EEB
European Environmental Bureau

Policy Brief: Nature-Positive Renewables

Building on the Paris Agreement Compatible (PAC) energy scenario

Nature-Positive Renewables

Summary for Policy Makers

September 2022

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Introduction

Addressing climate change and biodiversity loss has never been more urgent. According to the International Panel on Climate Change (IPCC), half of the global population lives in areas particularly exposed to climate change, which undermines ecosystems, biodiversity, food systems, as well as economic, social and health conditions. Furthermore, the mutual reinforcing of climate change and biodiversity loss requires tackling both in a joint, synergic manner to effectively resolve either issue, as these crises are closely interconnected and share common drivers through human activities.

Data from the European Environmental Agency (EEA) show that the energy sector is still responsible for 71% of total GHG emissions in Europe, comparably to the share registered at the global level. To ensure that the EU reaches net zero emissions by 2040 and meets its climate and biodiversity targets, EU Member States need to quickly phase out fossil fuels, commit to a strong reduction in energy consumption, and transition to an energy system that is 100% based on renewable energy sources (RES) by 2040. In this respect, the **Paris Agreement Compatible (PAC) scenario** illustrates a pathway for the transition of the EU's energy system that is in line with EU's commitments under the Paris Agreement.

The war in Ukraine has reinforced the downsides of a strong energy dependence of Europe on Russian fossil fuels. In a context where the EU needs to boost its energy sovereignty and reduce its dependency from unsafe, climate harming sources, it has now become even more urgent to swiftly scale-up renewable energy capacity. In parallel, the EU must focus on reducing its energy consumption and raw materials needs. Energy efficiency and sufficiency measures, coupled with a circular economy approach towards materials production and use, are therefore key.

However, for Europe to be successful in pursuing its climate and biodiversity targets jointly, the energy transition must be carried out at the least environmental cost.
As acknowledged in the EU's Biodiversity Strategy for 2030, resilient ecosystems are crucial to tackle the climate crisis, as they can be a major factor for climate mitigation and adaptation.
Therefore, the deployment of renewables cannot be carried out at the detriment of nature protection which, on the contrary, must represent the basis of renewables spatial planning.

Significant deployment of additional renewable energy capacity renewables should be prioritised in already developed areas where renewables facilities and infrastructure will have the least impact on nature.
Moreover, renewables roll-out should aim to achieve an overall positive impact on nature and local communities. Mitigation strategies must be implemented to reduce environmental impacts and seek to produce regenerative effects for nature, while improved public participation and innovative economic models must be fostered to enhance the role of citizens and communities in the European energy landscape. In fact, what Europe needs is a Nature-positive, people-centric energy revolution.

This summary for policymakers presents the key findings of the **EEB's policy brief on Nature-Positive Renewables**. Building on the PAC scenario results, the policy brief outlines the main environmental and social challenges associated with renewable energy expansion, and it provides suggestions for corresponding policy inputs in relevant EU legislation.

The challenge

To achieve net-zero emissions by 2040 and meet its climate targets, the EU needs to quickly phase out fossil fuels, commit to a strong reduction in energy consumption, and transition towards a 100% renewables-based energy system. According to the PAC scenario results, the **EU's renewable energy supply needs to be scaled up by a factor of 2.5 from the current level to 2050**. It is worth noting that, without due investment in energy efficiency and sufficiency in the coming decades that 2.5 factor would be considerably higher, thereby highlighting the importance of matching energy supply and demand through a mix of both supply and demand-side measures.

In the coming decades, **EU Member States will have to significantly increase the deployment of renewable energy technologies and to provide for their integration in the energy system**. On the one hand, wind and solar technologies look destined to play a key role in the expansion of renewable energy capacity in Europe. Biomass, biogas, and hydropower are, on the other hand, expected to play a marginal role in the future EU's energy mix, mainly due to these technologies' often problematic sustainability profile.

However, the envisaged, accelerated uptake of renewables entails changes in land use as well as an increased need of raw materials to manufacture the turbines, solar panels, and other assets needed for the transition. Most importantly though, installing renewable energy technologies and related infrastructure might entail various degrees of habitat fragmentation, and **could result in adverse biodiversity impacts if proper safeguards are not put in place**. These impacts are mainly due to the interventions needed in the locations of the projects which often lead to the modification or removal of natural or agro-ecosystems, as well as the disruption of migratory patterns and habitats of vulnerable species.

Oftentimes linked to the site-specific environmental concerns, renewable energy projects can be a driver of **socio-political resistance** when local communities are not properly involved through public participation and are excluded from the projects' benefits. Unclear, overly complex, and non-transparent permit-granting procedures across the EU Member States can further exacerbate resistance from local communities, thereby posing the risk of slowing down renewables deployment rate.

The success of the energy transition will ultimately rely on **scaling up renewable energy capacity in harmony with nature protection and by involving local communities, while at the same time reducing energy and material consumption** through increased energy efficiency and sufficiency, and enhancing circularity in the use of resources and products.

The solutions

Adopt sound spatial planning criteria. Strategic spatial planning based on environmental sensitivity mapping is of utmost importance to deploy additional renewable energy capacity without hampering ecosystemic services and biodiversity. While mapping can provide crucial information on the environmental sensitivity of specific sites, planning should follow accordingly by **directing the development of renewable energy projects to the least sensitive areas**.

Establish clear renewables 'go-to areas'. To cover the EU Member States' projected renewable energy needs, the identification of renewables 'go-to areas' should be guided by a Strategic Environmental Assessment (SEA) to identify zones where the projects would have very limited impacts on biodiversity and the broader surrounding ecosystems.

These areas would include, inter alia, **industrial areas, commercial areas (roofs), motorways and railways, parking lots and degraded land not usable for agriculture**. Permit-granting procedures should be streamlined and facilitated in these areas, provided that citizens and civil society are involved in the process of site designation, also to make sure that social vulnerabilities are duly considered.

Fully implement existing EU environmental legislation. The rule of law and existing environmental legislation such as the Birds and Habitats Directives or the Environmental Impact Assessment Directive (EIA) remain key and are **not an obstacle to progress, as they provide plannability for renewable energy developers and certainty in the permit-granting process.** As for streamlining permit-granting processes, the identification of renewables 'go-to areas' through an SEA and the subsequent screening of project applications in compliance with the EIA Directive will reduce the need to carry out full project-specific EIAs in most cases.

Designate clear space for nature. In order to strike a balance between climate and nature protection considerations, while the needed renewable capacity will be deployed in the most favourable areas from an environmental perspective, clear space for nature should be established in the spatial planning process. These areas would include **all strictly protected areas as well as areas subject to nature restoration measures and Natura 2000 sites**. While there is no blanket ban on renewables in Natura 2000 areas under the Birds and Habitats Directives, an appropriate assessment needs to be carried out to ensure that projects do not adversely affect the integrity of the site. As the result of the assessment will most likely be negative, these areas would serve as de facto 'no-go areas' for large scale renewables energy projects.

Promote nature-friendly solutions. In deploying additional renewable energy capacity, it is key to minimise any disruption to ecosystemic services and biodiversity. Planning of additional renewable energy capacity and related permit-granting processes should therefore promote low-disruption renewables projects fitted with Best Available Technologies **to mitigate their impact and even seek synergies that can benefit biodiversity**, such as for certain applications of agri-PV. Minimising land use, limiting disruption during construction of renewables plants and infrastructure, and developing biodiversity-friendly operational procedures for solar and wind energy installations are further examples of nature-friendly solutions that should guide renewables development in Europe.

Put energy efficiency and sufficiency first. When planning the total renewable energy deployment needed in each EU Member State, public authorities at all levels should apply the Energy Efficiency First principle and promote energy sufficiency measures. This means considering all available measures to reduce energy consumption in Europe, and therefore **reduce the needed renewable energy deployment to the minimum necessary** to ensure security of supply.

Focus on administrative bottlenecks. Barriers related to administrative processes are among the most important factors hindering renewables development in Europe, where high complexity, long duration and low transparency of administrative procedures are registered in several EU Member States. These issues must be addressed by fostering digitalisation and establishing one-stop-shop contact points in permit-granting procedures, but even more importantly through **providing appropriate financing to improve staffing and administrative capacity in competent authorities at all levels**.

Include local communities. Early-stage, transparent, and meaningful public participation processes can play a fundamental role in speeding up the planning and permit-granting processes, as they ensure that potential environmental and social concerns, including possible related legal issues, are addressed early on in the process. Furthermore, involving local communities can prove highly beneficial in **raising awareness on the local benefits of renewable energy as well as identifying and mitigating potential risks and misperceptions**. Faster permitting should not lead to less opportunities for citizens and local communities to engage in the permitting process. Through EIAs, local communities get an opportunity to be consulted on a project nearby. Consultations under SEAs of national or regional plans are of a different nature and cannot be used as an argument to replace consultations under EIAs of nearby projects.

Prioritise distributed, community-owned projects. Renewable energy installations in the context of collective renewables self-consumers and Renewable Energy Communities should benefit from administrative, technical, and financial assistance to play an active role in the energy system. As the most substantial social benefits of renewables are associated with indirect project outcomes and investment of project revenues in local communities and territorial services, **priority should be given to projects where the population retain a tangible share of the added value generated** (i.e. via rebates in the electricity bill, shares in the projects yielded to the affected local community). If people are involved in a project, then they are much more likely to see the benefits of it and this can hugely increase acceptance and support. In addition, people who get involved in community energy projects gain greater knowledge of energy issues and as a result are more likely to curb their energy use.

Conclusions

The fight against climate change is a race against the clock. **Transitioning to renewable energy rapidly and at unprecedented scale is a precondition if we are to limit global warming to 1.5°c** as enshrined in the Paris Agreement. The current war in Ukraine has further exacerbated the issues linked to Europe's dependence on Russian gas and oil, thus making the transition to renewable energy more urgent than ever before.

Transitioning to renewable energy comes with cross-cutting benefits that far outweigh their impacts when compared to fossil fuels. The potential environmental impacts of renewables are mainly related to their location and related infrastructure which, if not planned accordingly, might result in adverse effects on biodiversity and the surrounding ecosystems. Thus, **careful mapping and sound spatial planning are key to identify suitable and unsuitable areas** and direct the deployment of renewables installations accordingly.

There is a particularly crucial issue where an equilibrium between broad environmental protection and renewable energy deployment needs to be found: permitting. **Striking a balance between nature protection and streamlined permit-granting procedures is key to achieving a Nature-positive renewable energy transition**. This requires establishing clear renewables 'go-to areas' alongside providing for adequate financing to improve the administrative capacity of permit-granting authorities to handle project applications effectively and timely and address potential environmental concerns beforehand. These areas of low ecological value should aim to accommodate the majority of additional RES capacity needed by EU Member States to achieve their national contributions by 2030 and to move to 100% renewable energy by 2040.

Nature protection and restoration objectives must equally be held in consideration for those areas (among which strictly protected marine and land areas, protected areas, Natura 2000 sites) where renewables deployment could adversely affect ecosystems and biodiversity. **Permit-granting for renewables in protected and strictly protected areas must be fully subject to EU environmental and nature legislation**, in practice making these 'no-go' areas for any renewables development other than small-scale installations for self-consumption.

In permit-granting procedures, full implementation of EU's environmental legislation is crucial to ensure that, at project-level, **all potential adverse effects of renewable energy installations on the environment are prevented and mitigated**. This is especially true in protected and strictly protected areas, but also for medium to large-scale renewable installations in rural areas and 'buffer zones' (i.e. non protected land and sea areas which are in proximity or anyway impact on protected areas).

Social considerations need to be factored-in when planning additional renewables deployment. EU Member States should give priority to distributed, community-owned projects, and make administrative and financial assistance available to **ensure actors such as renewables self-consumers and Renewable Energy Communities can play an active role in the energy system**. Furthermore, public participation must be central to the identification of renewables 'go-to areas', as well as in project-level approval processes. Public opposition to renewables development cannot be lessened using a top-down approach. Rather, it should be used to develop **better engagement processes, to understand local needs and use the energy transition to meet those needs** and to contribute to citizens empowerment and stronger democratic structures.

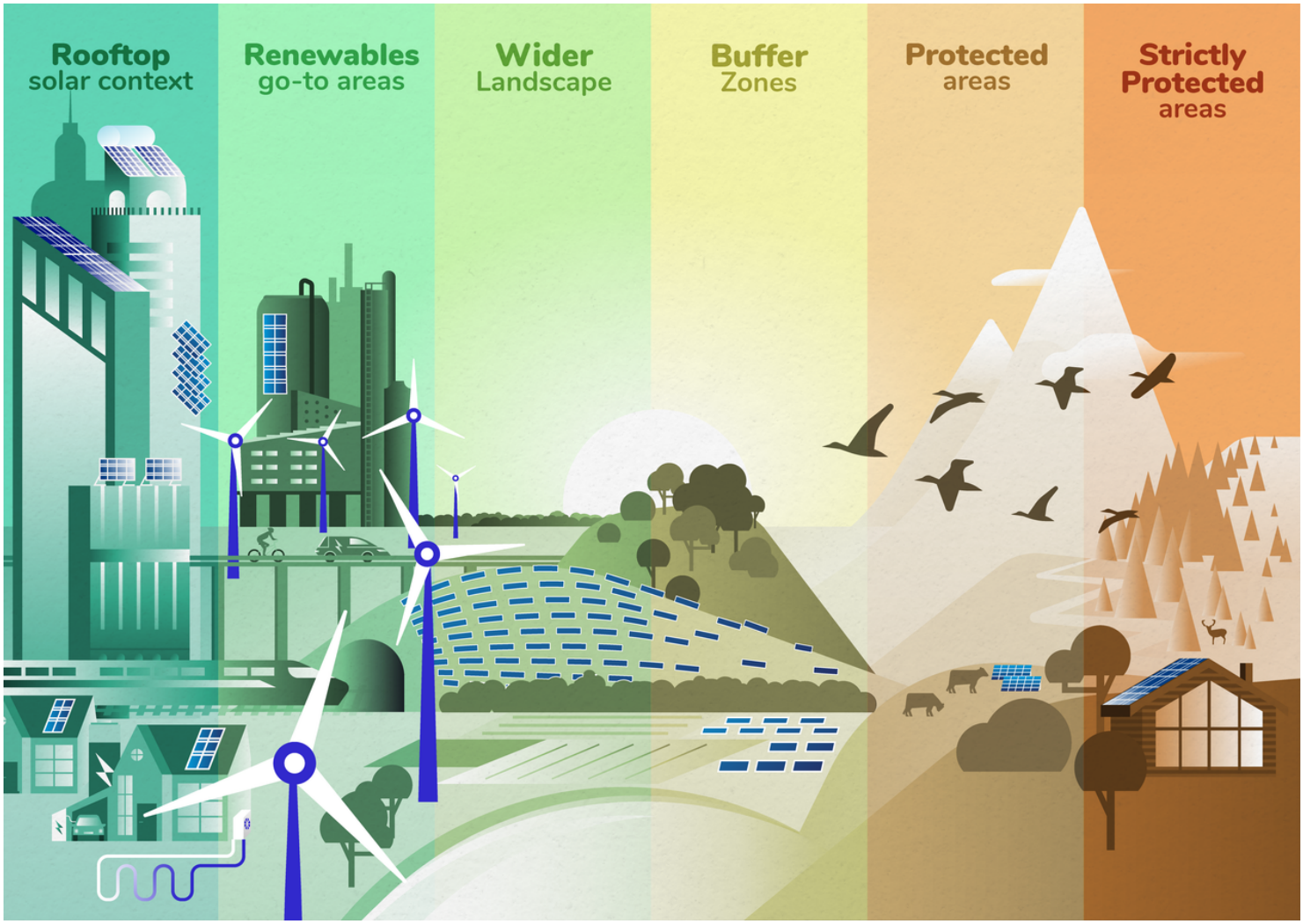
The needed scale of renewable energy deployment will ultimately depend on Europe's ability to reduce its energy and material consumption through **increased energy sufficiency, technological efficiency, and enhanced circularity**. Investments in energy efficiency and the promotion of energy sufficiency measures will be pivotal in this respect, along with ambitious sustainability criteria on raw materials sourcing and concrete measures to improve circularity.

If the proposals included in this brief are heeded, integrated into political commitment, and implemented, then the EU legislation will be able to catalyse a **nature-positive, people-centric renewables transition that is so essential to jointly step-up climate change mitigation, nature protection, and energy security**. Such a transition will also help strengthening household and business resilience to energy prices volatility and ensure that the EU as a whole is better equipped to effectively pursue its climate neutrality and nature protection ambitions despite geopolitical conflicts.

Download the full EEB Policy Brief on Nature-Positive Renewables

RES strategic spatial planning

Zoning proposal



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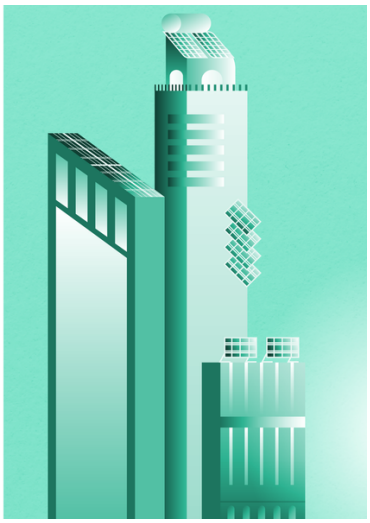
RES strategic spatial planning

Policy toolboxes

Rooftop solar context

Priority for solar development integrated in built environment

- Solar on rooftops and integrated into buildings (non-heritage)
- Accelerate solar roll-out and improve energy efficiency
- Remove administrative barriers to installation
- Foster public engagement and community projects



Renewables go-to areas

Priority for large-scale RES installations on artificial surfaces

- Industrial sites, transport infrastructure, brownfields
- 2030 Concentrate bulk of RES needs to 2030
- Accelerate permitting and improve administrative capacity
- Foster public engagement and community projects

Wider Landscape

Facilitate RES development and integration with existing land uses

- Peri-urban, agricultural land, non protected areas
- 2040 Use for residual RES needs to 2040
- Streamline approval process without undermining environmental protection
- Promote mitigation measures & synergies with biodiversity and other land uses

Buffer Zones

Facilitate RES development where not impactful on nature

- Non protected natural areas which impact on protected areas
- RES where compatible with closeby protected areas and restoration needs
- Streamline approval process without undermining environmental protection
- Careful environmental sensitivity mapping

Protected areas

Strict assessment of RES projects, priority for nature restoration

- 20% EU land & sea areas (Natura 2000 sites and other protected areas)
- Small-scale RES where compatible with restoration objectives
- No deterioration of conservation status
- Full assessment under EU Nature Directives

Strictly Protected areas

No RES development, priority for nature restoration

- 10% EU land & sea areas in line with EU's 2030 biodiversity strategy
- Only rooftop solar for self-consumption on pre-existing buildings
- No deterioration of conservation status
- Full assessment under EU Nature Directives

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Nature-Positive Renewables: Building on the Paris Agreement Compatible Scenario Results