Policy factsheet:
Energy Communities and Regulatory Framework in Germany/Schleswig-Holstein

1. Introduction and purpose

With the Clean Energy for all Europeans Package, a legislative cluster of several regulations and directives, the European Union introduced the right of all EU citizens to produce and consume their own energy as individuals, groups and as legal entities called 'energy communities'. The recast Renewable Energy Directive (RED II) and the Integrated Electricity Market Directive (IEMD) defined several types of collective action including **jointly acting renewables self-consumers**, **Renewable Energy Communities (REC)** and the **Citizens' Energy Communities (CEC)**. **Jointly acting renewables self-consumers** means a group of at least two jointly acting renewables self-consumers in the same building or multi-apartment block. RECs and CECs reflect a legal form of collective ownership around various energy-related activities and have a non-commercial purpose. They go beyond the boundaries of single buildings and make use of the public grid. Both communities are characterised by open and voluntary participation and autonomy. Their **primary purpose** is 'to provide environmental, economic or social community benefits to its members or shareholders or to the local areas where they operate rather than to generate financial profits'. While CECs operate only in the electricity sector and do not have a technology-specific focus, RECs build and manage renewable assets under their control at local level requiring a certain level of physical proximity. Both types of communities are entitled to **produce, consume, store,** and **sell energy** as well as **share energy**[1] that is produced by the production sites owned by the respective community. By 30 June 2021, Member States were obliged to transpose the relevant provisions into national legislation and to establish an **enabling framework** for RECs and CECs respectively that provides clarity on the definitions, rights, obligations and the legal status of energy communities, with a more comprehensive framework for RECs. This policy factsheet provides a brief overview of the state of implementation in Germany with a focus on electricity.

2. Basic country information

Renewable energies have experienced constant growth in Germany. Their share in gross final energy consumption reached 22.0 percent in 2023. The electricity sector is the main driver behind this development with renewables providing 51.8 percent of electricity consumption in the year 2023.[2]
In Germany's federal system, the federal government has broad authority for legislation in the energy sector. Energy communities in Germany are mainly regulated by the federal government as well as the

[1] With the recent adoption of the new Electricity Market Regulation and the revised Electricity Market Design Directive, the European Union **extended the right of energy sharing** beyond energy communities towards 'active consumers'. Consumers can self-consume off-site generated or stored electricity. Consumers will be able to share self- or collectively generated electricity with friends, families, neighbours, communities, vulnerable consumers or those affected by energy poverty. Consumers will be able to conclude more than one electricity supply contract or energy sharing agreement, under the same connection point for their premises (see https://ec.europa.eu/commission/presscorner/detail/en/qanda_24_2260). These provisions will have to be transposed by the Member States but are not part of this policy factsheet.
[2] https://www.umweltbundesamt.de/en/topics/climate-energy/renewable-energies/renewable-energies-in-figures

Federal Network Agency (*Bundesnetzagentur*). The 16 federal states (*Länder*) exert significant influence on the legislative process via the Federal Council (*Bundesrat*). Moreover, many federal states have implemented individual climate and energy targets, strategies, and legislation. They also have important competences in the fields of permitting, spatial planning and the designation of suitable/priority zones for renewable energy. Besides the federal government, the federal states, regions, districts and municipalities have certain leeway in enabling the development of energy communities. Municipalities have important competences in the field of planning and permitting. They play a key role to enhance the development of energy communities, e.g., as potential members/shareholders, as owners of public buildings and estates (i.e. potential sites for the use of RES), or as facilitators and enablers.

3. Status quo of energy community development in Germany

Germany has a long tradition of citizen participation in the energy sector, dating back to the early 20th century when electricity distribution cooperatives played a key role in the electrification of rural areas, although only a few of them persisted.[3] Today, energy communities are relatively widespread and comprise a broad variety of different legal forms and business models. In 2022, the cumulative number of energy cooperatives founded since 2006 reached 914.[4] 79% of those cooperatives were active in the field of electricity generation from PV, 29% in the field of wind energy and 46% in the supply of electricity. The share of energy cooperatives in total renewable electricity generation in Germany reached 3%.[5] Approximately 200 local heating networks are operated by energy cooperatives. Of these, around 60 per cent use a biogas plant as their main heat source, 30% wood chip fired heating plant, 8% natural gas fired CHP plant, and 3% pellet based heating plant.[6] Besides the cooperative model there are other legal forms under which energy communities operate. There are roughly 2,500 to 3,000 energy communities in a broader sense.[7] In 2017, the number of energy communities in **Schleswig-Holstein** reached 239 of which 197 were active in the field of wind-based electricity generation.[8]

A crucial factor facilitating the emergence of energy communities in Germany were attractive, long-term oriented feed-in tariffs/premiums, which helped create a low-risk investment environment. However, the number of people involved in energy communities is relatively marginal compared to the total population. In a recent survey on energy citizenship covering more than 10,000 persons in nine European countries[9], 4.5% of respondents in Germany said they were members of an energy cooperative or other local community or citizens' energy initiative to produce and consume renewable energy. 5.3% said they will certainly and 19.4% possibly join such collectives in the future. 2.7% of the respondents had previous experience of participating in energy communities but have for various

[3] Holstenkamp, L. (2015). The Rise and Fall of Electricity Distribution Cooperatives in Germany, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2727780.

[4] DGRV (2023). Energy Cooperatives in Germany - State of the Sector 2023 Report, https://www.dgrv.de/wp-content/uploads/2023/07/DGRV_Survey_EnergyCooperatives_2023.pdf

[5] Ibid.

[6] Agentur für Erneuerbare Energien (2023), Genossenschaftliche Biogas-Wärmenetze am Scheideweg: Wie geht es weiter nach dem EEG? Anregungen und Hinweise für Erzeuger-Verbraucher-Gemeinschaften, Renews Kompakt, Ausgabe 59, März 2023, https://www.unendlich-viel-energie.de/media/file/5151.AEE_RK_Biogas_Waermenetze_Mar23.pdf

[7] Holstenkamp, Lars (2021). Community Energy in Germany: From Technology Pioneers to Professionalization under Uncertainty. In: Coenen, F.H.J.M.; Hoppe, T. (eds.), Renewable Energy Communities and the Low Carbon Transition in Europe, https://doi.org/10.1007/978-3-030-84440-0_6

[8] Kahla, F. et al. (2017). Entwicklung und Stand von Bürgerenergiegesellschaften und Energiegenossenschaften in Deutschland, Working Paper, Leuphana University of Lüneburg, https://www.researchgate.net/publication/319210603_Entwicklung_und_Stand_von_Burgerenergiegesellschaften_und_Energiegenossenschaften_in_Deutschland

[9] Hajdinjak, M. (2023). ENERGY PROSPECTS Deliverable 5.4 Analysis of the Online Survey, https://www.energyprospects.eu/fileadmin/user_upload/lu_portal/www.energycitizen.eu/EnergyPROSPECTS_D5.4_31_01_2024_final.pdf

reasons ceased their engagement. 64.7% of respondents showed no intention of ever joining a local community or citizens' initiative to produce and consume renewable energy.

4. Policy and regulatory framework for energy communities

Status quo of RED II transposition and implementation

When the recast Renewable Energy Directive RED II took effect, Germany had already a legal definition of 'citizen energy company' (*Bürgerenergiegesellschaft*) in place which was laid down in the Renewable Energy Sources Act (*Erneuerbare-Energien-Gesetz, EEG*). Nonetheless, the previous federal government, a coalition of Christian Democrats and Social Democrats, failed to timely and completely transpose the provisions for RECs laid down in the RED II and to harmonize the pre-existing definition in German law with EU legislation.[10] Only in July 2022 was the legal definition of 'citizen energy company' amended under the new federal government ('traffic light coalition') and aligned to comply with the provisions of the RED II and to avoid misuse by other market actors (see below). With the introduction of 'shared building supply' (*gemeinschaftliche Gebäudeversorgung*) the government has recently transposed the concept of 'jointly acting renewables self-consumers' on the building level as required by the RED II (see below). In German law there is no explicit equivalent for the concept of 'citizen energy community' as defined in the Internal Electricity Market Directive.

Legal definition of RECs

The pre-existing definition of 'citizen energy company' was aligned with the provisions of the RED II. It considers and specifies the principles of 'effective control', 'proximity', and 'autonomy' contained in the RED II. At least 75% of the voting rights of a 'citizen energy company' (the legal equivalent of a REC) must be held by natural persons living in a postcode area that lies completely or partly within a radius of 50 kilometers around the plant. A member or shareholder of a 'citizen energy company' is not allowed to hold more than 10% of the voting rights. The concepts of 'open' and 'voluntary' participation laid down in the RED II have not been explicitly transposed. The same applies for the 'primary purpose' of citizen energy companies.

Possible market activities of RECs

The amended legal definition of 'citizen energy company' has a rather narrow scope of application, which is limited to **electricity generation** based on **wind energy** and **PV**. Further rights, duties and possible market activities of RECs have not been explicitly specified, although in practice energy communities are engaged in various activities including electricity storage, consumption, aggregation, sales or in a few cases even operation of distribution grids. A recent legal assessment commissioned by the Federal Environment Agency (*Umweltbundesamt*) concluded that **sharing electricity** within an energy community is generally permitted and possible and no further legal action would be required by the government to comply with the minimum requirements of the RED II.[11] However, there is no explicit

[10] In August 2021, the Citizens' Energy Alliance (*Bündnis Bürgerenergie*) together with other NGOs and associations filed a complaint with the European Commission demanding to initiate infringement proceedings against Germany. Although under the current traffic light coalition' of Social Democrats, the Green Party and the Liberal Party certain progress has been made in terms of transposing the provisions for RECs, the European Commission has started an infringement procedure against Germany and some other countries.

[11] Ritter, D. et al. (2023). Kurzbericht Energy Sharing Bestandsaufnahme und Strukturierung der deutschen Debatte unter Berücksichtigung des EU-Rechts. Climate Change 46/2023. Umweltbundesamt. https://www.umweltbundesamt.de/sites/default/files/medien/11850/publikationen/06112023_46_2023_cc_energy_sharing.pdf

legal or regulatory framework for energy sharing. Electricity sharing by using the public grid is theoretically possible but entails various supplier obligations which negatively affect the economic feasibility of sharing models.[12] Although there are no dedicated economic incentives stimulating energy sharing, several pilot projects are currently under development, e.g. by the energy cooperative EWS Schönau[13] (in Baden-Wurttemberg), by the German Energy Agency dena in Wunsiedel (Bavaria)[14] and by EWE and Neoom in Bakum (Lower Saxony).[15]

Elements of an enabling framework for RECs (see RED II, Art. 22(4))

Pursuant to the RED II, Member States shall carry out an assessment of the existing barriers and potential of development of RECs in their territories. To our knowledge, in Germany no official assessment has been carried out to date. Moreover, Member States shall provide an **enabling framework** to promote and facilitate the development of RECs. Table 1 provides a brief overview of the elements such an enabling framework should encompass and summarizes the state of transposition/implementation in Germany so far. More detailed information can be found in the REScoop.eu Transposition Tracker

Table 1: Enabling framework for RECs in Germany

Removal of unjustified barriers; Fair, proportionate and transparent procedures (RED II, Art. 22(4))	There are general administrative barriers and time-consuming project permitting procedures affecting all RE projects. The current government is committed to remove barriers in cooperation with the federal states.
Measures providing cooperation of DSO with RECs; facilitation of energy sharing (RED II, Art. 22(4))	Not explicitly addressed so far.
Fair, proportionate, and transparent procedures including registration & licensing procedures (RED II, Art. 22(4))	Not explicitly addressed so far.
Transparent cost-benefit analysis of distributed energy sources developed by national competent authorities (RED II, Art. 22(4))	To our knowledge, no CBA has been developed so far.
Non-discriminatory treatment of RECs as market participant (RED II, Art. 22(4))	Not explicitly addressed so far.

[12] In Germany, the supply of electricity to final consumers is associated with several obligations including transparency obligations as well as notification and verification obligations. If final consumers are supplied via the grid, grid utilization contracts must be concluded and the feed-in and withdrawal processes must be allocated to balancing groups. In addition, grid fees are incurred in return for the use of the grid, and several other levies have to be paid. Electricity tax is also payable if the RE plant has a rated electrical output of more than 2 MW or the consumers are located more than 4.5 km away from the generation plant (Ritter et al. 2023, FN11).

[13] Goldbach R. (2022). Energy Sharing: Nachbarschaftlich geteilter Strom, https://www.ews-schoenau.de/blog/artikel/energy-sharing-nachbarschaftlich-geteilter-strom

[14] Dena (2024). Digitale Technologien in Energy Sharing Communities – ESCdigital, https://future-energy-lab.de/projects/energy-sharing-communities/

[15] Diermann, R. (2024). Neoom, EWE und Partner starten Pilotprojekt zu Energy Sharing in Niedersachsen, https://www.pv-magazine.de/2024/04/30/neeom-ewe-und-partner-starten-pilotprojekt-zu-energy-sharing-in-niedersachsen/

Accessibility of RECs for low-income & vulnerable households (RED II, Art. 22(4))	Not explicitly addressed so far. Households receiving social transfers might face barriers if they want to become members of an energy community ('welfare dilemma'[16]). Some energy cooperatives and other communities offer relatively low membership fees. Nevertheless, for many low-income households even these pose a threshold difficult to overcome.
Tools to facilitate access to finance (RED II, Art. 22(4))	In 2022, the federal government established a special funding programme targeting citizen energy companies in the field of onshore wind energy. In June 2024, this programme has been amended.[17] The Ministry of Economic Affairs and Climate Action assumes that around 150 to 200 MW more wind energy capacity could be installed per year with the programme. The scheme provides conditional funding to cover the costs of the planning and approval phase of projects up to a capacity of 25 MW per applicant. Eligible measures include all measures in the preliminary planning of a project (e.g., feasibility studies, site analyses, economic feasibility calculations) as well as other necessary expert opinions that contribute to the realisation of the wind energy plants. Up to 70% of the costs for the planning and approval of wind energy projects can be subsidized. Maximum funding has risen from 200,000 to 300,000 EUR per project. In addition, the requirements for applicant companies have been lowered: a minimum membership of 15 natural persons is now sufficient, previously it had to be 50. The development of this funding programme was inspired by a similar scheme implemented in the federal state of **Schleswig-Holstein** where the state government set up a **citizen energy fund** (*Bürgerenergiefonds*) already in 2018. This is a revolving fund that provides risk capital for citizen/community energy projects to pre-finance their upfront costs. The fund is administered by the Investment Bank of Schleswig-Holstein (*IB.SH*), a 100% state owned development bank. The fund is the first of its kind in Germany and helps to finance preparatory measures for citizen energy projects in the sectors of renewable heat, mobility, renewable power generation, energy efficiency and digitalization. In the meantime, also the state of Thuringia has established a similar scheme.[18] The publicly owned promotional bank *Kreditanstalt für Wiederaufbau (KfW)* offers low-interest loans for renewable energy projects.
Tools to facilitate access to information (RED II, Art. 22(4))	Several state (*Länder*) governments offer advice, capacity building, networking and financial support (e.g., through regional energy agencies, see for instance the case of North Rhine-Westphalia with its former Platform Community Energy & Energy Cooperatives). The federal state government of Baden-Wurttemberg supports training and advisory services for energy cooperatives in the frame of the project "Citizens Full of Energy" (*Bürger voller Energie*) in cooperation with the regional association of cooperatives and the regional association of citizens' energy cooperatives. There are several non-governmental initiatives and networks. The German Alliance for Citizen Energy (*Bündnis Bürgerenergie,*

[16] Lowitzsch, J., Hanke, F. (2019). Consumer (Co-)ownership in Renewables, Energy Efficiency and the Fight Against Energy Poverty – Dilemma of Energy Transitions, Renewable Energy Law and Policy Review, 9(3):5-21, DOI:10.4337/relp.2019.03.01

[17] See https://www.bundesanzeiger.de/pub/publication/m92SacsTxuVbXEFMWcQ/content/m92SacsTxuVbXEFMWcQ/BAnz%20AT%2026.06.2024%20B2.pdf?inline

[18] For more information see https://www.aufbaubank.de/Foerderprogramme/Buergerenergiefonds

	BBEn) and the German Cooperative and Raiffeisen Confederation (*Deutscher Genossenschafts- und Raiffeisenverband, DGRV*) are key associations providing information to their members and other community energy initiatives at national level. DGRV has recently launched an online information platform for renewable energy communities.[19] In several federal states like for example Thuringia, Bavaria, or Baden-Wurttemberg there are regional associations promoting energy cooperatives and other energy communities. *Netzwerk Energiewende Jetzt e.V.* is a network promoting the establishment and development of energy cooperatives through training, conferences, newsletters and mutual support. The Heinrich Böll Foundation Schleswig-Holstein launched a number of innovative initiatives like *Energiebürger.SH* and *bewirk SH* supporting energy communities via networking, mentoring, training and capacity development.
Regulatory and capacity building support for public authorities (RED II, Art. 22(4))	Not explicitly addressed so far.

5. Consideration of RECs in support schemes for renewable energy

In Art. 22(7) the RED II stipulates that Member States shall take into account specificities of RECs when designing support schemes in order to allow them to compete for support on an equal footing with other market participants. In Germany, the Renewable Energy Sources Act provided fixed feed-in tariffs and premiums which made investments in renewable energy projects predictable and relatively profitable. In 2017, Germany initiated a transition from price-based support schemes for renewable energy to competitive bidding and public tendering. Projects of community energy initiatives above a certain size also had to participate in the tenders to qualify for public support. Germany was one of the first EU Member States to consider the specificities of energy communities under the auction schemes. Wind energy projects of 'citizen energy companies' enjoyed certain privileges, but these turned out ineffective and had partly detrimental effects due to misuse by conventional market players. In 2022, the traffic light government decided to make use of the revised European 'de minimis' rules'.[20] Onshore wind energy plants or solar plants of citizen energy companies with an installed capacity of up to 18 MW and 6 MW respectively were exempted from the obligation to take part in competitive bidding for remuneration. The level of remuneration for the respective onshore wind turbines and open space solar installations is determined based on the average of the bid values of the highest successful bids in the previous year.[21] Furthermore, wind energy projects of citizen energy companies may receive start-up funding under a new grant-to-loan support scheme (see Table 1).

[19] See https://erneuerbare-energie-gemeinschaften.de/

[20] The Climate, Energy and Environmental State Aid Guidelines (CEEAG) (https://ec.europa.eu/competition-policy/sectors/energy-and-environment/legislation_en) allow Member States to exempt REC projects and SME-owned projects up to 6 Megawatts (MW) of installed capacity from the competitive bidding requirement. Moreover, RECs and small and micro enterprises may develop wind projects up to 18 MW without competitive bidding. More generally, where competitive bidding does apply, the CEEAG enable Member States to design tenders in a way that enhances the participation of energy communities, for example by lowering pre-qualification requirements.

[21] For wind farms of citizen energy companies that make use of the exemption from the tendering process and that are commissioned before 1 January 2025, this rule applies only exceptionally. Usually, the remuneration is calculated from the average value of the highest bid still awarded in the year before the last.

6. Related concepts: Landlord-to-tenant electricity and shared building supply

In 2017, the so-called landlord-to-tenant electricity (or simply: tenant electricity) model (*Mieterstrom-Modell*) was introduced via the Tenant Electricity Act, an omnibus act which included amendments of the Renewable Energy Sources Act and other legal acts. In short, 'tenant electricity' is electricity that is generated in solar systems on the roof of a multi apartment building and supplied to final consumers (tenants, apartment owners) in this building or in residential buildings and ancillary facilities in the neighbourhood of the building without passing electricity through the public grid. Electricity not consumed by the final consumers is fed into the public grid and remunerated. The German term for 'tenant electricity' *Mieterstrom* is misleading because the concept does not only address tenants, but residents of multi-apartment buildings in general, i.e. tenants and apartment owners.[22] Although the legal framework for tenant electricity has been continuously amended and the introduction of a special surcharge made the direct sale of solar electricity to tenants and other final consumers financially more attractive, tenant electricity projects failed to materialize at a larger scale. Moreover, tenant electricity covers only the supply of tenants/final consumers by the building owner or third parties and cannot be regarded as 'collective self-consumption' in the true sense of the RED II.

In April 2024, a package of amendments to the Renewable Energy Sources Act and the Energy Industry Act (*Energiewirtschaftsgesetz, EnWG*) was adopted to further boost the expansion of solar energy and other renewables (*Solarpaket I*). This package included, inter alia, simplifications and changes for **tenant electricity** and **plug-in solar systems** ('balcony power plants'). Moreover, the amendments introduced a **new model** for the **on-site supply of electricity** from solar plants within **multi-apartment buildings**, called **shared building supply** (*Gemeinschaftliche Gebäudeversorgung*). This new model has been laid down in Section 42b of the amended Energy Industry Act. By this concept the government transposed the model of 'jointly acting renewables self-consumers' contained in the RED II. This model enables the tenants and owners of apartments within a building to use the electricity generated from a solar system installed within the building. The **model of shared building supply complements** the existing **tenant electricity model**. But in contrast to the latter, the operator of a PV system (e.g., landlord, community of owners) is not obliged to secure full electricity supply but only partial supply (electricity generated by the building's solar system). Moreover, the operator is largely exempt from the obligations generally applicable to energy supply companies and electricity suppliers including obligations referring to contract design, billing, electricity labelling, registration and notifications. In the shared building supply model, final consumers are responsible to secure residual electricity supply by themselves. In the case of shared building supply, the operator(s) of the PV system has/have to enter into a so-called **building electricity usage agreement** (*Gebäudestromnutzungsvertrag*) with the final consumers in the building. In contrast to the tenant electricity supply model, there is no dedicated financial support. The practical relevance of the shared building supply is estimated by the legislator

[22] In 2022, 53.5 % of the population lived in rented flats/building, see https://www.destatis.de/Europa/DE/Thema/Bevoelkerung-Arbeit-Soziales/Soziales-Lebensbedingungen/Mieteranteil.html#:~:text=%C3%9Cber%20die%20H%C3%A4lfte%20der%20Bev%C3%B6lkerung,in%20der%20EU%20verzeichnete%20Rum%C3%A4nien.

to be up to 80,000 buildings in Germany. Annex I provides a **comparison** of the **tenant electricity model** and the **shared building supply model** with further details.

7. Level of digitalization and smart meter rollout

The lack of digital infrastructure in Germany represents a major barrier for energy communities. Germany is lagging considerably behind many other EU countries in terms of smart meter rollout. This is mainly related to high technical and data protection requirements. However, the rollout has been accelerated under the current government. New legislation provides for a rollout roadmap with binding targets until 2030. Consumers with a power demand of ≥6,000 kWh per year and renewable operators with >7 kW of installed capacity will be subject to mandatory installation from 2025. By 2032, all consumers are to be equipped with modern metering devices.

8. Needs for further policy action

Much progress has been made under the current traffic light government since 2021 in terms of transposing and implementing the European provisions for individual and collective self-consumption and energy communities. The federal government and several state governments took important measures to reduce barriers and facilitate the development of RECs. However, there are still some transposition gaps and shortcomings which deserve attention and policy action:

- Complement the 'target architecture' for the energy transition by adding targets for renewable energy communities.
- Fully transpose and implement the provisions for citizen energy communities (CECs) laid down in the Integrated Electricity Market Directive.
- Provide information, advice and capacity building for municipalities and citizens. Promote the establishment of one stop shops for energy communities, like the Coordination Centre in Austria (https://energiegemeinschaften.gv.at/)
- Extend the federal support programme for citizen energy companies in the wind energy sector to also include other RES technologies.
- Carry out a transparent cost benefit analysis of distributed energy sources as required by Article 22,4 of the RED II.
- Provide a legal framework for energy sharing by energy communities and other actors using the public grid in line with the RED II and the revised EU Electricity Market Design.
- Provide incentives to make energy sharing schemes that reduce the burden for the grid more attractive, e.g. through reduced grid charges (like in Austria) or dedicated premiums (like in Italy).
- Promote energy sharing pilot projects and testing.
- Facilitate cooperation between RECs and DSOs to enable energy sharing.
- Simplify and accelerate the rollout of smart meters.

Kiel, 11 July 2024

Author: Michael Krug, Heinrich Böll Foundation Schleswig-Holstein, krug@boell-sh.de

9. Annex: Tenant electricity and shared building supply

	Financially supported tenant electricity model (*Mieterstrom*)	Shared building supply (*Gemeinschaftliche Gebäudeversorgung*)
Possible since	2017	May 2024
Legal basis	Renewable Energy Sources Act, Energy Industry Act (particularly §42 a, including amendments of April 2024)	Energy Industry Act, §42b (amendments of April 2024)
Description	In this model landlords, condominiums or third parties who operate the PV system act as electricity suppliers to the final consumers in the building (including tenants[23]). 'Tenant electricity' is electricity that is generated in solar systems on, at or in a building or ancillary facilities and supplied to final consumers within this building, ancillary facility or in buildings or ancillary facilities in the same neighbourhood (*Quartier*) without being passed through the grid. Electricity not consumed by the final consumers is fed into the public grid and remunerated. This cannot be regarded as energy sharing in the true sense of the RED II because the PV system is not commonly owned/operated by the residents. The consumers of the electricity are neither directly nor indirectly involved in the generation of the electricity.	This new model is intended to enable the supply of solar electricity produced by landlords or third parties with a solar system for the purpose of shared building supply to tenants (residential and commercial) or other final consumers within the building imposing lower administrative burden compared to the tenant electricity model. This model allows communities of apartment owners to jointly invest in a PV system on their own building and share the electricity generated among the individual parties. Electricity must be used without passing through the public grid in the same building or an ancillary facility of this building.
RES technologies	PV systems of max. 1,000 kW (CHP systems and small wind turbines are also possible but in contrast to PV systems not eligible for financial support via the tenant electricity surcharge)	PV systems
Use of the public grid	Not permitted	Not permitted
Target group	Final consumers in multi-apartment buildings, particularly tenants. In the future, the tenant electricity regulations will also apply to electricity from solar plants installed on, at or in other buildings (including buildings or rooms used for commercial purposes) and on ancillary facilities of these buildings. Moreover, the location at which the tenant electricity is consumed is no longer restricted to residential buildings but can also take place in commercial rooms or buildings.	Residential buildings (tenants, owners of apartments), commercial buildings
Contractual relationship	The operator of the PV system and the participating consumers conclude a tenant electricity contract. The maximum initial contract term must not exceed two years.	The operator of the PV system and the participating consumers conclude a **building electricity usage contract** under private law. This contract must cover issues like the price per kilowatt hour supplied (€ct/kWh), the rules for operation and maintenance of the PV system, the allocation of the solar power generated among the final

[23] The German term *Mieterstrom* ('tenant electricity') is misleading because the concept does not only address tenants, but residents of multi-apartment buildings in general. In addition to tenants, this can also include apartment owners.

		consumers etc. The maximum initial contract term must not exceed two years. A special rule applies to homeowners' associations: in certain cases, the conclusion of a **building electricity usage contract** can be replaced by a resolution in accordance with the German Apartment Owners Law (*Woh-nungseigentümergesetz*). In these cases, the requirements of Section 42b (1) to (5) Energy Industry Act remain applicable, in particular in relation to the final consumer.
Metering	Possibility to use physical or virtual totalizers (*Summenzähler*)	Electricity purchased by households and solar power fed into the grid must be measured every quarter of an hour using a smart metering system (iMSys).
Allocation of electricity		Allocation of electricity among the final consumers is based on an allocation formula laid down in the **building electricity usage contract**. The DSO has to be informed about the allocation formula. There are two options: **Static allocation -** each residential unit is allocated a fixed share per quarter of an hour of metered electricity consumption. For example, based on the size of the household, the living space or the number of residential units. **Dynamic allocation -** the solar electricity consumed at the same time within each 15-minute interval must be allocated to the total consumption on a pro rata basis.
Billing	Possibility to use physical or virtual totalizers (*Summenzähler*) The electricity price to be paid by the final consumers must not exceed 90% of the basic supplier tariff in the respective grid area ('supplier of the last resort'). This price cap only applies to residential buildings, not commercial ones.	Free price setting applies. Billing is carried out by the metering point operator (*Messstellenbetreiber*), i.e. the local grid operator (basic metering point operator) or a service company (competitive metering point operator). The solar power supplied every quarter of an hour is deducted from the electricity consumption of the residential or commercial unit.
Residual electricity	The operator of the PV system - landlord, community of owners or a service provider – is obliged to supply residual electricity in addition to the solar power.	Residual electricity is supplied by retail suppliers.
Participation	All households in the building concerned are free to participate in a tenant electricity supply model or to continue to be supplied entirely via the public grid.	All households in the building concerned are free to participate in the shared building supply or to continue to be supplied entirely via the public grid. The right of the final consumer to conclude a contract with a supplier of his/her choice for the residual electricity supply may not be restricted in the building electricity usage contract.
Obligations of the plant operator	The operator of the PV system - landlord, community of owners or a service provider – is obliged to supply residual electricity in addition to the solar power. The term residual electricity refers to the electricity that cannot be covered by the solar system. There are numerous additional obligations related to transparency of invoicing, electricity labelling, consumer protection etc.	The operator of the PV system is not obliged to provide residual electricity and there are generally less obligations to be fulfilled by the PV system operator (e.g., no transparency obligations for invoices and energy supply contracts, no electricity labelling obligation). However, the operator is obliged to provide information to the final consumers on necessary residual electricity purchases and to inform the DSO about the internal allocation formula.

Technical prerequisites	Connection between the domestic (building) electricity grid and the public electricity grid is ensured by bidirectional meters, which enable the flow of electricity to be recorded accurately. The total consumption of the building can be measured using a totalizing meter. Residents who do not participate in the tenant electricity model are deducted. This allows the residual electricity consumption to be determined. The use of smart meters is presently not necessary but be will from 2025.	The technical prerequisite is a smart meter system (iMsys) with a smart meter gateway (SMGW). The metering data is usually collected by the metering point and distribution grid operator and processed in corresponding IT structures by software providers.
Incentives	• In addition to the revenues from the electricity sold to the final consumers, the plant operator receives a special remuneration for the electricity supplied to the tenants/final consumers paid by the grid operator, the so-called **tenant electricity surcharge** (*Mieterstromzuschlag*). This varies between 2.64 €ct/kWh (capacity range up to 10 kW), 2.45 €ct/kWh (up to 40kW) and 1,65 €ct/kWh (up to 1,000 kW). • Moreover, the plant operator can receive a statutory feed-in tariff from the grid operator for surplus solar power that is not used on-site, and which is fed into the public grid.	No dedicated support. The operator only receives the statutory feed-in tariff from the grid operator for surplus solar power that is not used on-site, and which is fed into the public grid)
Payment of fees, taxes, surcharges etc.	No grid fees, no concession fees, no electricity tax, no renewable energy surcharge	No grid fees, no concession fees, no electricity tax, no renewable energy surcharge
Advantages	• Financial incentive	• Partial supply of PV electricity is possible without becoming an energy supplier • Lower administrative burden
Disadvantages	• High complexity and administrative burden • Manifold obligations to be fulfilled by the operators as suppliers of electricity (e.g., supply of residual electricity, documentation, labelling)	• No special financial incentive • Challenging for the grid operators which often lack the technical infrastructure/standardized processes/tools for accounting/balancing