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Activity report of the Energy Platform for the years 2013 - 2014

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The XII. Alpine Conference established an Energy Platform to tackle the challenges in the field of energy for the Alpine Region.

The Energy Platform was established by the XII. Alpine Conference, by its decision AC XII/ B4/ 4. The mandate was approved by the Permanent Committee at its 52. Meeting (decisions PC 52/ B5/ 1-2), encharging it, inter alia, of establishing an exchange of experiences on energy production and the reduction of energy consumption. The alpine states stated the objective of becoming a coalition of future-oriented states.

Switzerland was charged with the platform's presidency, for 2013 – 2014. The present report is an activity report for the first mandate period of the Energy Platform. At the same time, it shall pave the way to decisions to be taken by the XIII. Alpine Conference.

The work of the Energy Platform was undertaken in the framework of international and European Union commitments – the 20-20-20[1] targets andthe Energy Roadmap 2050 of the European Commission. It is congruent with both the basic commitments of the Alpine Convention (cf. Art. 2 Energy Protocol) and the objectives of the current Multi-annual Work Program (MAP 2011–2016).

The Energy Platform of the Alpine Convention identified three main domains which can contribute to the overarching vision of "Renewable Alps": energy usage, energy production and energy distribution and storage systems. The platform presidency organised the exchange in these domains by organising three workshops; they were conceptualized as open fora where keynote speakers exchanged their view with a broad public made up by experts from ministries, from the scientific world from NGOs. They were organised as follows (see part C with summaries of the three workshops):
Workshop 1 on energy usage (focus on building and housing policies), on 30 August 2013, Bern
Workshop 2 on en. production (focus on conflicts of interest and acceptance), 24/25 Oct. 2013, Luzern
Workshop 3 on energy systems (focus on storage and distribution), on 13 February 2014, Zürich

The workshop results were put up for discussion in five meetings of the Energy Platform core-group, composed by experts from the ministries and by observers from the Alpine Convention.
The present report, in part A, provides a synthesis of the results of the platform discussion. Part B sets out decision proposals for the XIII. Alpine Conference. Part C contains the background report elaborated together with an external subcontractor and short summary reports of the three workshops.

[1] The "20-20-20" targets set three key objectives for 2020: a 20% reduction in EU greenhouse gas emissions from 1990 levels, raising the share of EU energy consumption produced from renewable resources to 20% and a 20% improvement in the EU's energy efficiency.

1 "Renewable Alps" – making the Alps a model region for sustainable energy

Two years of intense exchanges between the Alpine States and Regions have shown that the Alps offer a wide range of experience, numerous good practices and a diversity of endogenous energy resources.

Against this background and considering the general provisions of the Alpine Convention "(art. 2, par. 2, letter k of the framework convention[2]) and of its Energy Protocol as well as the Multi-annual Work Program 2011–2016, the Energy Platform agreed on **concretising "Renewable Alps"** (the theme of the AlpWeek 2012 in Poschiavo) **as a vision** addressing:

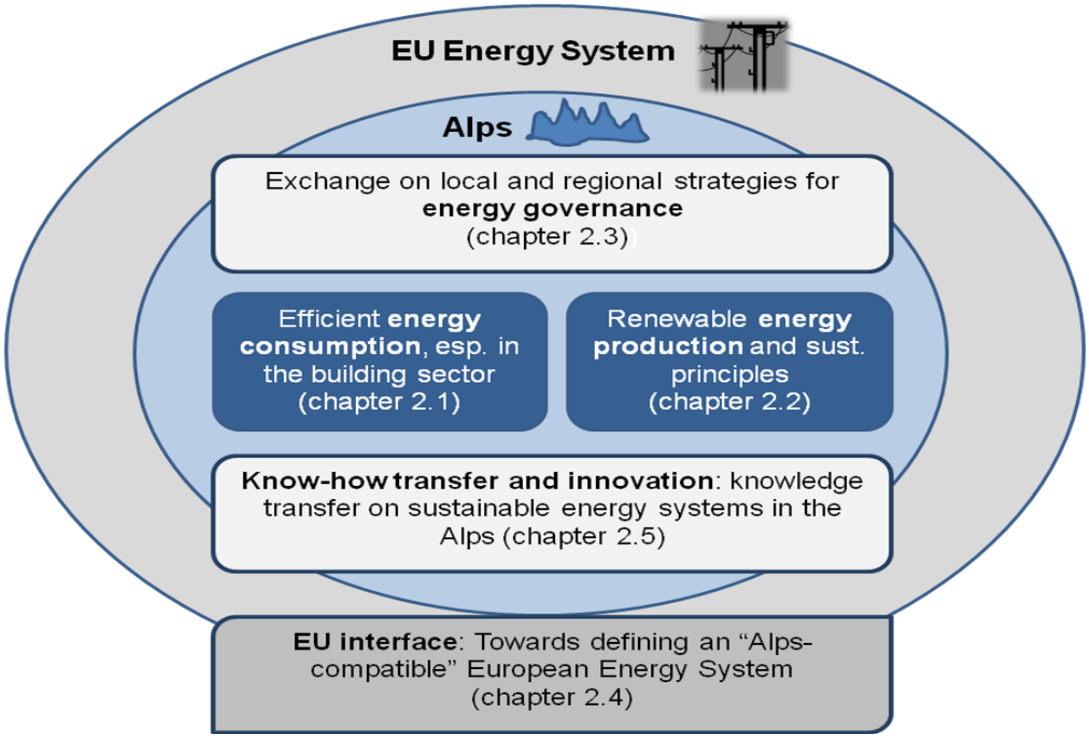
- Consumption: promoting efficient energy consumption strategies, especially in the building sector(chapter 2.1)
- Production: developing renewable energies according to sustainability principles (chapter 2.2.)
- Governance: continuing exchange on local and regional strategies for energy governance (chapter 2.3)
- EU interface: towards defining an "Alps-compatible" European Energy System (chapter 2.4)
- Knowledge transfer and innovation: strengthening knowledge transfer on sustainable energy systems in the Alps (chapter 2.5).

Each region has to build on its own strengths and potentials when it comes to contributing to this vision. Doing so will not only contribute to a better environment, but can also improve the quality of living, reinforce the efficient use of "alpine energy resources" and thereby make Alpine regions more resilient to fossil fuel price variability (by less energy imports), fostering their economic development. Ideally, the Alps should be able to reach the European climate and energy targets with certain advance on the other European regions, thanks to their advance due to high shares of hydroelectricity.

2 Specifying the "Renewable Alps" vision

The "Renewable Alps" vision shall be concretised in the above mentioned fields of activities. The interactions of the proposed fields of activities are illustrated in the following figure with energy production and efficient energy use in the Alps in the centre, knowledge, innovation and governance as supporting activities and the embedment in the EU energy system as framework.

[2] Art. 2 par. 2 lit. k of the alpine (framework) conventionL: *"energy: the objective is to introduce methods for the production, distribution and use of energy which preserve the countryside and are environmentally compatible, and to promote energysaving measures"*



2.1 Promoting efficient energy consumption strategies, especially in the building sector

The first workshop organised by the Platform's presidency demonstrated that the building and housing sector is a key challenge for improving energy efficiency without incurring losses in terms of quality and comfort. Improving energy efficiency of buildings will not only help to reduce greenhouse gas emissions and to become less dependent on energy imports, but also, in the long term, to reduce the costs for citizens, public administrations and companies as well as to create further indirect benefits (e.g. contributing to the densification or to the better coordination between settlements and transport infrastructures in spatial planning) The Energy Platform considers public administration to be a key player (by being an example for companies and citizens). By supporting public administrations in the development of efficient energy strategies in the buildings sector, they are also enabled to apply this knowledge to further fields of action, especially mobility (with a focus on e-mobility) and tourism.

- The EU has developed a comprehensive energy efficiency framework that rests on an indicative headline target of 20% energy savings by 2020 and is currently comprised of the EU Energy Efficiency Directive; the Energy Performance of Buildings Directive; Product regulations laying down minimum energy performance standards and putting energy performance information on labels; CO2 performance standards for cars and vans; financing through EU Structural and Investments Funds; dedicated research funds such as through Horizon 2020; measures to roll-out smart meters following the Internal Electricity Market Directive; and also the EU Emissions Trading System.[3]

Translating this EU framework to the Alpine context suggests particularly focusing on activities in the field of low-energy buildings, since the building stock in the region appears to have the biggest potential for energy savings. Particular attention should be given to efficient insulation (e.g. making use of renewable construction and insulation materials such as wood), heating systems (heat pumps, CHP, etc.) as well as efficient appliances. Strategies for further important fields of action (especially energy efficiency in mobility and tourism) could be developed by other platforms of the Alpine

[3] See Commission Communication of 23.7.2014 "Energy Efficiency and its contribution to energy security and the 2030 Framework for climate and energy policy" (COM(2014 520 final), p.3.

Convention (especially transport and mountain agriculture platforms); and they could also benefit from an integrated approach in the future macro-regional strategy.

Different ideas have been discussed in the Energy Platform meetings and workshops to concretize the mentioned objectives in the field of buildings (e.g. an Action Plan for 1000 nearly zero-energy public buildings and the refurbishment of 300 Alpine hotels): The Alpine Convention can best contribute to making the Alps excellent in the field of sustainable construction by regularly attributing an award to those building projects that best meet with the Alpine Conventions principles in the field of buildings.

- The Alpine Conference welcomes the initiative of Germany, Liechtenstein and Switzerland of launching the 3rd Constructive Alps award in 2015 and requests the future presidency of the Alpine Convention to evaluate whether the award could become an Alpine Convention prize to be regularly attributed

2.2 Developing renewable energies according to sustainability principles

Under the vision "Renewable Alps", the further development of renewable energy sources in the alpine regions should be, in particular conflicts between energy policy interests, nature protection and land-use purposes. Workshop 2 of the Energy Platform addressed these issues and showed strategies for dealing with land-use conflicts and nature protection must be a top priority for the Alpine Convention with more and more renewable energy projects in the Alps (e.g. sustainability principles).

- The Renewable Energies Directive (2009/28/EC) with its overall 20% target for renewable energies in the European energy mix by 2020 make renewable energies a top priority for energy policies.

The Alpine regions will also contribute to achieving their respective national renewable energy targets under the EU Renewable Energy Directive, but also in the long-term EU decarbonisation objective up to 2050. This suggests an increase of potential conflicts between new renewable energies and landscape and nature protection objectives (e.g. wind turbines and birds protection). It will thus be crucial to steer the development of renewable energies to locations with high-potential and least environmental impacts while ensuring that social trade-offs are considered. Regarding land-use-conflicts, the Energy Platform considered sustainability principles that might be relevant for addressing the above-mentioned conflicts:

Sustainable energy production	Social dimension	Economic dimension (focus: efficiency)	Ecological dimension (focus: impact on landscapes, species and CO2 emissions)
General RES principles	- **Participation** of the population at the local level (be it by voting or as a part of an energy-cooperative) - **Transparent and efficient planning procedures** (be it in case of a tender system or in case of a site-planning at the regional level) - **"Every-day landscapes"** of alpine populations are integrated in the planning procedure (e.g. RES as new landscape structures) - Interventions and infrastructures are **limited to defined areas** (according to regionally adapted criteria), e.g. to places at a certain distance from settlements	- **Positive cost benefit ratio** including all sustainablility dimensions, i.e. incomes (e.g. water fees) and regional added value: e.g. new employments outbalance negative impacts, the cost of the reduced emissions justify the ecological impact etc. - The **investment risk** of new large RES infrastructures is proportionate to the opportunities at the alpine level (e.g. in terms of providing storage- or distribution-services for the metropoles around the Alps).	- The **survival of rare species** with important alpine habitats (e.g. bearded vultures or brown trouts) is not compromised by new RES infrastructures (dams or wind mills) - Valuable ecosystems and landscapes with little human impacts are best possibly preserved, taking into account the protection status and objectives (e.g. national vs. natural park) - **RES** in dominant landscape structures **are developed concomitantly with other public interests**, using synergies (and avoiding multiplied negative impacts (e.g. alpine passes are sometimes both historical sites and situated on bird-migration routes)

Table 1: Sustainability principles for developing Renewable Energy Sources (RES) in the Alps.

Different ideas have been discussed in the Energy Platform meetings and workshops to concretize the mentioned objectives in the field of renewable energies (e.g. going for a certain number of skiing resorts supplied by 100% renewable energies or of municipalities with a full supply of public buildings by RES). It was generally acknowledged that strategies for dealing with land use conflicts are an issue where the Alpine Convention can come up with know-how (e.g. small hydropower guidelines from 2011)[4].

- The Alpine Conference approves the idea of collecting examples of good practices in the field of energy projects that demonstrate how land-use conflicts and nature protections issues can be addressed, resulting in their sustainability; requests the future Presidency, with the support of the Permanent Secretariat, to develop selection criteria, to gather good practice examples and present the results to the XIV. Alpine Conference, relying on the inputs by the Contracting Parties and the Observers

For further ideas discussed under this topic see Workshop summary in part C.

2.3 Continuing exchange on local and regional strategies for energy governance

The work of the Energy Platform underscored the importance of further exchanging innovative examples of "energy governance", be it in so-called energy regions or by other initiatives.

[4] Alpine Convention. 2011. Alpine Signals FOCUS 1: COMMON GUIDELINES FOR THE USE OF SMALL HYDROPOWER IN THE ALPINE REGION. http://www.alpconv.org/en/publications/alpine/Documents/SHP_common_guidelines_en.pdf

The Energy Platform has discussed the following strategies for successful local and regional energy governance:

- **Creating common identification for sustainable energy systems** by attractive and realistic energy objectives *(e.g. end-use values, shares of renewable energies)* and by participative approaches *(e.g. the development of energy strategies)*
- **Making people participate in economic success in all countries** *(e.g. the concept of "communal power stations", the implementation of "prosumers" idea (tenants consuming and producing electricity), by services of electricity providers and/ or incentive schemes favouring both energy saving and system's stability)*
- **Going for co- and multi-benefit measures** *(e.g. benefits in terms of sustainable energy production adding to benefits by local energy infrastructures adapted to climate change impacts, or combining incentives for renewable energy systems with the access to district heating)*
- **Giving spatial planning the role of a moderator** in the change-management process *(improving building standards towards easier realisation of district heating solutions in appropriate contexts (minimal settlement density), in trade-off between protection of nature and human activities or integrating landscape aesthetics e.g. wind energy visualisations)*
- **Searching for spatially balanced solutions** for renewable energy development *(e.g. by financial solutions for non-use of energetic resources, by inter-municipal and inter-regional energy planning)*

The discussion about the implementation of regional governance strategies (e.g. by developing guidelines for participative energy planning or by creating an Alpine Energy Award) showed the difficulty of a top-down approach for such a regionally specific topic (regional initiatives often being grassroots' movements). As to the idea of an energy award, it became clear that it will be difficult to communicate this award as an added-value compared with the well-established Constructive Alps award (see chapter 2.2.).

➢ The Alpine Conference invites the EUSALP stakeholders to give due consideration to the Renewable Alps vision.

Energy Platform

For further ideas discussed under this topic see Workshop summary in part C.

2.4 EU interface: Towards defining an "Alps-compatible" European Energy System

The Alps are situated as an "energy interconnector" for the EU and provide services to other regions and countries in the field of energy storage. Workshop 3 discussed the role of the Alps in the European Energy System with the two opposite trends in energy storage and distribution towards localisation (e.g. smart grids) and towards "Europeanisation" (the "European supergrid") both for electricity and heat systems. One conclusion is that local energy systems have started to complement the traditional (centralised) system, especially in the field of heating and cooling. The workshop also showed that handling complexity (different technologies, link of heat, electricity and mobility) by flexible solutions will be crucial for a breakthrough of decentralised energy systems. This is even more true in the Alps with their regionally very diverse risks and potentials (sparsely settled areas vs. urban areas; top-down energy regulation e.g. for pumped-storage vs. bottom-up movements e.g. for CHP and DHC systems). The know-how-building process is thereby going to be crucial in order to better assess the potential of new technologies (e.g. smart grids or smart metering) in the Alpine context.

➢ The Regulation on guidelines for trans-European energy infrastructure (EU 347/2013)[5] together with a set of projects[6] pave the way for the development of the EU-wide transmission line systems.

[5] European Commission. 2013. Regulation on guidelines for trans-European energy infrastructure. http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:115:0039:0075:EN:PDF

[6] See European Commission. 2013. PCI. Interactive map: http://ec.europa.eu/energy/infrastructure/pci/pci_en.htm And: EU FRP 7. 2013. e-highway2050: http://www.e-highway2050.eu/e-highway2050/

The «European Grid Declaration on Electricity Network Development and Nature Conservation in Europe»[7], brings up the point regarding sustainability of such an approach.

The mentioned initiatives give the Alps an important role both as an electricity gateway between the North and the South and the West and East of Europe. An additional alpine specificity given by topography is the predominant role of (large) hydropower, especially of pumped-storage plants as the currently most efficient and widespread electricity storage solution. If the Alps are to store and transport at least a part of the new renewable energies for parts of Europe, the Alpine Convention should plead for the best possible outcome for the inhabitants and the unique alpine ecosystems, also for large transmission lines. Solutions discussed include:

- The decentralisation of grid systems can be a possibility to minimise the impact on the environment in little accessible areas.
- Supporting and sustaining the Alps' role as an energy transmitting area while raising awareness on infrastructures' value added and necessity for alpine inhabitants and business.
- Developing measurable sustainability criteria when planning transmission and distribution infrastructure to minimise negative environmental and social impacts[8].
- Encouraging the dialogue with the public addressing European as well as local needs, finding balanced solutions, has proved to be a good approach[9].
- Transnational exchange and cooperation has proved to be efficient in case of pumped-storage power plants[10] and could support exchange of good practices in evaluating of impacts of infrastructure on landscapes nature protection.

The platform participants recognised that claiming an "Alps-compatible" energy system in the Alpine Convention framework is of only limited value as the main decisions on the European energy system are taken at the EU-level and other international and regional fora (e.g. pentalateral forum, ENTSO-E, ACER etc).

➢ States the importance of conceptualising an Alps compatible development of the European electricity grid and storage system

For further ideas discussed under this topic see Workshop summary in part C.

2.5 Know-how transfer and innovation: strengthening knowledge transfer on sustainable energy systems in the Alps

The Alpine regions and municipalities as well as the scientific community have gathered a vast pool of energy knowledge and innovation potential. To bring forward the vision "Renewable Alps", it will be important to strengthen this brainpool through promoting the exchange on policies and governance principles as well as on technological developments in the Alps. This exchange shall take place between the Alpine regions as an area of energy production, distribution and storage and with the surrounding metropolitan areas, namely in the frame of the future macro-regional strategy for the Alps. Such an "energy brainpool" could consist of both policy makers and the scientific community and could also support the exchange between Alpine Convention, transnational projects (e.g. ASP projects) and EU partners, such as, a possible macro-region platform on energy.

The Energy Platform is convinced that the idea of networks can help to **"brain up the Alps"**: There is a lot of know-how in terms of traditional handcraft but also in the new technology centers of the Alps. Those brains shall be used and the knowledge must be shared. The baseline is to build on existing

[7] «European Grid Declaration on Electricity Network Development and Nature Conservation in Europe», signed in November 2011 by Europe's largest transmission system operators and environmental NGOs

[8] Swiss Federal Office of Energy. 2013. Criteria for transmission lines in Switzerland. https://www.news.admin.ch/message/index.html?lang=de&msg-id=48260

[9] Ministry of Spatial Planning of Slovenia. Spatial Arrangement of National Significance. (NSP)

[10] A trilateral study on the cooperation between Austria, Germany and Switzerland is to be published in 2014.

projects that aim to share knowledge (NENA, climalp, AlpBC…). To further develop an “Alpine energy brainpool”, the exchange on the scientific level could be focused on “innovation clusters” (e.g. engineering for optimized RES technologies for the Alps, participative planning options and schemes for dealing with interest conflicts etc.). On policy level, the idea of partnerships or “twinnings” could be further developed, e.g. between forerunners and regions committed to strengthen their commitment for energy-saving and for development of sustainable energy systems and between public entities and private stakeholders including NGOs.

The ideas discussed to concretise the “network idea” – be it building up clusters to facilitate knowledge transfer or supporting energy twinnings between “energy stakeholders” – would require further concretisation, including the aspect of funding (e.g. kick-off funding to incentivise cluster-building).

- The Alpine Conference invites Switzerland to organise a side-event at the World Exposition 2015 in Milan to foster an Alpine-European exchange, integrating the experiences with collecting good practices,

For further ideas discussed under this topic see Workshop summary in part C.

3 Outlook on future energy cooperation

The Energy Platform has provided a solid basis for future “Alpine energy cooperation within and with Europe”: It is therefore crucial to work on the energy issue in the frame of the EUSALPS strategy, with a clear focus on the Alpine – European exchange, e.g. in the following fields:

- contributions to the European energy systems from an Alpine perspective (e.g. in the fields of storage and large transmission lines, see also chapter 2.4)
- the complementary role as to the integration in the new “European energy system” of regional governance systems (e.g. regional policies for dealing with land-use conflicts), thanks to their “local anchorage” (can be valorized especially by sharing good examples, see also chapter 2.2)
- about “alpine data and facts” to be taken into account in all policies with an incidence in the Alps (e.g. forest, agriculture and tourism policies) and to be a part of the “European data collection efforts” (e.g. by Eurostat or by EUA).