

Regulatory Framework in EU on local energy communities

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What is APPA Renewables?

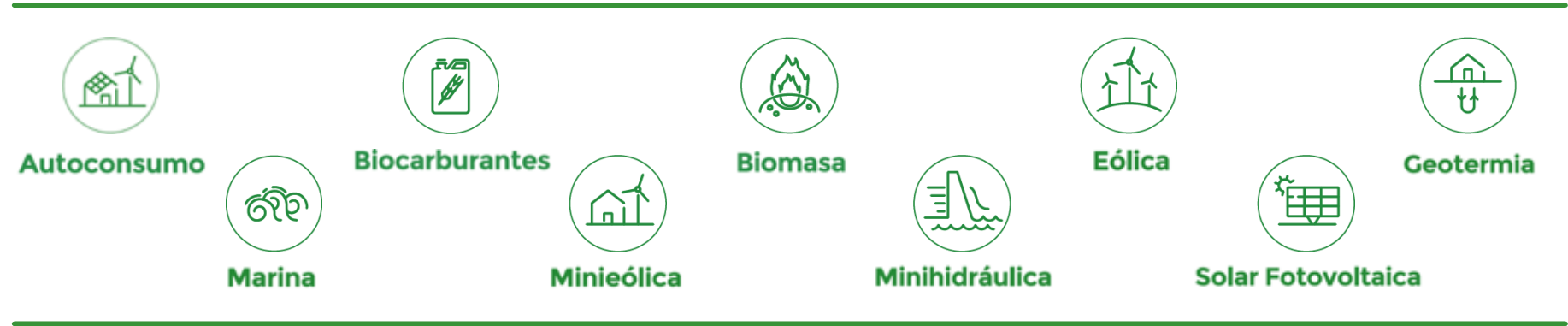
Business Association

Born 1987

Active in Spain and Europe

All the renewable technologies

Integrated vision for the national renewable development





Permanent member of the **Consejo Consultivo de la Electricidad**



The only business association in its **Consejo Rector**



Founder member of the **Comité de Agentes Mercado de la Electricidad (CAM)**



Principal of several **Certification Committees**

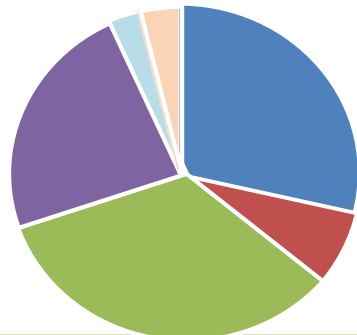
Active in many other public entities: Regional energy agencies, technological

APPA Renovables has nearly **400** associated companies. APPA Renovables works for more than **33** years for the interests of its members. All the renewable technologies are gathered in APPA Renovables.



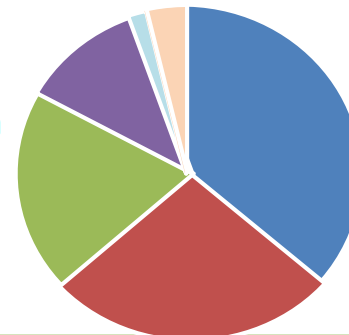
- **National targets:**
 - **23% reduction in greenhouse gas emissions compared to 1990**
 - **39.6% improvement in energy efficiency**
 - **42% of final energy consumption is renewable in 2030**
- **Electricity sector:**
 - **Renewable electricity generation in 2030 will be 74%**
 - **An increase in renewable energy: a total of 157 GW**

Power installed in 2019



■ Eolica ■ Solar fotovoltaica
■ Ciclos combinados ■ Hidraulicas
■ Solar termoelectrica ■ Otras tecnologias

Power installed in 2030



The PNIEC 2021-2030 sets an ambitious goal that implies an acceleration of the energy transition from (0,83% /year to 2,2% year)

Generation park modification 2020-2030

Parque de generación del Escenario Objetivo (MW)				
Año	2015	2020*	2025*	2030*
Eólica (terrestre y marítima)	22.925	28.033	40.633	50.333
Solar fotovoltaica	4.854	9.071	21.713	39.181
Solar termoeléctrica	2.300	2.303	4.803	7.303
Hidráulica	14.104	14.109	14.359	14.609
Bombeo Mixto	2.687	2.687	2.687	2.687
Bombeo Puro	3.337	3.337	4.212	6.837
Biogás	223	211	241	241
Otras renovables	0	0	40	80
Biomasa	677	613	815	1.408
Carbón	11.311	7.897	2.165	0
Ciclo combinado	26.612	26.612	26.612	26.612
Cogeneración	6.143	5.239	4.373	3.670
Fuel y Fuel/Gas (Territorios No Peninsulares)	3.708	3.708	2.781	1.854
Residuos y otros	893	610	470	341
Nuclear	7.399	7.399	7.399	3.181
Almacenamiento	0	0	500	2.500
Total	107.173	111.829	133.802	160.837

*Los datos de 2020, 2025 y 2030 son estimaciones del Escenario Objetivo del PNIEC.

Fuente: Ministerio para la Transición Ecológica y el Reto Demográfico, 2019

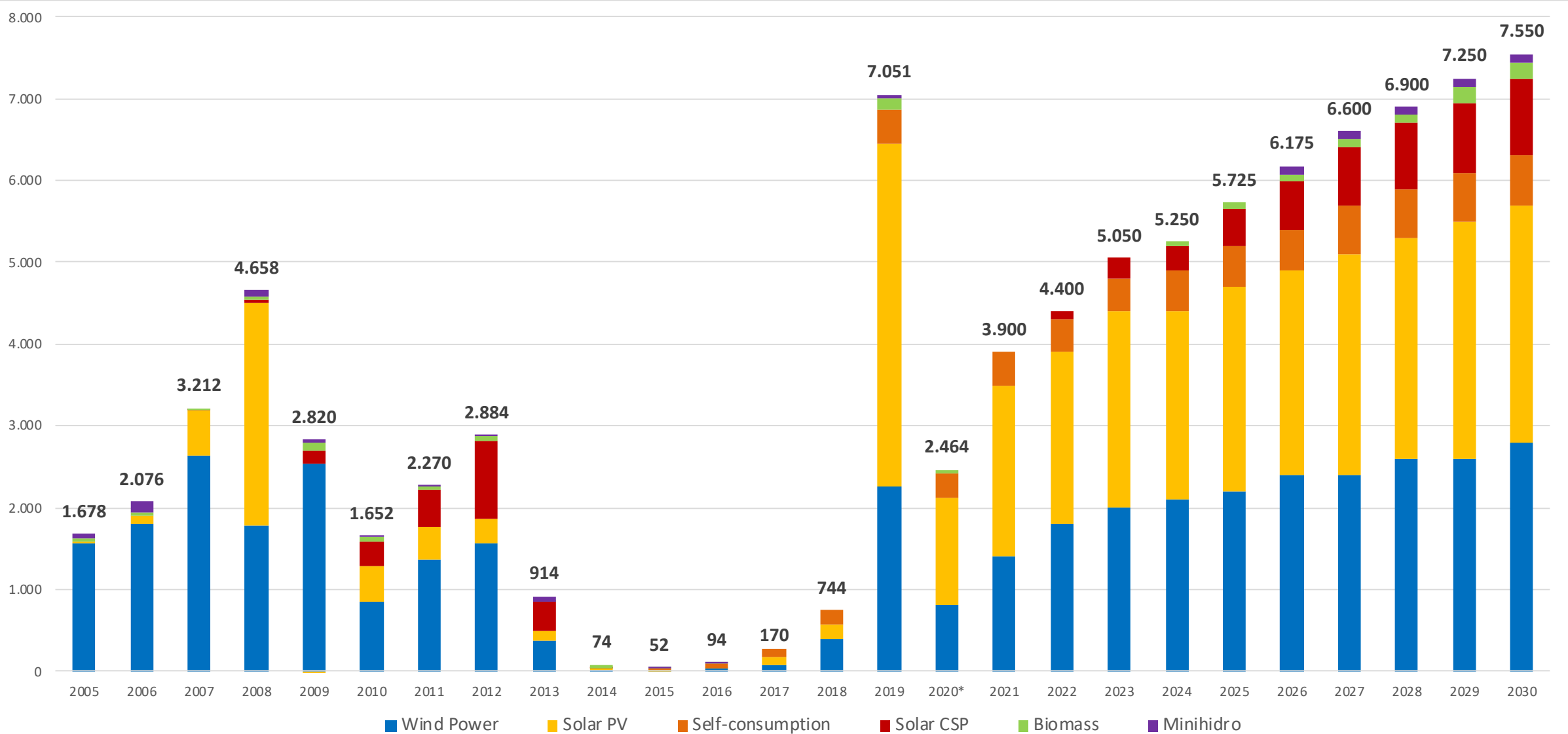
○ During the next decade:

- +22.290 MW wind
- 75 MW wind offshore
- +30.770 MW PV
- + 5.000 MW thermosolar
- Disappearing Coal
- Gas holding up
- - 4.218 MW nuclear

The plan does not specify the power for PV self-consumption regime, it is included within the photovoltaic solar technology plan, although a scenario of isolated self-consumption installations (not connected to the grid) will be 30 MW by 2030.

PV will be the fastest growing energy technology. A huge potential for shelf-consumption.

Installed Capacity (september 2020) and Roadmap 2030



Source: REE, CNMC and estimated from APPA Renovables. * Year 2020 until september

- ☐ Secure integration of EERR Technologies to increase the manageability of renewable generation.
- ☐ Adaptability by demand, flatten the demand curve.
- ☐ Increase energy efficiency.
- ☐ Integrate distributed generation.



- ☐ Energy storage technologies.
- ☐ Increased flexible generation.
- ☐ Development of intelligent loads.
- ☐ Development of interconnections
- ☐ Technological innovation.
- ☐ Flexible consumers and smart networks.

- In the Renewable Energy Directive (REDII)
 - 'Renewable energy communities'
 - 'Jointly acting renewables self-consumers'
- In the recast Electricity Directive
 - 'Active consumers'

Next Steps:

Transposition deadlines:

- REDII: 30 June 2021
- Electricity Directive: 1 January 2021

- Potential **production of renewable energy**
 - About half of the EU households (~113 million) have potential to produce energy in 2050
 - PV rooftop generation in 2030: 120 TWh to 145 TWh , with 27% RE share at EU levels.
 - Total share of self-consumption of the final residential electricity consumption in 2030: 5% (without battery) up to 10% (with battery)
- Potential for **decarbonisation**
 - RE self-consumption contributes to GHG savings if it replaces conventional generation.

Citizens do not always behave rationally based on economic conditions.

Drivers

- Desire of citizens to **contribute to tackle the climate change** problem
- Desire of citizens to decentralise energy production
- Desire of citizens to create **sense of community**

Barriers

- Economic framework conditions do not necessarily correlate with PV expansion
- Lack of knowledge, **education** in energy related topics necessary
- Need for participation in competitive markets (e.g. auctions for energy communities) leading to a higher risk of negative impacts
- Data security and complexity (regarding markets and in the context of smart grids)

- **Individual self-consumption** is already widely practiced across Europe
 - The prevalence of individual self-consumption models largely depends on the **regulatory regime and economic incentives**
 - The CEP introduces a **right to individual self consumption**
- **Collective self-consumption and «energy sharing»** have been developing in some member states in recent years
 - Through a regulatory framework (e.g. FR, PL)
 - Through regulatory sandboxes or pilot projects (e.g. UK, NL)
 - The CEP formally introduces **«jointly acting self-consumers»** (within a building) and **«energy sharing»** (within CECs and RECs) in the EU framework

- Spain was among the first movers to partially implement article 21 of RED II with the Royal Decree RD244/2019.
- Collective self-consumption. Several consumers can associate with the same generation plant, an addition that will boost self-consumption in communities of consumers or between companies and industries located in the same location.
- The production of one single installation is shared among the associated consumers/prosumers according to a ratio (static coefficients) defined by them and communicated to the distribution company in charge of the energy readings.
- Normally this ratio will be equal to each customer investment in the facility, but this is not a rule.
- The only rule is that the ratios must add up 100%.
- The distribution company collects the reading of the installation and, on an hourly basis, allocates the part of production belonging to each customer/prosumer and makes the hourly balance between consumption and production.

Spain

On 6th of April Royal Decree 244/2019, of 5th of April, was published in the Official State Gazette, regulating the administrative, technical and economic conditions of self-consumption of electrical energy, which implies a profound reform of self-consumption in Spain. https://www.boe.es/diario_boe/txt.php?id=BOE-A-2019-5089

France

With the Ordonnance n° 2016-1019 of 27 juillet 2016 relative to the self-consumption of electricity, the system of self-consumption has been reformed introducing also the concept of **collective selfconsumption**.

<https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000032938257&categorieLien=id> Following a consultation process, the Commission de Regulation de l'Energie adopted a decision **regulating network tariffs for collective self-consumption**.

<https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000037257966&categorieLien=id>

https://www.legifrance.gouv.fr/jo_pdf.do?id=JORFTEXT000037257966

Greece

The new law 4513 was voted by the Greek Parliament and published on January 23rd, 2018. **Citizens, municipalities and small and medium-sized local businesses are encouraged to directly participate in energy projects, with priority being given to Renewable Energy Sources**

https://www.kodiko.gr/nomologia/document_navigation/341480/nomos-4513-2018

Germany

In July 2017 the tenant electricity model (in German, also translated as 'landlord-to-tenant electricity supply model') was formalised by the German government with a dedicated subsidy framework for this model set out in an amendment to the German renewable Energy Act (EEG) 2017.

https://www.bmwi.de/Redaktion/EN/Downloads/renewable-energy-sources-act2017.pdf?__blob=publicationFile&v=3

Austria

From 2017 it will be possible to implement an energy sharing model at the condominium level in Austria.

<https://www.ris.bka.gv.at/GeltendeFassung.wxe?Abfrage=Bundesnormen&Gesetzesnummer=20007045>

Switzerland

In January 2018 **Switzerland** introduced an innovative regulatory framework for collective selfconsumption which could be applied to any distributed energy technology
Ref. Swiss Energy Act (Energiegesetz, EnG) Art. 16/17

- Financial schemes for EE (BE, CR).
- Specific grid tariffs for collective self-consumers – also a barrier (FR).
- (RES) funding, support schemes, subsidies (DE, NL).
- Tax advantages (NL, DE)

- Lack of/insufficient regulations on energy communities (BE, IT, PT...)
- Outdated/complicated laws (NL) and procedures (CR)
- Insufficient deployment of relevant metering devices (CR)
- Lack of political recognition of importance of energy communities (CR)

Recommendations. Energy communities

- Policies should support inclusion (e.g. vulnerable, low-income households)
- Provide clear, simple and proportionate regulatory frameworks.
- Provide understandable and convincing economic incentives.
- Acknowledge/define energy communities as non-commercial market actors
 - Include socio-economic aims
 - Clearly differentiate from other activities/support for other commercial market actors
- First: Assess potential/barriers, then create enabling framework
- Citizens and local authorities need tools to help build capacity to use new opportunities
- Participation of all citizens should be promoted to ensure social inclusiveness
- Market data provision e.g. from smart home devices should be user friendly

- The Clean Energy package introduces a more formal framework for active consumers and citizen energy projects.
- New market structure may be needed for prosumers (e.g. peer-to-peer model or microgrids)
- The Directives leave a lot of flexibility to Member States to adapt to the national specificities and existing situations
- From a regulatory perspective, the priorities are to:
 - Ensure self-consumption and sharing are adequately integrated into existing market mechanisms
 - Safeguard consumer protection and consumer rights



***Thank you very much
for your attention***

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