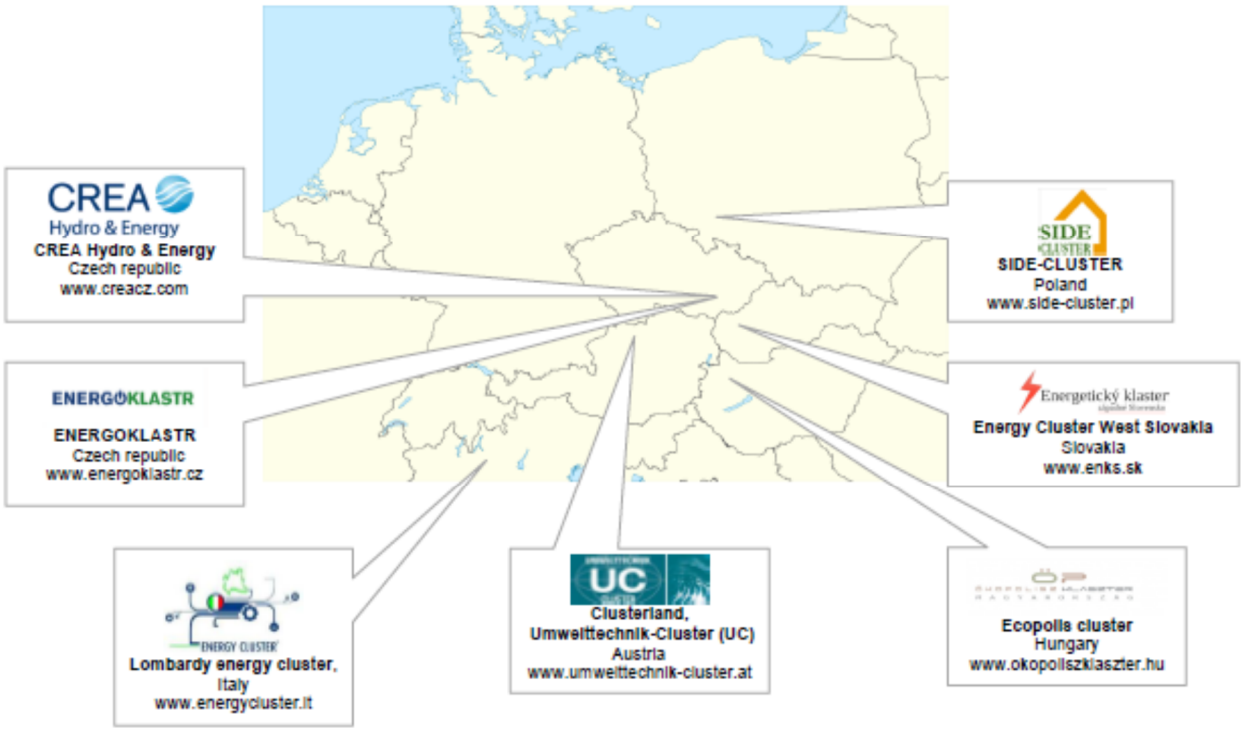
*Picture **5**: Map of involved clusters*



Source: own

6. Common services and standards

In order to assure the quality of the services provided by the meta cluster common quality services and standards should be developed. This chapter explains the list of the common services initially provided by the meta cluster as a result of the facilitation process and how and when the service standards will be developed and applied.

6.1 Common quality and service standards

Generally Common quality and service standards define the level of which, in terms of management and service provision, services are expected to attain. With other words, common quality and service standards define the level which is expected to be reached in relation to the service delivery to its end-users. Service standards outline specific targets of delivery and comprise set of commitments which have to be followed when delivering the service.

On the other hand, the standards serve as guidance for the end-users (in this case clusters and / or their members, SME's) on what they are to expect to get from the service and in which quality. The service standards therefore keep the provider accountable for the quality level of the services provided and ensure consistency of the services in relation to the users.

The standards are developed according to some principles which set out the core values of welfare services. These principles are:

- to clearly define the purposes and objectives of the service and make its mode of delivery transparent to the public;
- to manage resources effectively with flexibility, innovation and continuous quality improvement;
- to identify and respond to specific service user's needs; and
- to respect the rights of service users.

Common quality and service standards are for the moment not yet defined. Hence this issue will be discussed after some time of operation of the meta cluster when the members will learn more about each other and will have better knowledge about what they can expect from the meta cluster itself.

Moreover also common marketing service standards will be defined, given that the promotion is as one of the major services of meta cluster in order to promote and boost internationalization of members as well as the SME's.

6.2 Common services

The initial common services of the meta cluster were elaborated based on intense exchange of information during the meetings in Milan and Linz:

- **Project office**
  - Identification of appropriate calls for proposals in relevant topics and sharing the information with the members
  - Leading and coordinating the process of application and submission of the applications to the calls for proposals identified
  - Generating common advanced R&D projects and intelligent concepts for other EU projects
  - Coordination and administration of the on-going projects

- **Internationalization**
  - Coordination and sharing the information about international events, congresses
  - Support of international co operation
  - Attract foreign visits in the cluster
  - Sharing good practices from other regions
  - Exchanging of experiences by organization of study visits, company visits,..

➢ **Promotion**

- Promotion of the members of meta cluster as well as their SME's in the European frameworks
- International PR and marketing activities
- Measures to strengthen the branch image and importance

The list of the common services listed above will be tested during the first period of operation of the meta Cluster. For future the following potential portfolio of the services to be offered from the side of the meta cluster was presented.

*Picture **6**: Portfolio of future potential services*

Information and communication	•Detailed database •Internet / homepage •Supplier and service catalogue •Newsletters •Events, company tours, study visits •Monthly mailing •Press book
Internationalization	• Access to international events, congresses, •Support of international co-operation •Attract foreign visits in the cluster
Marketing and PR	• Information and marketing materials •International PR and advertising activities •Measures to strengthen the branch image •Trade fairs, exhibitions •Lobbying
Cooperation	• Initiation and support of co-operation projects - Project office •Establishment of contacts between potential project partners •Co-operation with R&D, educational institutions •Facilitate higher innovativeness
Training and Qualification	•Analysis of branch related educational requirements •Activities for qualification of company staff •Workshops and seminars •Inter-company learning •Co-operation with R&D and educational bodies

Source: own

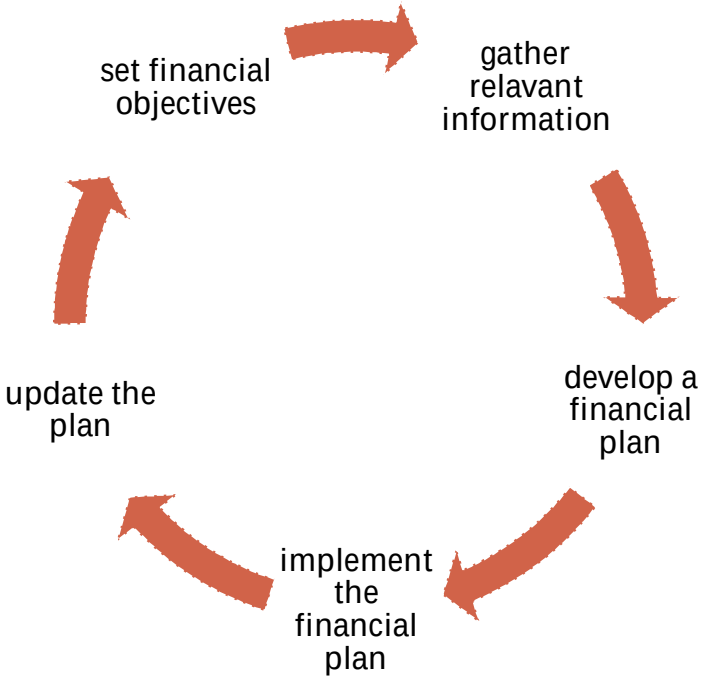
7. Financial plan

Financing of meta cluster was discussed during the Exchange forum in Linz where different opinions about the financing of the meta cluster were shared; however the final conclusion was not met. Before deciding about this, the cluster managers would like to build up the trust and later on present the initiative and its benefits to their local stakeholders.

Financing of meta cluster can generally come from different sources, private as well as through public initiatives. What the management of the meta cluster prefers will be clear during the first months of the meta cluster existence. The meta cluster must have clearly defined outcomes and outputs and should after some time become self-financing.

In order to define the financial sources of the meta cluster, managers will need to perform a basic financial planning. General planning process is presented on the picture no 7.

*Picture **7**: Financial planning process*



Source: Financial planning: www.mannacapitalmanagement.com

Within the starting period of operation the cluster managers agreed that the costs incurred by clusters will be limited to staff costs of personnel involved in the meta-cluster operation. Before the financial plan is defined, low costs approach shall be thoroughly applied and the meta-cluster shall become self-financing after two years of operation.

Activities of the meta cluster in the first period should follow value for money principle applied whenever an action is to be taken at the meta-cluster level.

7.1 Financial sources and related risks

Both public and private resources will be explored and raised for the operation of the meta-cluster. If there is consent among all meta-cluster members a membership fee can be defined in order to cover a part of the meta-cluster activities.

The potential sources of financing the meta-cluster operation and activities can be basically summarized as follows:

- membership fees
- public funding from regional or national sources
- EU funding
- private resources

Clusters are generally very cautious with financial commitments and planning of their allocation of resources. In the time of the crisis, the clusters face major financial constraints as a chain reaction to a low market activity which affects the SME's as well as knowledge institutions, being members of a particular cluster.

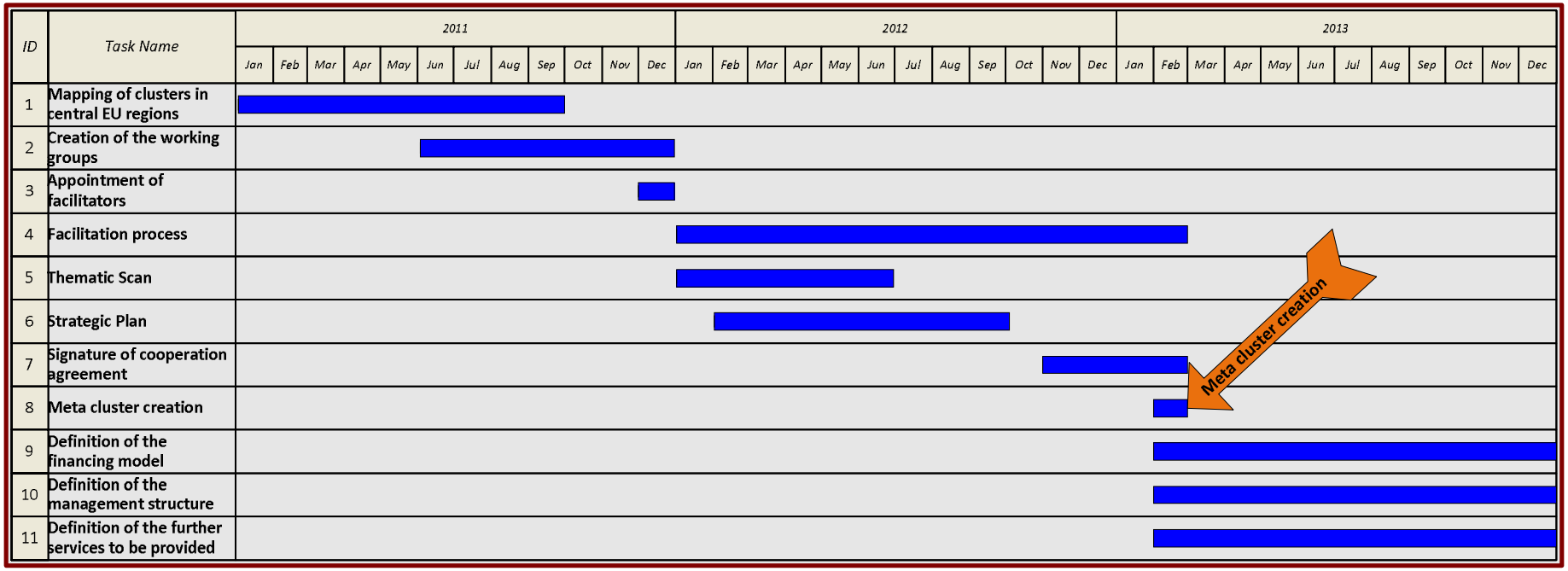
Therefore when developing a financial plan for meta-cluster operation some internal as well as external factors should be taken into consideration, such as general economic and political crisis, financial perspective's gap and difficulties in acquiring fresh capital.

8. Action plan

Action	Timeframe	Responsible
Mapping of clusters in central EU regions Review and mapping of the clusters within the central EU are working in the fields of defined industries. Invitation to the Clusters Cord project and setting up the co-operations.	January 2011 – September 2011	Cluster's cord project partners
Creation of the working groups 5 working groups created: Energy and environment, food, tourism, health, ICT	June 2011 - December 2011	Cluster's cord project partners
Appointment of facilitators Facilitators for each working group appointed;	December 2011	Cluster's cord project partners
Facilitation process - Working group meetings moderation - Exchange forum moderation - Communication	January 2012 – February 2013	Facilitator
Thematic Scan Thematic Scanning in Clusters Cord project is the starting activity for meta cluster creation. The input for the Thematic Scan were the regional information collected during WP 3 implementation, namely by the joint research and benchmarking analysis in Clusters Cord Regions. Additionally, further data were collected by facilitation from the side of involved clusters.	January 2012 - June 2012	Facilitator
Strategic Plan The inputs for the Strategic plan were mainly collected during the facilitation phase, scanning activities as well as 1st Energy and Environment Exchange forum, held in Linz, Austria. Additionally, further data were collected by facilitator from the side of involved clusters.	February 2012 – August 2012	Facilitator
Signature of cooperation	November 2012 –	Facilitator + cluster

agreement Cooperation agreements are to be signed during the final conference of Clusters Cord in February 2013. The preparation steps will start already some time before.	February 2013	managers
Meta cluster creation By signing of the cooperation agreement the meta cluster will be formed. Cluster managers involved will agree the further steps in order to keep meta cluster alive and capitalize the work done during the Clusters Cord project.	February 2013	Cluster managers
Definition of the financing model Cluster managers will decide about the future financing model to start the operation of the meta clusters.	2013	Cluster managers
Definition of the management structure Cluster managers will decide about the management structure, decision making rights and leadership of the meta cluster.	2013	Cluster managers
Definition of the further services to be provided Cluster managers will after some time elaborate and if needed revise the portfolio of the services.	2013	Cluster managers

*Picture **8**: Gantt chart of meta cluster creation*



Source: own

9. Conclusion

In recent years we have seen numerous efforts in order to develop different strategic networks and commercial collaboration platforms of clusters in EU and globally. Many of those virtual and network platforms were developed in the frameworks of different EU-financed programmes.

This strategic plan is a result of the efforts taken within the Clusters Cord project (financed by the Central Europe programme) which aims to establish long-term cooperation among Central European clusters in the Energy and Environment sector.

Collaboration between clusters can result in many benefits including expanded international network and linkages to global value chains and strengthened cross-fertilisation. Based on that 7 clusters from Central Europe all working in the field of Energy an Environment, with active support of Clusters Cord partners, formed a group and started a process of potential meta cluster formation. Their main aim was to create a basis for internationalization of their members, to foster international collaboration projects dedicated to innovative solutions and to explore and put forward new business opportunities on the market.

The involved clusters during the facilitation process, defined the common ground for their cooperation. This common ground as well as the framework is reflected in the present strategic plan, which will be subject to regular updates. The plan comprises principal assumptions and goals; however, specific topics of the clusters´ collaboration are still to be determined in more detail.

The strategic plan lays down the basis for a Cooperation Agreement signature officially establishing the Energy and Environment meta-cluster as a sustainable network for cluster's collaboration in Central Europe. Once the Cooperation agreement is signed, the aim of the Clusters Cord project will be achieved and the meta-cluster will revive to an autonomous network, leaded and managed by its members.

Clusters Cord project trusts that the Energy and Environment meta cluster will act as an effective driver of the innovation with direct benefits for the SME's in order to raise competitiveness and economic development of the Central Europe.

10. Literature and sources

1. EU Commission/Environment/ Energy and environment
2. Europe Innova Cluster Mapping Project. 2008. Case studies of clustering efforts in Europe: Analysis of their potential for promoting innovation and competitiveness.
3. European Cluster policy group. Final recommendations – a call for policy actions.
4. European commission, 2011. Europe's energy position – 2010 annual report. 2011, Belgium.
5. European commission, 2012. EU energy in figures. Statistical pocketbook 2012. Belgium.
6. European Union, 2011. Energy 2020. A strategy for competitive, sustainable and secure energy.
7. My business process: www.mybusinessprocess.net/financial-planning/
8. European Cluster Collaboration Platform: http://www.clustercollaboration.eu/
9. European Cluster Observatory: www.clusterobservatory.eu/
10. ICN – International Cleantech Network: www.internationalcleantechnetwork.com/
11. GCCA - Global Cleantech Cluster Association: www.globalcleantech.org/2012-winners/

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