



Summary report: Norwegian thematic workshop and policy roundtable

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COME RES is a Horizon 2020 project that aims to increase the share of renewable energy in the electricity sector. It focuses on facilitating the development and supporting the implementation of enabling frameworks for renewable energy communities (RECs). This is achieved by knowledge exchange between research and stakeholders and from regions in the partner countries Norway, Belgium, Italy, Latvia, the Netherlands, Poland, Portugal, Spain and Germany. CICERO leads the work package exploring framework conditions, drivers and barriers. CICERO, together with the partner Norwegian Water Resources and Energy Directorate (NVE) also organise the work of bringing in perspectives from relevant Norwegian stakeholders from government, energy sector, industry and civil society to the COME RES project.

The COME RES project has established a Norwegian stakeholder desk with important actors who meet yearly through the project period. In addition to these meetings two thematic workshops with a policy roundtable are scheduled with the purpose to discuss solutions to overcome existing barriers for the development of renewable energy communities. This event is the first Norwegian thematic workshop.

Renewable energy communities can provide important benefits in the low-carbon transition through increased use of renewable energy, flexibility in the electricity distribution system and benefits for local communities. To promote this development there is a need for conducive framework conditions and regulations. With this in mind, the COME RES project and CICERO arranged the workshop «Renewable community energy in Norway: Opportunities and challenges» on the 2nd of June 2021. The purpose of the workshop was to discuss opportunities and barriers concerning development of renewable community energy in Norway: How are the current framework conditions and how can we ensure proper regulations and opportunities for developing local energy communities? And how will local energy communities affect the electricity system? The workshop was arranged by CICERO in cooperation with NVE. The event was online, and 116 participants were registered.

The event had three sessions: An introductory section, followed by a roundtable organized in two thematic sessions, where stakeholders had the opportunity to discuss selected topics in further detail, including what measures could help facilitate the development of renewable energy communities in a Norwegian context. The thematic sessions featured selected presentations that were followed by panel debates. The streaming of the event is available on CICERO's webpages: <https://cicero.oslo.no/no/posts/prosjekter/nyttig-workshop-om-lokale-energisamfunn>. The event was chaired by **Hege Fantoft Andreassen** (senior communication advisor, CICERO) who leads the work with the Norwegian Stakeholder desk in COME RES.

Hege Fantoft Andreassen opened the workshop. This was followed by a presentation of the COME RES project, including coming activities and the latest research findings by **Karina Standal** (Senior researcher CICERO). Standal leads the Norwegian contribution to COME RES. In her presentation she explained the concept of renewable energy communities and how they are defined in the recast Renewable Energy Directive (REDII) and the relevance to the Norwegian context. The EU has a focus on renewable energy communities as studies have shown that local involvement in such energy projects can increase social acceptance of renewable energy and low-carbon energy transition. Further, renewable energy communities can enable a more just and inclusive energy transition since the financial and social threshold for people to engage in citizen energy production is expected to be lower in

community projects. Standal also presented findings from an assessment of technical, legal, policy conditions for renewable energy communities in selected target regions in the COME RES partner countries, with a particular focus on transposition and implementation of REDII. The presentation pointed to the variation of how far the selected target regions/countries have come in the national implementation of REDII. The countries have made more progress with regard to establishing the formal definitions and rights of renewable energy communities than they have in establishing conducive framework conditions that can promote renewable community energy. Norway is not part of the EU and the implementation of REDII follows a different process and timeline than Member States. The technical regulations in the partner countries vary also but have in common that establishing renewable energy communities require considerable understanding and competence of potential actors. Energy installations that range from medium to large in size, as well as onshore wind power, is more regulated. In addition, there are no partner countries or target regions that have support schemes that take the specificities of renewable community energy into account. Most support schemes and economic incentives (e.g., feed-in tariff and green certificate schemes etc.) are already or close to phased out. The target regions and partner countries also have considerably different experience with community energy (small-scale energy production, energy cooperatives and prosumers). Such experience can be an important steppingstone towards renewable energy communities. Research and findings from surveys conducted in the target regions or partner countries show that the majority of the population are positive to renewable energy, but also that the opposition to onshore wind power is highly visible in the public debate. This affects the framework conditions and can constitute a challenge for establishing renewable energy communities, even though studies have found that local anchoring of such energy projects can increase social acceptance. There is therefore a need to initiate a dialogue between relevant actors (energy sector and civil society) and policymakers and to increase the focus on renewable energy communities and the benefits they can bring to society.

Part 1: Framework conditions and opportunities for renewable energy communities in Norway

The first thematic session of the workshop addressed framework conditions and opportunities for renewable energy communities in Norway. Senior researcher from Fridtjof Nansens Institutt; **Marie Byskov Lindberg**, presented findings from a study on solar energy production (prosuming) in apartment residential buildings. The study is financed through **Include - Research centre for socially inclusive energy transitions**. The potential for rooftop solar energy production on residential apartment buildings is vast in Norway (estimated 12.3 million m² rooftop space). There is also high interest in realising this potential among housing cooperatives and property developers, but so far, such production is very limited. Several barriers can contribute to explain this, including financial, political, technical and regulatory aspects. Lindberg emphasised particularly the requirement that each household needs to have individual electricity metering, as this complicates and increase the cost of joint solar energy production projects. An increase of joint solar energy production in apartment buildings necessitates change of current regulations. The revised national budget (2020-2021) has signalled a forthcoming change that allows the distribution of electricity between households/apartments in the same physical building, but it is still uncertain how this will be solved and where boundaries should be set. The next presentation was given by business developer **Tore Meinert** from Utsira municipality (both an island and Norway's most isolated municipality). He gave an account of how municipalities can take the role as facilitators for renewable energy communities. He gave examples from how the municipality in Utsira

has taken an entrepreneurial role by providing geographical areas and relevant information, as well as dialogue between relevant actors (research, business sector and energy producers and grid companies). The Utsira municipality has taken initiative to participate in the implementation of development projects, following up strategic plans and being active in local business arenas to promote local energy production and smart grid solutions. Together with Haugaland Kraft (regional electricity production company partly owned by the municipality) they have contributed to the development of local solutions as an alternative to grid upgrade (undersea cable connection). These initiatives also aim to generate local employment and decrease depopulation of the island.

The presentations were followed by a panel debate chaired by CICERO's communication director, **Christian Bjørnæs**. The panel debate started with short talks by **Jon Evang** from the environmental organization Zero, **Knut Olav Tveit** (CEO, Association of small-scale hydropower (Småkraftforeninga)) and **Trine Kopstad Berentsen** (CEO, Solar Energy Cluster Association). **Marie Byskov Lindberg** and **Tore Meinert** also participated in the panel debate. **Jon Evang** talked about the low-carbon transition we are going through and the need for renewable solutions with the lowest possible climate and environmental footprint. Energy efficiency, local energy production and smart energy solutions will be central to this transition because social acceptance is a prerequisite for a successful transition. There is a need for a diversity of policy measures and incentives to trigger the potential that exists where it is most needed. The involvement of residents (for example, in the form of support schemes), and facilitation of this, will be important for the long-term acceptance. The need for diversity was also taken up by **Knut Olav Tveit**. He pointed to the importance of a broad involvement of both city and district in the energy transition. Local energy communities may be able to alleviate the need for costly upgrading of the electricity grid, not least in rural areas. He emphasised that the most important thing for promoting local initiatives is to have the regulatory aspects clarified and easy to deal with. The regulatory is far more important than support schemes, and the authorities should ensure equal practices across the country. If regulations are uncomplicated, local energy solutions can be driven forward by citizens. Municipalities can play a role in facilitating for the development of renewable energy communities, but it is also important to set clear expectations to the grid companies (under regulated monopoly in Norway). **Trine Kopstad Berentsen** highlighted, like the other panel participants, that local energy communities can be an important part of the low-carbon energy transition we are facing. She pointed to a lack of knowledge and expertise about technologies and solutions as important barriers to the growth of solar power. Further she pointed to the importance of sharing experiences across silos in order to make good decisions that can facilitate development of the solar energy potential. As Marie Byskov Lindberg, she highlighted the vast potential for rooftop and façade solar energy production on buildings. There is a need to facilitate the exploitation of this potential. Existing regulations are inappropriate and not sufficiently ambitious. Like Knut Olav Tveit, she pointed out that support schemes are not necessarily the most important, but that there is a need to remove barriers (for example, the possibility of sharing surplus electricity between households or other actors) that today make it unattractive to take out the full potential of solar power.

Christian Bjørnæs opened the panel debate by questioning whether we really need local, renewable energy communities in Norway given the large proportion of renewable electricity the country has. Marie Lindberg replied that the most important thing is not how these initiatives should be formally defined, but to provide a local foundation in renewable energy projects. Knut Olav Tveit agreed that the definition itself is not the most important. More power is needed, and there is potential in small-scale energy production. As long as there is economic profitability in such initiatives, they can play an important role in the energy transition, and the initiatives can also contribute to social acceptance for the green shift

among residents and other actors. Jon also pointed out the need for new renewable energy, and was concerned with how to ensure good interactions, and how local energy solutions can, in sum, play into the overall solution needed in the low-carbon transition. Trine pointed out that local production and sharing of electricity is valuable, practical, and beneficial to society, given the need for new, renewable electricity. Tore Meinert pointed to the need for a diversity of solutions and initiatives, including local energy communities, to bring about the green shift.

Christian Bjørnæs then asked what is required to facilitate the development of local renewable energy communities. Tore Meinert stressed the importance of predictable, long-term inter-political agreements and regulatory frameworks. He also stressed the need for technology neutrality. Trine Kopstad Berentsen reiterated the need to remove existing regulatory barriers (e.g., restrictions in the plus customer scheme and in the law act regulating excise duty, sales licences and power tariffs), and agreed with the importance of long term framework conditions to facilitate investment decisions. Trine also highlighted the need for dialogue and planning across the sectors. Knut Olav Tveit pointed out the need for holistic thinking about the emergence of renewable technologies and warned against technology-specific special arrangements. It would be very useful if a guide was introduced from government/regulators for the establishment of local renewable energy communities. The regulator NVE has previously done so for small-scale hydropower production with successful results. Jon Evang reiterated the importance of gaining acceptance for solutions and how citizen involvement has been shown to be able to change consumers' energy practices in a positive direction (interest in energy efficiency and shaving peak loads). This can be achieved by better integrating consumers into the solutions. According to Jon Evang, this also entails regulatory measures and the development of support schemes that can trigger this integration. Marie Lindberg mentioned that for housing companies, it is important that the regulatory framework enables joint metering of electricity consumption and electricity feed-in from the renewable energy communities. She also argued the importance of finding good solutions that enable the establishment of solar energy. Opportunities for sharing electricity between household or other actors can promote development and contribute to reducing the need for grid development (this is not allowed beyond grid companies operating under regulated monopoly).

Part 2: Local energy communities and the effect on the electricity system in Norway

The second session of the workshop addressed regulations for renewable energy communities and the effect on the electricity system in Norway. Advisor with the regulator RME/NVE, **Kjell Rune Verlo**, gave a presentation on the establishment of local energy communities in Norway, with a focus on current regulation of grids and energy communities. He went into the licensing scheme for grid facilities and what duties that protect the customer (including the right to choose a power supplier, rights in the event of interruptions, and reasonable distribution of the grid company's costs). He then went into what is perceived as a larger regulatory barrier – who will own the electricity grid, and how should customers be metered? As a regulatory authority, consideration of the benefits of new initiatives in the power system must be weighed against the consideration of the rights that the customer has and the consideration of the cost-efficiency of the power system. The current regulations limit the possibility of establishing some types of energy communities, primarily those who wish to own grid installations. RME and NVE can grant pilot projects exemption from current regulations in order for society to test new, innovative solutions. In closing he mentioned housing associations and the changes to the regulations signalled in the revised national budget. The Directorate of Taxes and the RME have been tasked with defining the framework for such an arrangement with a deadline of 2nd of August. Researchers **Henning**

Taxt and **Andrei Morch** from Sintef Energy presented the research projects FINE (funded by Norwegian Research Council) and eNeuron (H2020). The projects research flexible integration of local renewable energy communities into the Norwegian electricity distribution system and tools for optimal design and operation of energy communities in Norway. It was pointed out that there is a great need for knowledge in terms of how local renewable energy communities affect the electricity system as a whole and how best to achieve this in a way that addresses the positive effects without unintended consequences. The FINE project analyses the pros and cons of various forms of local energy communities in the Norwegian power system, and also investigate the grid company's role in the context of new forms of local energy communities and flexibility markets. The project also has knowledge exchange with relevant actors. The eNeuron project is also researching how to achieve optimal design and operation of local renewable energy communities. The project has already prepared a scoping assessment that looks specifically at business and ownership models, support schemes, cost analyses for storage, etc.

The following panel debate of session 2 introduced short talks from the panel participants **Andreas Strømsheim-Aamodt** (director business policy at the branch organisation NELFO (electrician and automation companies), **Karl Erik Navestad** (regional CEO at property developer Høegh Eiendom), **Rolf Jacobsen** (Gaia Architects) and **Ketil Krogstad** (special advisor, Norwegian residential building country association (Norges Boligbyggelags Landsforbund)). The former presenters **Kjell Rune Verlo**, **Henning Taxt** and **Andrei Morch** also participated in the panel debate. **Andreas Strømsheim-Aamodt** opened his talk by pointing out that, as a national association for electrical and automation companies, they see that local energy communities provide good opportunities for employment and value creation. With this as a starting point, he argued the need for putting in place good political and market conditions that facilitate a well-functioning market. Here it will be important to address barriers that prevent developing decentralised energy projects. He emphasised that the argument for individual household metering was unnecessarily limiting, and that customers' rights can also be safeguarded by joint metering such as has been in practice before. **Karl Erik Navestad** talked about Høegh Eiendom's work on energy consumption in three major urban development areas, including thermal and electrical energy supply in the district of 'Ski Øst'. They experience many practical challenges in the form of deficiencies in systems and regulations for distribution of this energy. In addition, there are also challenges related to costs that are difficult to calculate. Høegh Eiendom has had good support from the municipality in the project but experience that such energy projects become too complex for the municipality to engage with. **Rolf Jacobsen** told about experiences with the work on sustainable architecture and eco villages, where energy issues are one of the topics. Obstacles to such projects include economics, organisation, regulations and framework conditions. There is also a need for more knowledge around local renewable energy communities. Rolf Jacobsen also emphasised the importance of a holistic mindset related to such forms of energy. An important element is how local renewable energy communities are part of building good small communities where citizens are engaged in energy use and energy production, food production (e.g., community supported agriculture) and a sustainable lifestyle necessary for the low-carbon society. **Ketil Krogstad** pointed to the great technical potential that lies in solar flow from housing cooperatives and condominiums. Tax cuts will be of great importance but will not alone be sufficient to trigger the potential. Other important barriers on the demand side include competence and a lack of information.

During the second panel debate, also chaired by **Christian Bjørnæs**, the question was raised to which regulations may be appropriate to safeguard the cost-efficient and just electricity system and maintain a robust and flexible grid. Andreas Strømsheim-Aamodt argued that a cost-reflective grid tariff will allow local energy communities to reap the benefits of the value they add to the system. This is important to

have long term, predictable frameworks. Ketil Krogstad pointed out the importance of viewing consumers as resources in the power system. Henning Taxt commented that there are difficult trade-offs between the holistic societal perspective that should distribute costs fairly, but where this hinders opportunities. There should be opportunities to find solutions that take care of both considerations.

In closing Karina Standal gave a short summary of the workshop. She highlighted the large variation of perspectives and stakeholders that are relevant for renewable energy communities in Norway. This also reflects the Norwegian context – Norway is a country that spans different geographies, needs and preconditions regarding renewable energy communities: Energy transition in Arctic Svalbard; energy security and supply in Island communities such as Utsira, growth of local businesses in areas where expanding or upgrading transmission is costly as well as local energy production in cities where there is a rapid increase of Electric Vehicles that give new challenges for supply and flexibility of the electricity system.

The low-carbon energy transition and the fight against climate change are complex problems that requires complex solutions. Based on the presentations and the discussions in the panel debates, there are three aspects that stand out and require further work: 1) Knowledge needs. We need to understand better social, financial and technical dimensions, and how these are connected to promote local renewable energy communities into practice; 2) Responsibility. There is a different understanding of who is responsible for driving the development further. Is it the responsibility of customers (residents, housing companies and the energy sector)? Or is it the authorities' responsibility? The answer requires different requirements for framework conditions. At the same time, a long-term perspective is important anyway; 3) Dialogue. To ensure good regulations and framework conditions further, it is important that dialogue is created between different actors and decision-makers to avoid silos thinking or unfortunate consequences for individual industries, consumers and society.

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