



EREF

European Renewable Energies Federation

Overview on PV Prosumption models in Europe

Brussels, 29 May 2019

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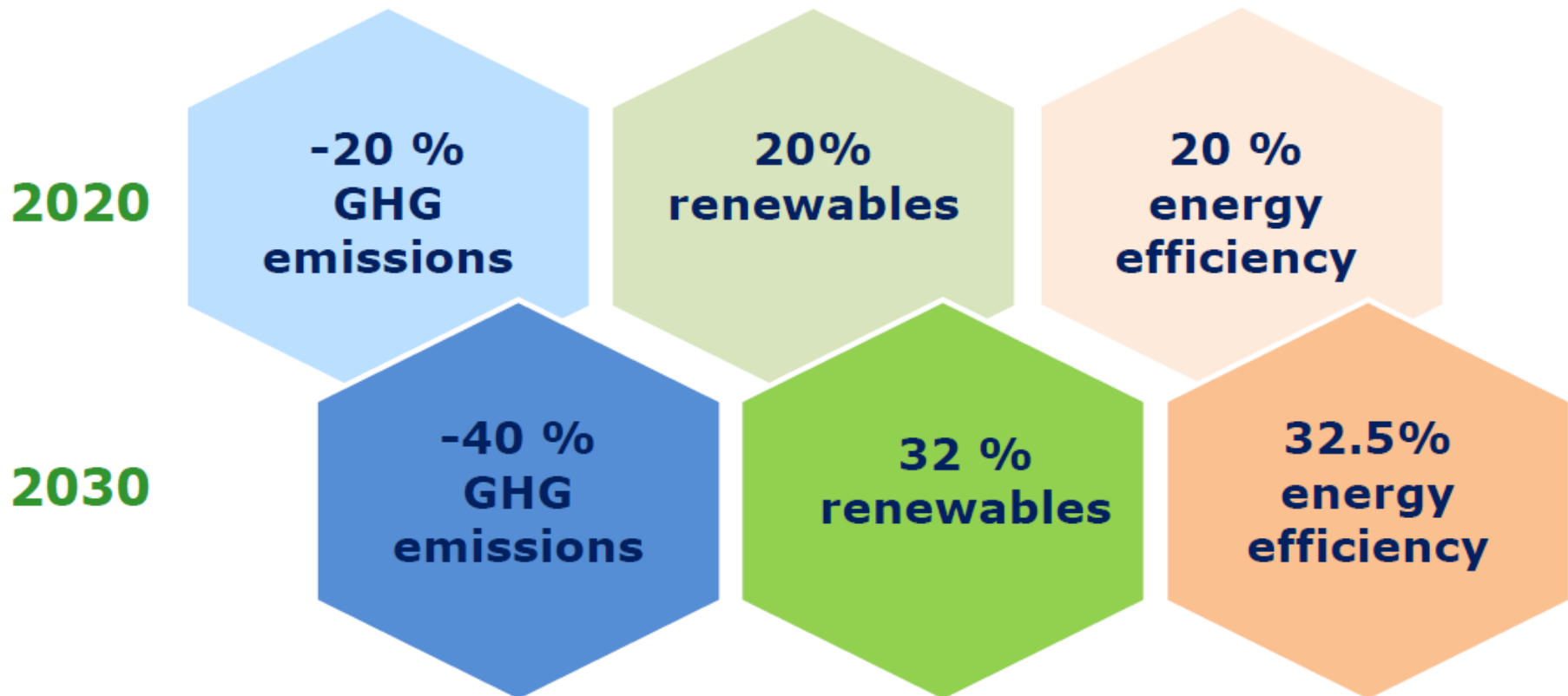
- Policy Advisor -



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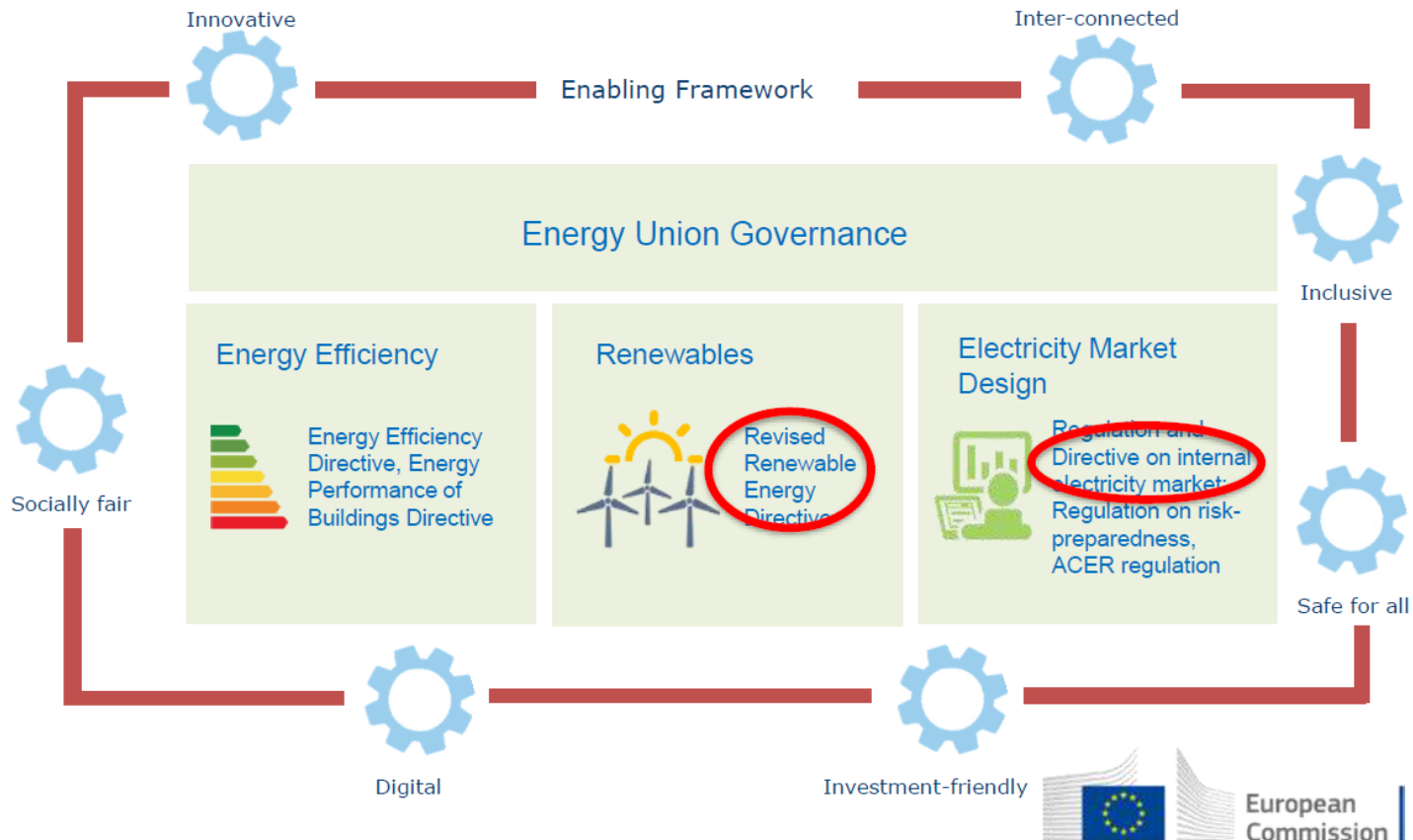
2030 EU climate and energy targets

European climate and energy targets



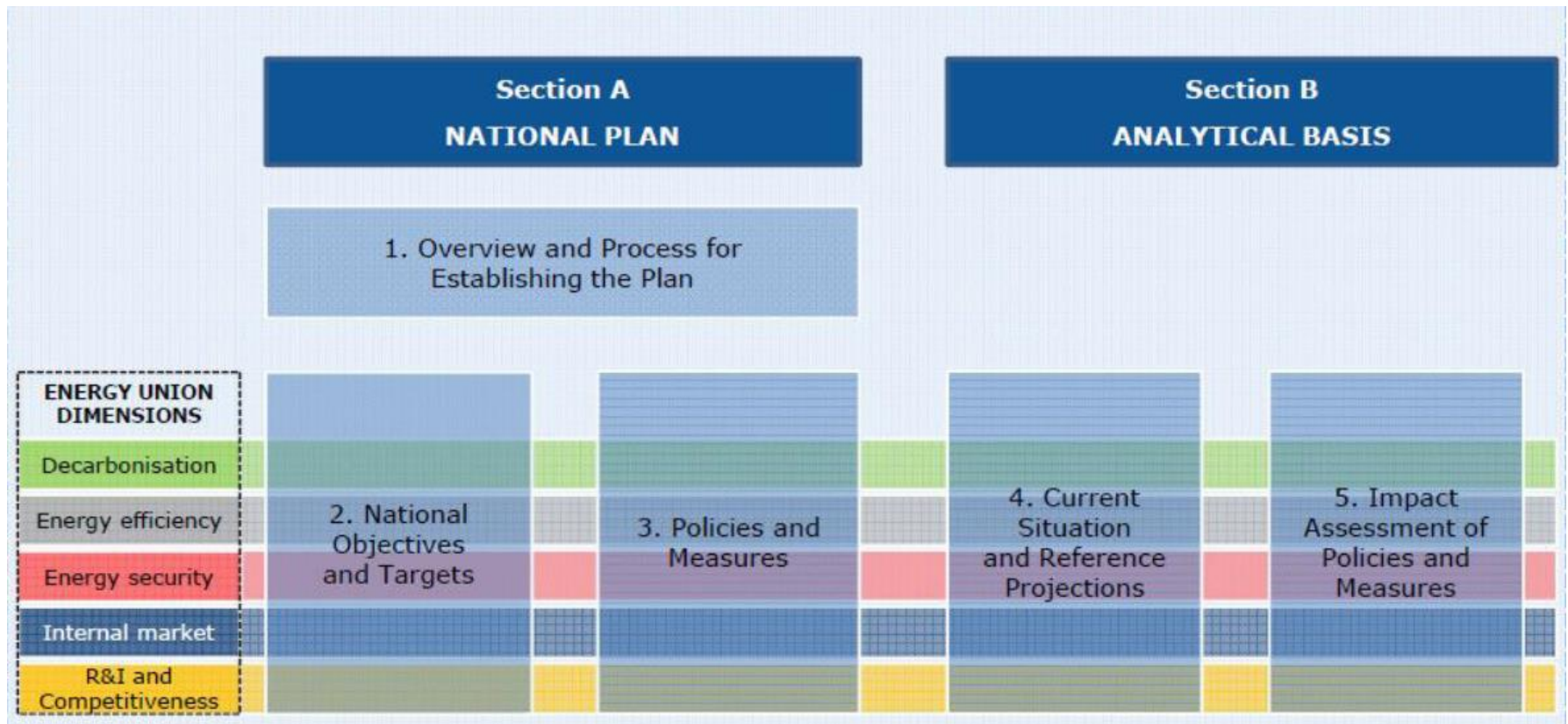
Overview of 2020/30 EU legislation and key issues for PV Prosumption

The Clean Energy Package



Implementation Tool?

NECP



Support schemes and retroactive changes



- Common rulebook for support schemes and organisation of tenders
- Member States keep right to apply technology-specific tenders and provide for alternative competitive bidding procedures or exemptions
- No retroactive changes to existing support schemes
- Member States should publish long-term schedule of at least 5 years anticipating the expected allocation of support
- Opening of support schemes remains voluntary with a review clause in 2023 to reassess a partial mandatory opening

Renewable energy communities



- First time acknowledgement of Renewable Energy Communities
- Local control and ownership
- Prevention of abuse from large energy companies or project developers
- Obligation on Member States to set up an enabling framework

Citizen energy and self-consumption I



- Basic entitlement to become renewables self-consumer (individually or collectively) without being subject to over-burdensome or discriminatory conditions:
 - Basic right to self-generation, consumption, storage
 - to sell excess renewable electricity to the grid at least at the market value
 - Exemption from charges for self-consumption up to a threshold of 30 kW, limited to overall share of self-consumption exceeding 8% of a MS's total electricity capacity installed

Citizen energy and self-consumption II



- Member States need to conduct a cost-benefit analysis which needs to prove negative impact of exemption before introducing charges
- Enabling of leasing-model giving access to renewables to wider sections of society (third party ownership)

Electricity Market Design – Balancing Responsibility



- Balancing responsibilities: Responsibility of ALL market participants.
 - Member States may exempt renewable power generating facilities under 400kW & demonstration projects
 - After 2026, reduced to 200kW
- Generators covered by priority dispatch mainly exempted from balancing responsibility
- Non retro-activity

Electricity Market Design – Priority Dispatch



- Mandatory priority dispatch for small renewable generators under 400kW
 - After 2026, reduced to 200kW
- Non retro-activity
- Controlled phase-out of priority dispatch:
 - Market readiness conditions
 - National renewable energy development (Member State must be on track to reach its target or at least 50% of its electricity consumption covered by renewables)

Key Future Energy Topics



- Implementation of Clean Energy Package into national laws and NECPs by end of 2019
- Revision of State Aid Guidelines
- New MEPs and Commission
- Input to 2023 revision of EU 2030 renewable energy target



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Austria



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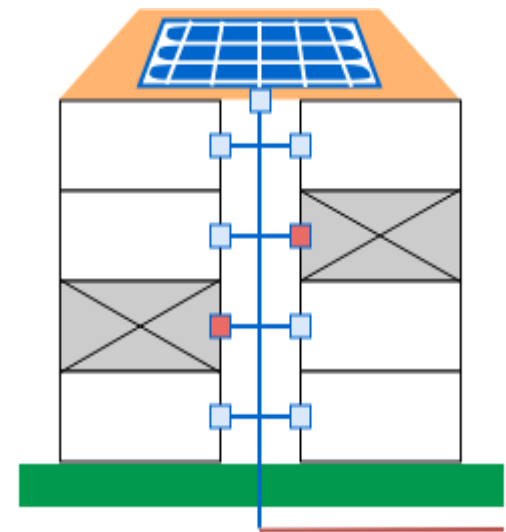
Existing Model: “Gemeinschaftliche Erzeugungsanlagen”

“Gemeinschaftliche Erzeugungsanlagen”

(literally translated to “collective production sites”)

- **PV-System is used by collective**
- **High share of PV-consumption occurs within the building**
- **Grid tariffs are avoided**
- **DSO calculates residual demand (for each prosumer)**
- **Right of choosing energy provider stays untouched**
- **Suitable for apartment buildings / residential complexes**

The possible future concepts of “Hybride Energiezellen” & “Community” are not yet established due to legal reasons



□ Zähler der teilnehmenden Prosumer ■ Zähler der nicht teilnehmenden Prosumer
— Hauptleitung im Eigentum der Hausbesitzer — Zuleitung im Eigentum des Netzbetreibers

Source: TU Wien / EEG

Regulatory Framework

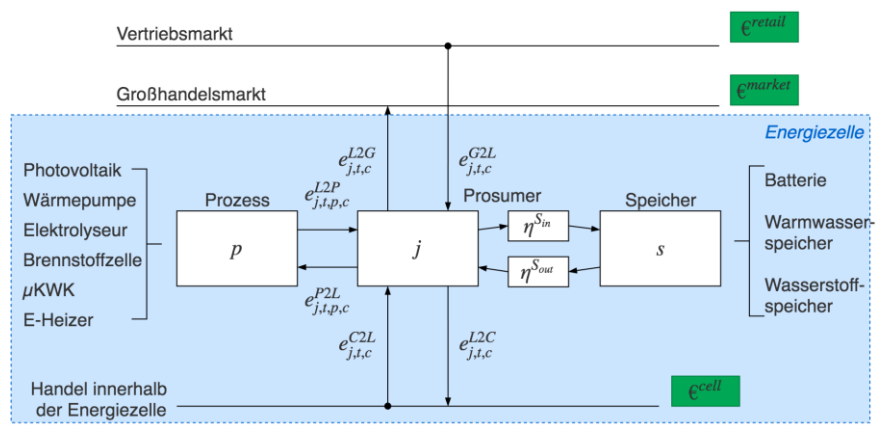
Gemeinschaftliche Erzeugungsanlagen

- Possible since July 2017
- Change of section §16a of the Austrian law electricity *Elektrizitätswirtschafts- und –organisations-gesetz (ELWOG)*
- **Important facts:**
 - right of choosing energy provider stays untouched
 - installation of load-profile-meter / smart meter
 - distribution key (fixed and/or flexible allocation) as agreed between DSO and customer

Possible models: “Hybride Energiezellen” and “Peer-to-Peer Energy Community”

“Hybride Energiezellen”

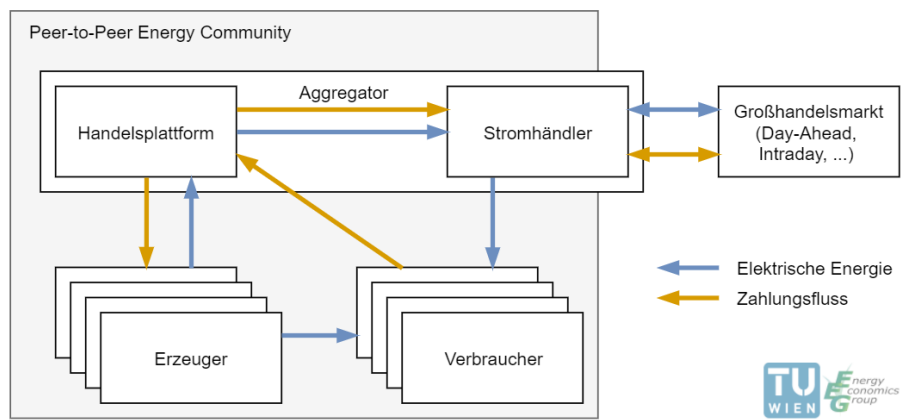
(hybrid energy cells) is an enhancement of “Gemeinschaft-liche Erzeugungsanlagen” with storage systems, e-mobility, heating and cooling



$j \in \{Prosumer_1, \dots, Prosumer_n\}$ $t \in \{1, 2, \dots, T\}$ $c \in \{Elec, Heat, Gas, H_2\}$

“Peer-to-Peer Energy Community”

Connection of individual prosumption with electricity markets through market platforms





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Italy



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Existing Model



- Currently only one model is possible: single-user
 - (but remember EU law requirement: enabling framework)
- Increasing electricity prices mean that the economic sustainability of PV self-consumption is moving from the levy exemption to real savings in the long-term

Private User



- **3kW** installation
- ~ **4500 and 6000€** initial costs
- Possibility for **50% tax deduction**

- Generates ~ 3300 and 3900 kWh/year
- User consumes 35% of this
 - ~ 350 and 600€ of savings per year

System paid back in 5 to 9 years

Commercial User



- 100kW installation
- ~ 120 000 and 150 000€ initial costs
- No tax deduction

- Generates ~ 110 and 130 MWh/year
- User consumes 90% of this
 - ~ 15 000 and 19 000 € of savings per year

System paid back in 6 to 10 years



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The Netherlands



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Existing Model



- Both **Individual** and **Collective** Prosumption are possible

Individual

Electricity is purchased from suppliers at the same cost as it is sold back to the grid.

Collective

- 1) PV electricity used for collective services in the building.
- 2) Individual apartment owners own part of the PV installation
- 3) Combination of both options
- 4) *Postcoderoos*: investment in PV system in postal code with exemption on energy tax)



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Portugal



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Existing Model



- Law-Decree 153/2014 defines three levels of PV installations

Level 1: Up to 200W.

No authorisation or registration needed

Level 2: Between 200W and 1.5 kW

No authorisation but registration needed

Level 3: Between 1.5 kW and 1 MW

authorisation and registration needed along with technical inspection

Setting up a PV System



1. **Registration** in an online portal
2. **Installation** of the System:
 - a) Level 1 no additional procedures.
 - b) Level 2 installed and operated after **registration** on portal + **Upgrade of energy meter** if necessary
 - c) Level 3 must obtain **authorisation** after **registering on portal**.
3. **Payment of fee** to validate registration
4. **Request** for technical inspection + **indication** of meter
5. **Test reading** will be taken from upgraded meter.
6. After **inspection**, or in case of no inspection in 10 days after request, receipt of **certificate of use**



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Spain



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Existing Model



- Self-consumption **without surplus**
(device blocks excess electricity from being injected back in to the grid)

- Self-consumption **with surplus**
(when the installation allows for the consumption of one's own produced electricity and its injection back in to the grid)

Without Surplus



1) **Installation of device** blocking surplus from being injected in to grid + **certificate** from installer attesting to ,no-injection‘

N.B. Installations with capacity up to 100 kW subject to specific law on low-voltage installations

2) **Upgrade of energy** meter if necessary

3) Application for minor **building permit** + payment of **fees**

4) Check with local authority for possibility of **tax exemptions**

5) No extra request for **grid access** needed

6) No **authorisation** needed but must comply with **low-voltage law**

7) Installer must **notify** local authority of installation.



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Thank you!

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