



Policy Recommendations for Diversifying Farmers' Income

Challenge overview:

Farming is often idealised as a way of life, linked with notions of cultural heritage, landscapes, and quality food. Finances may not be the first thing that comes to mind when thinking about agriculture, but farmers are entrepreneurs and need to run a business.

Farming is an activity that is linked with significant economic risks, such as volatility of international food prices and natural disasters. Additionally, the income of EU family farms is on average about 40% lower than the wages of employees in the whole EU economy.¹ Recently, Russia's war on Ukraine sparked a sharp increase of energy prices² that put the sector under pressure, with an overall increase of energy prices in agricultural production of 86% in 2022 compared to 2020.³

Producing renewable energy in farms can improve the income of European farmers by adding a new source of revenue and/or reducing energy costs. This paper will analyse technical aspects and business models to accelerate the deployment of renewable energy in farms.

Technical infrastructure

Better rural grid infrastructure

Europe is steadily urbanising, with cities concentrating around 75% of its population and 80% of its energy consumption in only 4% of its total surface.⁴ Farms cover 46.4 % of EU land area⁵ and together have a huge potential to produce energy from several renewable energy sources, such as bioenergy, solar energy, and wind. To harness this potential, it is essential to develop the electricity grid in urban areas, reinforcing it at the distribution level to allow for more deployment of in-farm renewables, and at the transmission level to move electricity from rural areas to urban centres.

ENTSO-e and ENTSO-g, the organisations representing European electric and gas grid operators respectively, regularly update their joint Ten-Year Network Development Plans (TYNDP)⁶. These plans identify grid infrastructure needs, based on their own energy scenarios to meet EU 2030 targets and climate neutrality by 2050. We recommend that the modelling teams of ENTSO-e and ENTSO-g consult

¹ European Commission, 2024. [Income support explained](#)

² Trading Economics, 2024. [EU Natural Gas TTF](#)

³ European Economic and Social Committee, 2023. [Opinion on the impact of high energy prices on the agricultural sector and rural areas](#)

⁴ Eurocities, 2019. [Part of the problem, part of the solution](#)

⁵ Eurostat, 2022. [Farms and farmland in the European Union](#)

⁶ ENTSO-e, 2024. [TYNDP 2024](#)





relevant rural stakeholders and pay close attention to the deployment of renewable energy in farming areas, both for electricity and renewable gases.

Dispatchable renewable energy

The EU's renewable energy target of 42.5% in gross final consumption of energy by 2030 is expected to translate into 69% of renewable electricity in the electricity grid. More than 50% of the total electricity in 2030 is expected to come from wind and solar.⁷ Since the start of the Russian war in Ukraine, natural gas is no longer generally seen as the safe bet for cheaply adding flexibility to the electricity grid that it once was. In this difficult international context, Europe needs to add new capacity of domestic and carbon free dispatchable power (in addition to energy storage capacity) to meet demand peaks and production valleys for electricity.

Farmers can play a role in stabilising the electricity grid by investing in renewables that can be ramped up on demand (either seconds or minutes till full load), such as biogas plants and some solid biomass plants. Public investment should prioritise the construction and repurposing of plants to operate in a setup that maximises flexibility. For example, a biogas plant that was designed to run continuously in a baseload setup (i.e. 24/7), can be retrofitted with an engine of six times the electrical output to operate on average 4 hours a day. While requiring more investment, adding power the engine would allow its operator to fetch much higher prices in electricity markets, boosting its revenues. With the right remote-control technology, third party traders can steer hundreds of small flexible units for a fee as a "virtual power plant" to fetch the best electricity market price for farmers.⁸

Policy Recommendations:

- *While preparing their TYNDP plans and scenarios, ENTSO-e and ENTSO-g should consult relevant rural stakeholders and pay close attention to the deployment of renewable electricity and biomethane from farming areas.*
- *More public investment to support the construction and repurposing of renewable plants to operate in a setup that maximizes flexibility for biogas, biomass CHPs, and hydroelectric power.*
- *Provide public investment support to install remote-control technology in renewable energy plants to use them as virtual power plants.*

Alternative business models for in-farm renewable energy

Farmers do not need to work on their own. Just as millions of them have created powerful agricultural cooperatives in the past, they can also join forces with others now to deploy renewable energy. The

⁷ Ember, 2023. [EU member states target 66% renewable electricity by 2030, slightly short of the REPowerEU 69% goal](#)

⁸ Entsoe, 2024. [Virtual Power Plants](#)





agricultural sector can find synergies with energy consumers, project developers, and industry – among other actors – to bring in funding and expertise on clean technologies.

Renewable energy communities

Local energy communities can bring together citizens, businesses, public authorities, and other willing actors to design, finance, deploy, and/or operate renewable energy facilities for the benefit of the community. There are over 9000 energy communities across the EU, and there is potential to create many more. Energy communities can help to mobilise local resources and be used as legal structures to apply for financial support.⁹ A legally-constituted energy community can sign [Power Purchase Agreements](#), which are long-term energy contracts intended to give long-term price certainty to renewable energy producers and buyers.

The [Renewable Energy Directive](#) and the [Internal Electricity Market Directive](#) set the key principles for the setup and functioning of energy communities, with national legislation also applying to them. REScoop, the European Federation of Energy Communities, prepared an [online tracker](#) assessing how the implementation is progressing for EU provisions on Renewable Energy Communities and Citizen Energy Communities (see Figure 1). We recommend that EU member states review their national policies for Renewable Energy Communities and integrate the changes [proposed by REScoop, including the following](#): support schemes that are adapted, fair and proportionate licensing procedures, removing unjustified regulatory and administrative barriers, capacity building for public authorities and providing accessible information for interested parties.

Energy communities can help farmers to build renewable energy capacity such as wind and solar installations, hydroelectric power, biomass plants and geothermal facilities. We recommend that public authorities actively provide information to farmers on energy communities via the [Farm Advisory System](#) of the Common Agricultural Policy.

Contacts and practical information to create energy communities:

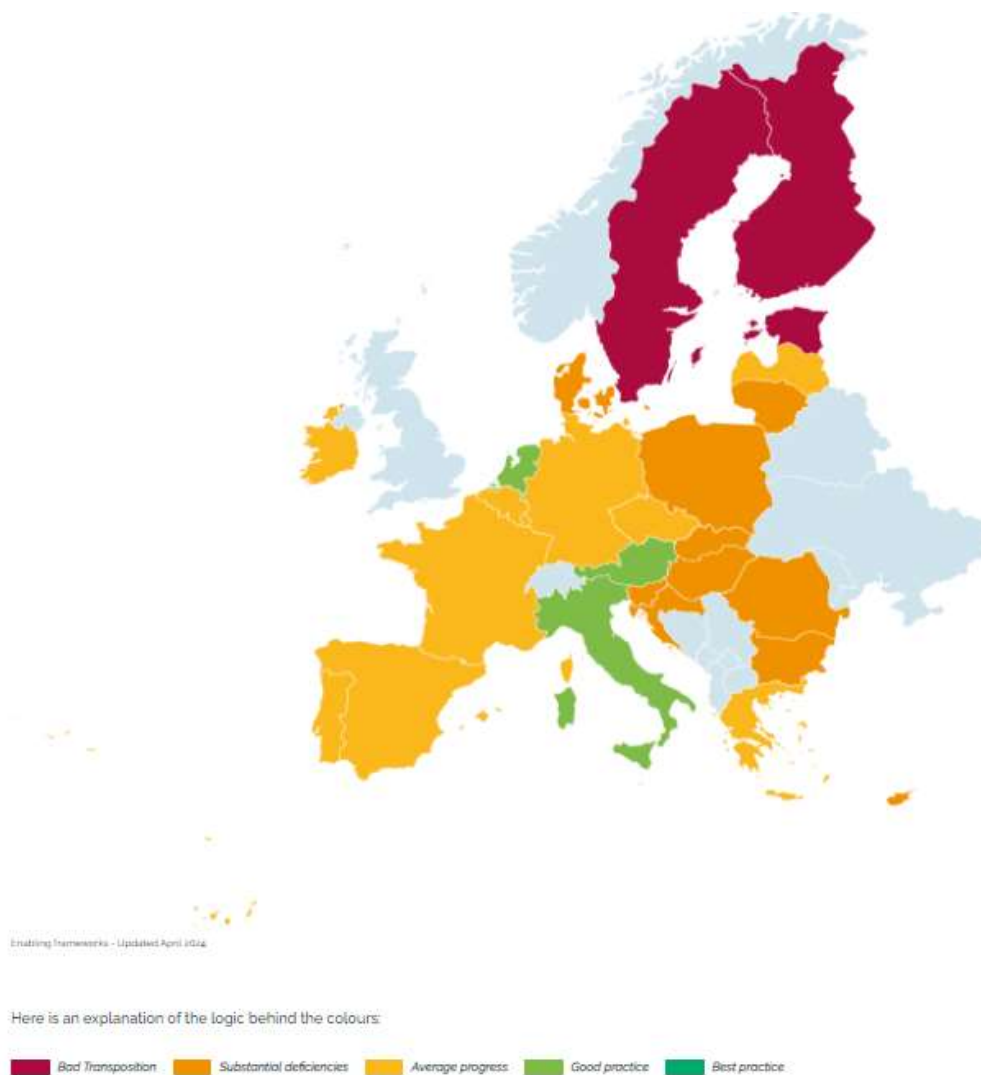
- The [Energy Community Platform](#) is a co-financed European project with best practices, technical documents, online tools and a [funding guide](#).
- [REScoop](#) is the European Federation of Energy Communities, a network that brings together over 1.500 energy communities.

⁹ European Commission, 2022. [Energy communities to transform the EU's energy system](#)





Figure 1: Transposition of Enabling Frameworks & Support Schemes for Energy Communities in EU countries.



Source: REScoop, 2022. [Transposition tracker of energy community definitions](#)

Third-party ownership

In-farm renewable energy installations may be owned by an entity that is not the farm itself, an arrangement that can suit a farm that lacks the funds to invest by itself. These entities could be developers, investors, or public institutions. As the owners, they would build and operate the plant (or contract these services from another party). Depending on the agreement, the host farmer may get energy at a preferential rate (usually under a PPA) or pay a lease for using the energy with the option to buy the installation at an agreed date. Third-party ownership is a well-known method to deploy



The RES4LIVE project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement No 101000785.

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photovoltaic projects in the United States.¹⁰ More recently, this business model has been tested in Europe in combination with circular economy approaches in the [CIRCUSOL Horizon 2020 project](#).

Third-party capital can speed up the deployment of photovoltaic systems in privately owned land, provided that both farmers and investors find mutual gain. Projects should focus on non-productive areas, as well as combining food and energy production in agrivoltaic systems. We recommend that the European Commission provides guidance on how to use third-party ownership schemes to deploy renewable energy in private land.

Policy Recommendations:

- *EU countries should review their national policies on Renewable Energy Communities and integrate the changes proposed by RESCoop in its [Transposition tracker](#)*
- *National and subnational authorities should actively inform farmers about energy communities via the [Farm Advisory System](#) of the Common Agricultural Policy and other available channels.*
- *The European Commission should provide guidance on how to use third-party ownership schemes to deploy renewable energy in private land.*

¹⁰ United States Environmental Protection Agency, 2024. [Understanding Third-Party Ownership Financing Structures for Renewable Energy](#)

