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Policy Brief

Renewables for Rural Areas

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Renewables for Rural Areas

Rural areas will be key to the rollout of renewable energy in the European Union (EU), as they hold vast potential for wind, solar, grids and storage siting. As a result, most decarbonisation scenarios position rural areas as renewable energy powerhouses, creating great opportunities for these regions. However, rural areas also feature specific challenges in the energy transition that should be taken into account.

Why we must focus on renewables in rural areas

The revised Renewable Energy Directive (RED III) is now in force in the EU, requiring urgent action by member states to meet the EU's 2030 target of 42.5% renewable energy, aspiring to 45%.[1] The RED III provides helpful new instruments for spatial planning, like Renewables Acceleration Areas (RAAs), and simplifies permitting procedures for renewables and grids. This involves coordinated implementation across national, regional, and local authorities. However, 26 out of 27 EU countries already missed the deadline to transpose parts of the RED III focused on accelerating permitting for renewable energy projects into national law.

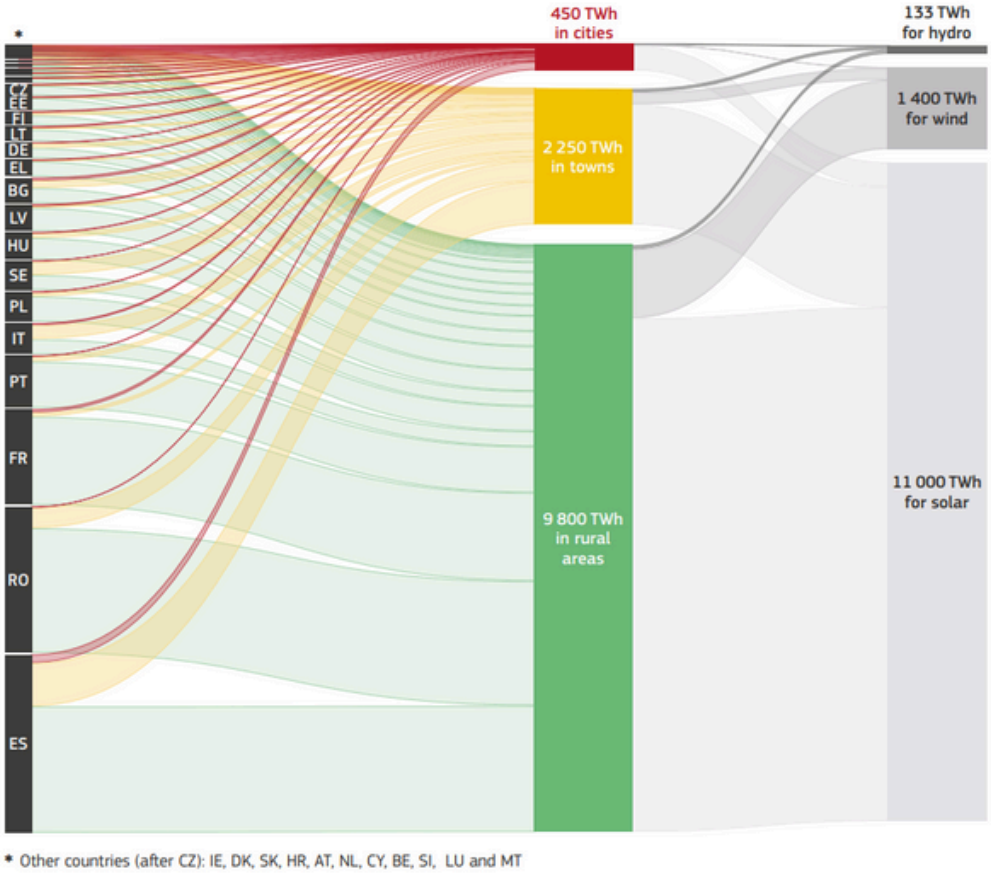

Figure 1 – The EU's estimated untapped technical potential production in cities, towns and rural areas, by Member State. Source: EU Joint Research Centre (JRC) [2]

1. *Art. 3, para 1 of Council Directive (EU) 2023/2413 of 18 October 2023 amending Directive (EU) 2018/2001, Regulation (EU) 2018/1999 and Directive 98/70/EC as regards the promotion of energy from renewable sources, and repealing Council Directive (EU) 2015/652 [2022] OJ (RED III), full text available here.*
2. *Note that this study's assessment for rooftop PV in particular is based on very conservative assumptions, and newer analyses show higher potentials.*

Given the incredible potential for rural renewables (see Figure 1 above), **most of the EU's renewable energy rollout will happen in rural regions.**[3] Even in energy scenarios which heavily emphasise energy demand reductions, such as the Paris Agreement Compatible (PAC) or CLEVER scenarios, the required scale of wind and solar capacity cannot depend solely on urban and industrial areas. While maximising deployment in these areas should be strongly encouraged, significant deployment in rural areas will remain crucial for the EU to achieve its renewable energy and climate targets.

Renewables can significantly benefit rural areas

Renewables can help address key challenges in rural areas, especially in remote and disadvantaged regions. This is achieved not primarily through directly creating jobs, but by providing competitive energy access and a sustainable economic activity, benefiting the population at large as well as land owners and municipalities. By boosting revenues for local governments, renewables can help finance social services and public infrastructures for residents and businesses, as well as revitalising degraded or abandoned areas. Further, renewables also offer rural areas the opportunity to be leaders in an important emerging sector and shape their energy transition.

How can renewables help address challenges in rural areas?

1. **Competitive local economies**

- **Competitive energy access.** Rural households often spend more on energy according to the IEA's latest World Energy Outlook (pp. 220 – 224). With the right conditions, renewable energy projects can benefit local businesses and consumers via cheap electricity supply.[4] This can even **attract local investments by emerging industries** through the 'renewables pull effect.'
- **Diversifying income sources.** Renewables can empower farmers to depend less on specific crop yields or agricultural subsidies. By supporting farms' income and economic stability, renewable projects can support farmers to better access loans and financing for agricultural equipment and components, the transition to sustainable and regenerative agriculture (SolarPower Europe, p. 21).
- **Advantages for farmers.** Unlike traditional power plants, renewables are unique in allowing farmers to keep harvesting the land even after construction, such as wind turbines integrated into fields and solar panels installed on agricultural buildings. Farmers can reduce costs and emissions with a switch away from fossil fuel-intensive practices to **direct electrification** (e.g. using electric over diesel tractors).

3. In discussing land estimations for 'renewables', we specifically refer to ground-mounted photovoltaics, onshore wind, and grid infrastructure (EEB, 2024) See also findings by Renewables Grid Initiative (2023) and The Nature Conservancy (2021).

4. This is contingent on important market conditions being met, i.e. locational pricing, network costs.

2. **Social Cohesion**

- **Improved public infrastructure and public services.** Taxes and revenues from renewable energy projects can fund rural development and **support environmental and climate adaptation efforts**.[5] For instance, new revenue streams for local municipalities hosting renewables can be used to set up community benefit funds to finance local services, such as public transportation and social programmes.
- **Empowering citizens and businesses through energy communities and self-consumption.** Rural areas often have more opportunities to install electricity storage and EV charging infrastructure, facilitating the establishment of energy communities. These projects allow residents to retain value locally, engage in the energy transition, and realise financial savings.

3. **Nature**

- **Protecting biodiversity and natural carbon sinks.** Careful land-use planning and nature-inclusive design can avoid renewables damaging protected areas and revitalise degraded or abandoned land. There is enough suitable land in Europe to roll out renewables in harmony with nature protection and restoration.

Good policy is needed for renewables to benefit rural populations

To realise these benefits and maximise the full potential of renewable energy in rural regions and avoid negative impacts on the environment, effective policies and inclusive processes will be key. If not addressed, poorly sited renewables projects not only risk damaging ecosystems but can also undermine public support. Policymakers need to address a number of challenges, both material and human:

1. **Careful land-use planning to maximise renewables deployment while fostering citizen engagement and ensuring environmental protection**

Engagement with local residents on renewable projects is key. Large-scale projects can significantly impact rural landscapes, including natural areas and habitats. Especially where projects only benefit few landowners or wealthier stakeholders, low acceptance can also result.

The RED III mandates EU governments to designate areas for renewables and grids via expedited permitting and consultation processes, and it is essential that this exercise is conducted well despite the time pressure.

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5. See Clausen & Rudolph (2020) 'Renewable energy for sustainable rural development: Synergies and mismatches,' available here.

- **Ensure early, open, and transparent consultation processes.** Authorities and developers should go beyond the RED requirements. Successful engagement addresses local concerns, for instance concerning noise and visual impact by allowing residents to influence project decisions. Proactive outreach and collaboration with active local stakeholders and networks can help to reach remote or otherwise isolated residents.[6]
- **Prioritise no-regret locations.** Governments and local authorities can avoid siting renewables projects in biodiversity-rich areas by instead privileging artificial and built-up areas with low biodiversity and agricultural value (e.g. brownfields, severely degraded, eroded or polluted land, farmlands facing abandonment, per RED III Art. 15(c)(1)(a)(i)).[7]
- **Adopt clear measures to mitigate environmental impacts.** Renewables Acceleration Areas (RAAs) should be accompanied by a clear 'mitigation rulebook' for their specific area.[8] Beyond RAAs, renewable energy projects should be combined with environmental restoration, avoiding soil sealing and degradation, and reducing visual impacts of new utility-scale installations.
- **Support dual and multiple land use.** Well-designed agrivoltaics and onshore wind can combine renewables with other activities, in some cases even resulting in improved agricultural performance (SolarPower Europe 2024, pp. 59-62). Floating solar on artificial waterways and irrigation canals should also be explored alongside innovative uses, such as integrating renewables with the emerging green tourism industry.[9]
- **Expand and modernise grid infrastructure.** Grid planning in rural areas should anticipate future needs, ensuring sufficient grid capacity for current and future electricity generation, rural electrification, storage, and heat pumps. Financial and technical support should be provided to enhance grids at all voltage levels and address congestion risks and coordination across regulatory authorities and distribution system operators. EU funding mobilised via the grid action plan, for instance, should be leveraged to address these needs.[10]

2. Ensure revenues from renewables empower and retain value in rural communities

To maximise local benefits from renewable energy projects, the distribution of benefits is key.

- **Project revenues should be directed to local populations.** These revenues can support a wide range of rural development needs such as public transport infrastructure, social services as well as funding environmental restoration. Estonia's local benefit scheme, where municipalities receive a percentage of

6. Local groups can include sports clubs, faith groups, trade unions, mayors and other community leaders.
7. Note that RED III Art. 15(c)(1)(a)(ii)) excludes Natura 2000 sites and protected areas from being designated as RAAS.
8. See European Commission's Guidance on designating renewables acceleration areas.
9. See the highly popular tourist destination Whitelee Wind Farm (Scotland). See also Mount Lucasa Wind Farm Walk and Cycle Park (Ireland) and Marine Spatial Plan examples of offshore renewable energy tourism, e.g. via educational boat tours of wind farms.

project earnings based on generation, exemplifies this approach. These should be informed by local needs and incorporated early on in project planning.
- **Lower electricity prices for residents and businesses** could be another means to share benefits for the local community and unlock economic opportunities by attracting industries to rural regions.
- **Municipalities should promote renewable energy communities (RECs)**. RECs enable rural citizens, farmers, and businesses to create, share and retain local value, promoting energy savings, economic benefits and social cohesion. In doing so, RECs can help foster engagement and local support for the energy transition by helping ensure benefits are retained in the community. National and regional governments should support the establishment of energy communities, for example via one-stop-shop advisory centres for interested citizens.

3. Strengthen administrative and technical capacity for local authorities

Accelerating renewables deployment in line with the RED III targets will require well-resourced local authorities. Art. 16(7) of the RED III highlights the need for 'sufficient qualified staff' to manage streamlined permitting processes, such as tacit approvals and fast-tracking environmental impact assessment screenings. This can place significant strain on local authorities, especially in rural areas which are often already under-resourced.

- National governments should **equip local authorities with skills and tools** for permitting, including expertise in legal processes, public engagement, mediation, and conflict resolution. Geographic Information System (GIS) tools for mapping environmental sensitivities alongside digitalisation efforts can further help streamline permitting feedback.
- To accomplish this, national governments must **align resources with real needs**. National governments are best situated to assess the capacity of local governments in consultation with project developers and trade union bodies. Effective information sharing on workforce availability and up/reskilling demand will enable the creation of employment strategies tailored to the real requirements on the ground.

10. This includes the Connecting Europe Facility, as well as funding under the upcoming Multiannual Financial Framework 2028-2034 and the financing tools of the European Investment Bank.

Conclusion

To establish rural areas as leaders in the energy transition and benefit from the unique opportunities renewables can provide and vice versa, the following four elements are essential:

- **Careful land-use planning**. Balance renewable projects with environmental and societal considerations, promoting the compatibility of renewable energy and agriculture to enhance land productivity and create added value in rural areas.
- **Community empowerment**. Foster renewable projects that ensure local participation and engagement.
- **Strategic use of revenues from renewables**. A fair distribution of benefits that retains value in rural communities will benefit residents, businesses, and infrastructure.
- **Administrative support**. Equip local authorities to ensure projects benefit local communities and do not harm the environment.

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