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“Accelerating Solar PV deployment:

How to reconcile Speed and Quality?”

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Stockholm

Introduction to solar

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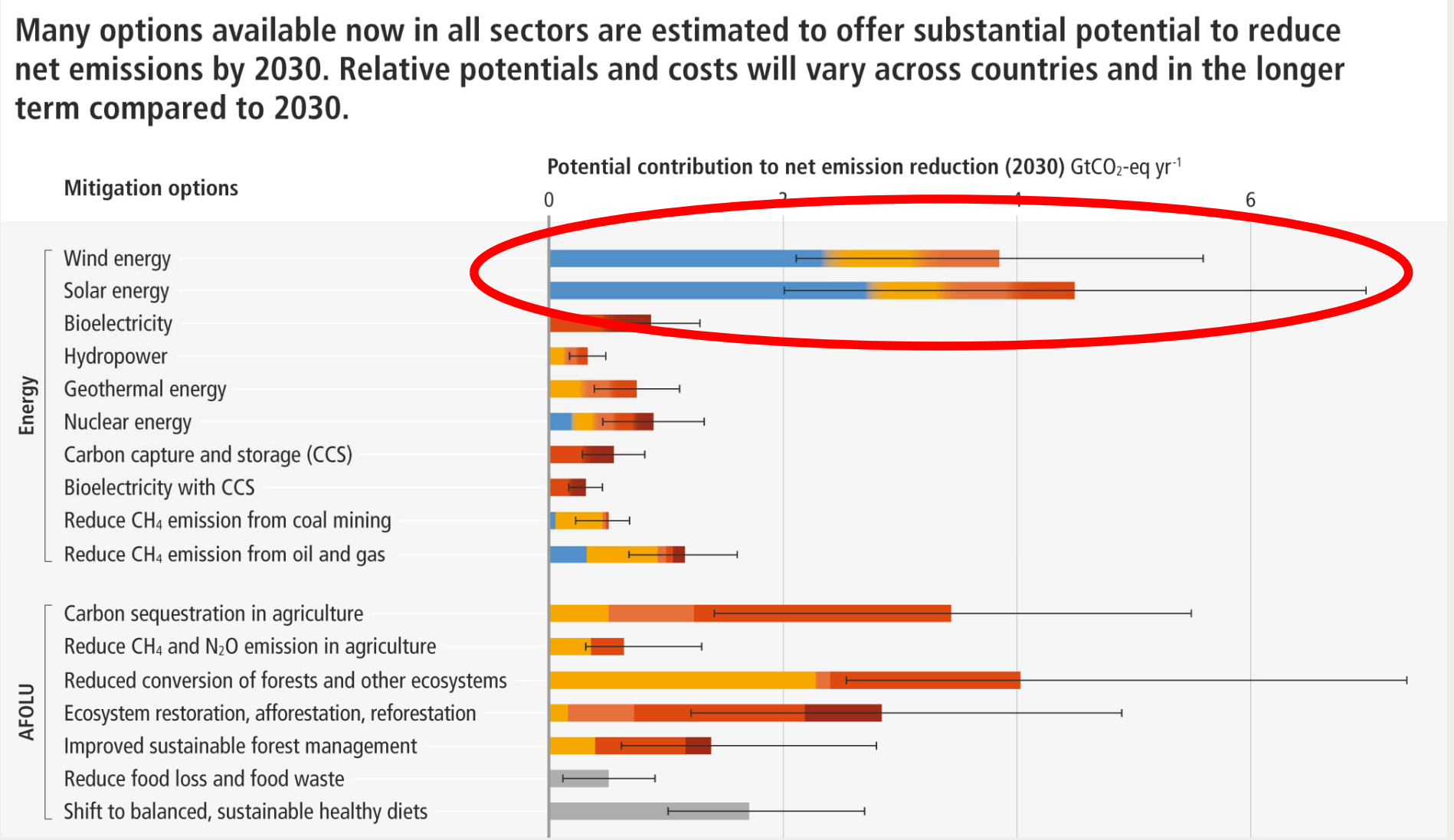
- **Representing the whole solar value chain -** 300 organisations
- **Working closely with 30+ national associations**
- Based in Brussels

Solar and Wind:

The most efficient solutions to the climate crisis



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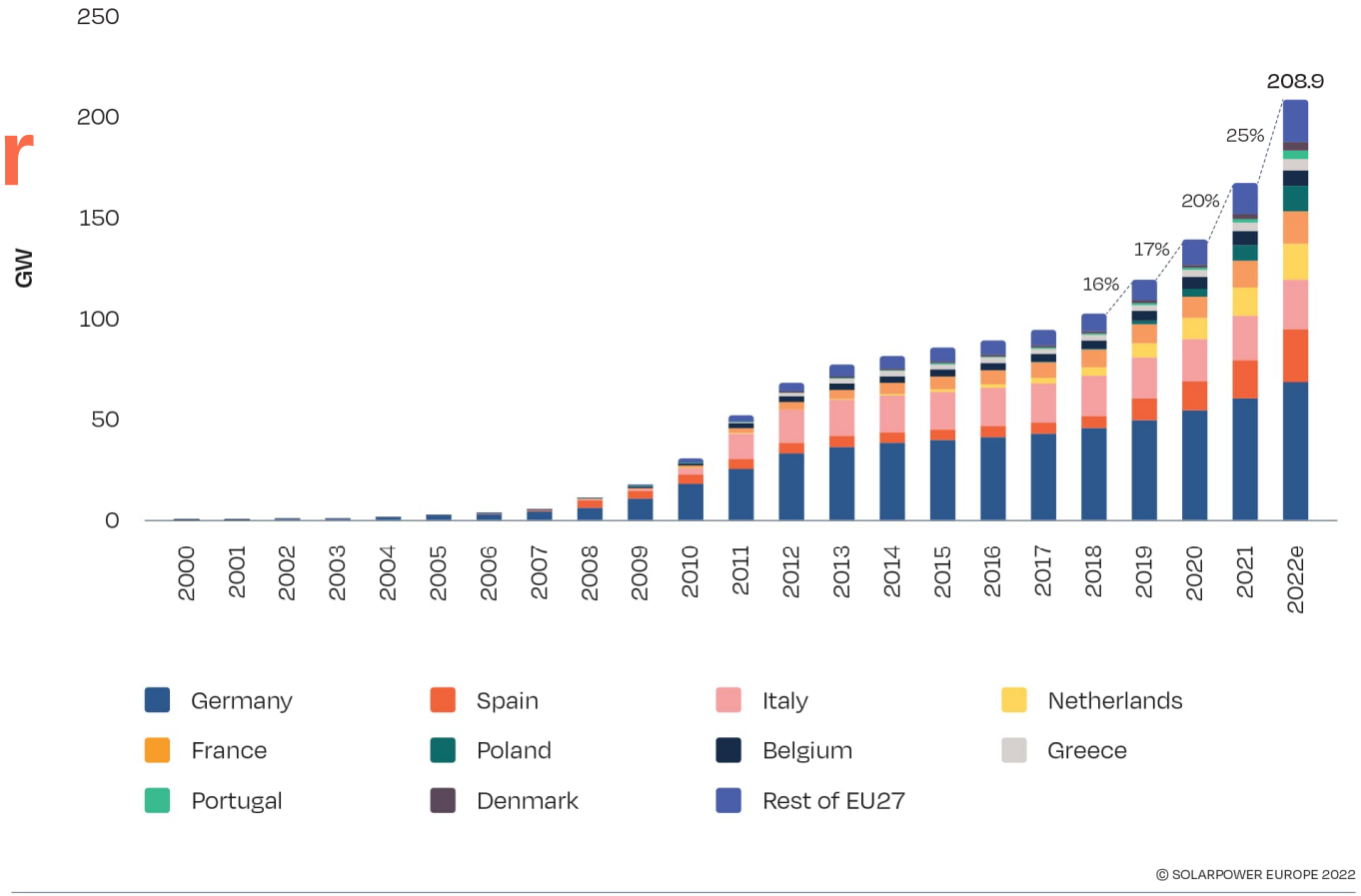
First time: >200 GW EU solar power plant fleet



In 2022, the EU's solar power generation fleet increased by 25% to 208.9 GW, from 167.5 GW in 2021.

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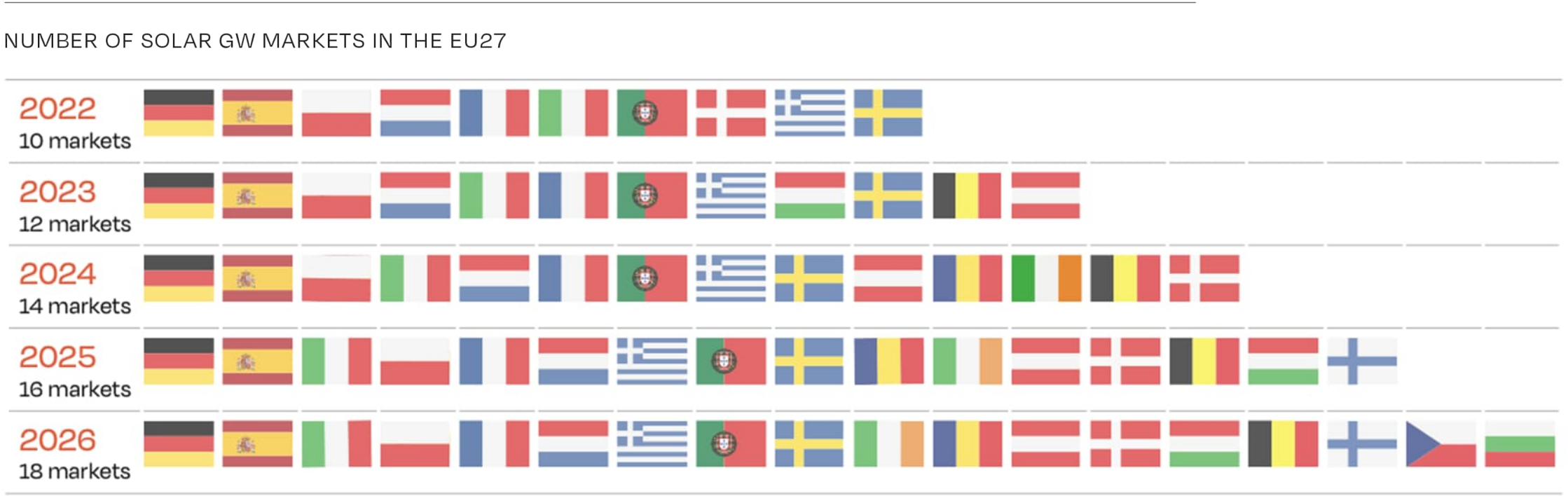
Solar diversification gaining momentum in EU



The expansion of solar technology in different geographies across the EU will continue. From 10 GW-scale annual markets today, in 2024 we expect to reach 14 GW markets across the EU, which will become 18 by 2026.

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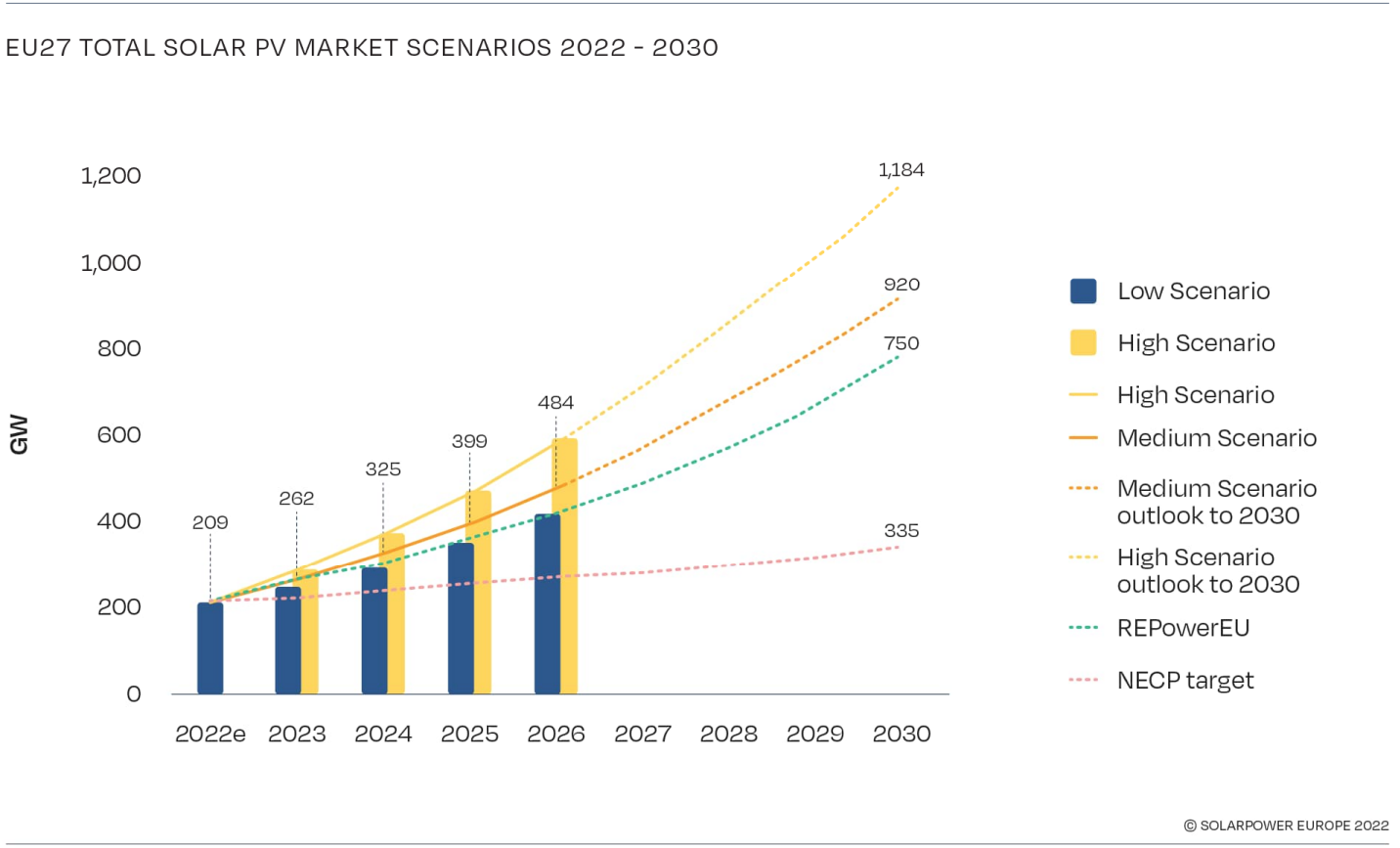
EU 2030 Medium Scenario:920 GW



Total EU solar power fleet is expected to increase from 209 GW installed today to 399 GW in 2025, and 920 GW in 2030. This is much higher than aggregate capacity target from NECPs (335 GW). While 2025 number is inline with EU Commission scenario (400 GW), the 2030 number is above EC 2030 target (750 GW)

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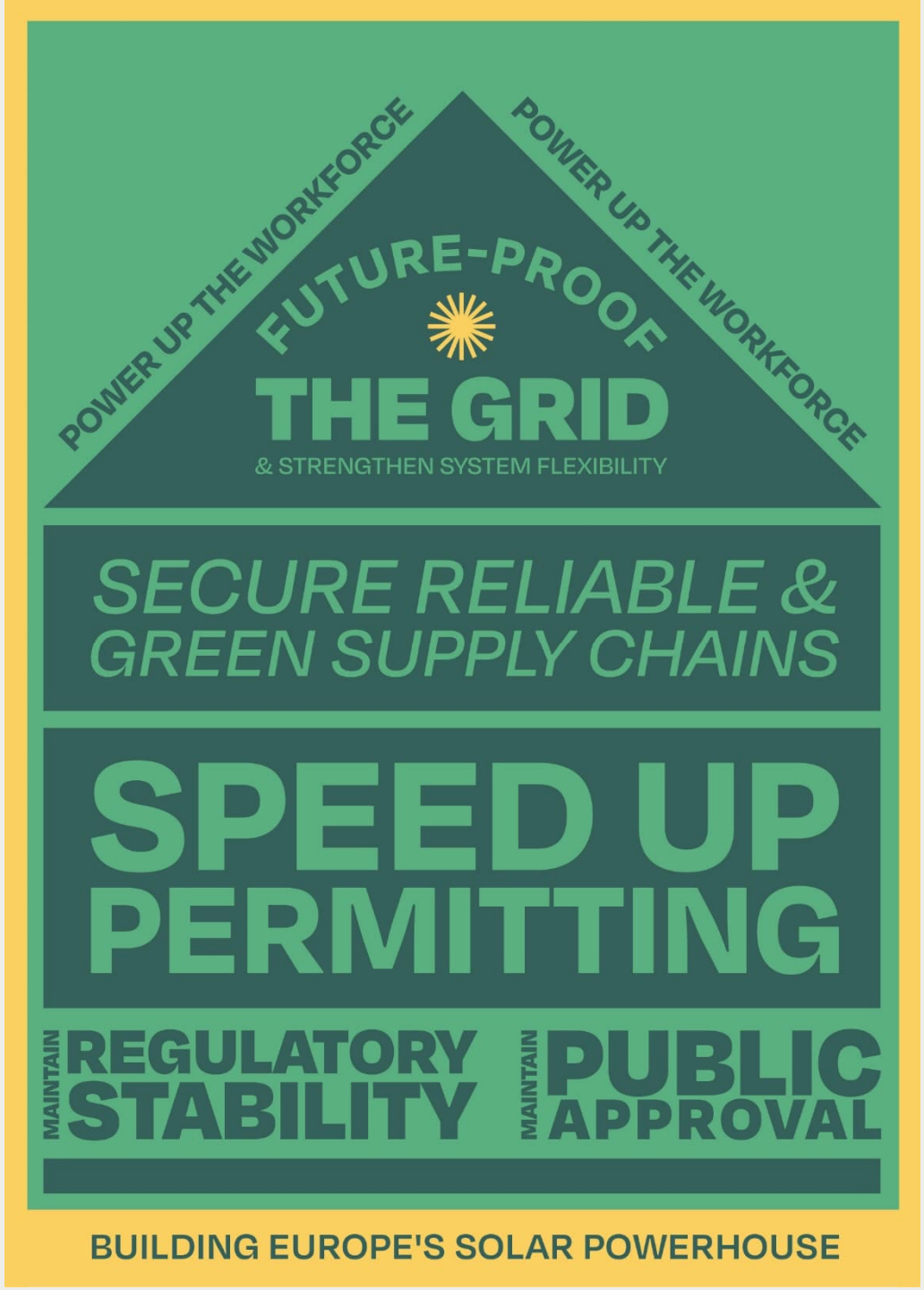
Main challenges



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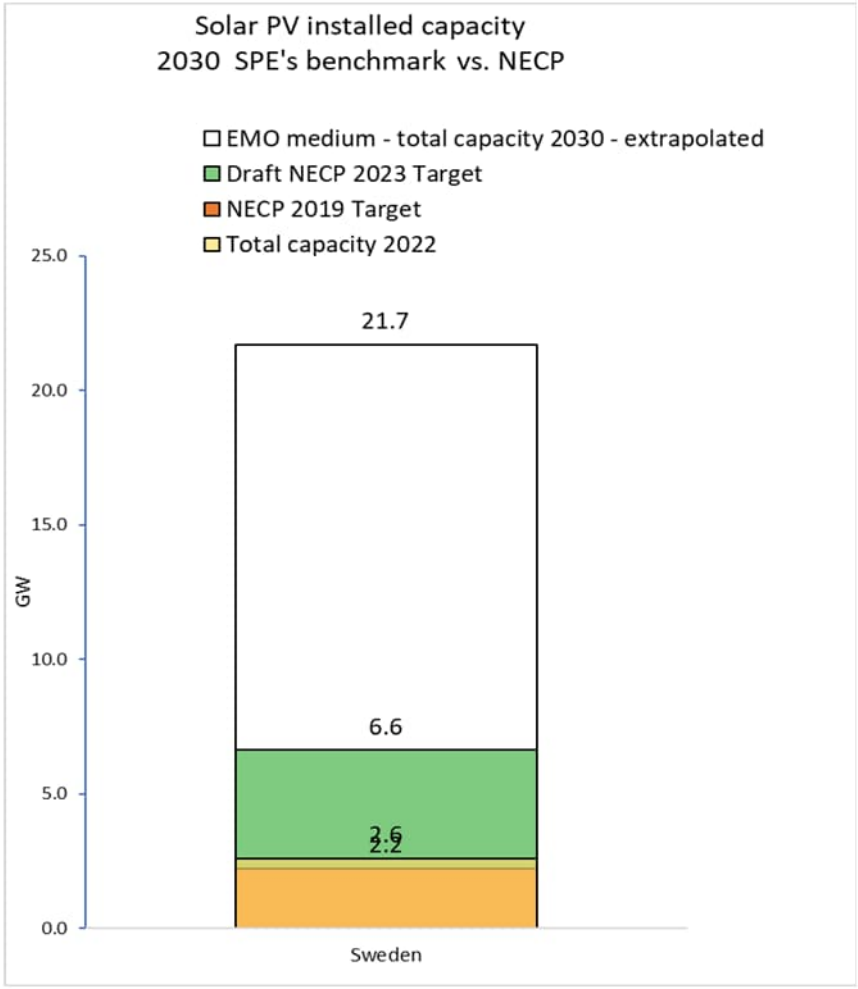
Analysis of SE NECP



- increase by 5 GW vs. 2021, reaching around 6,6 GW by 2030.
- 629 W/capita (substantially lower result than EU average).
- Far below industry's benchmark

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Environmental integration of solar

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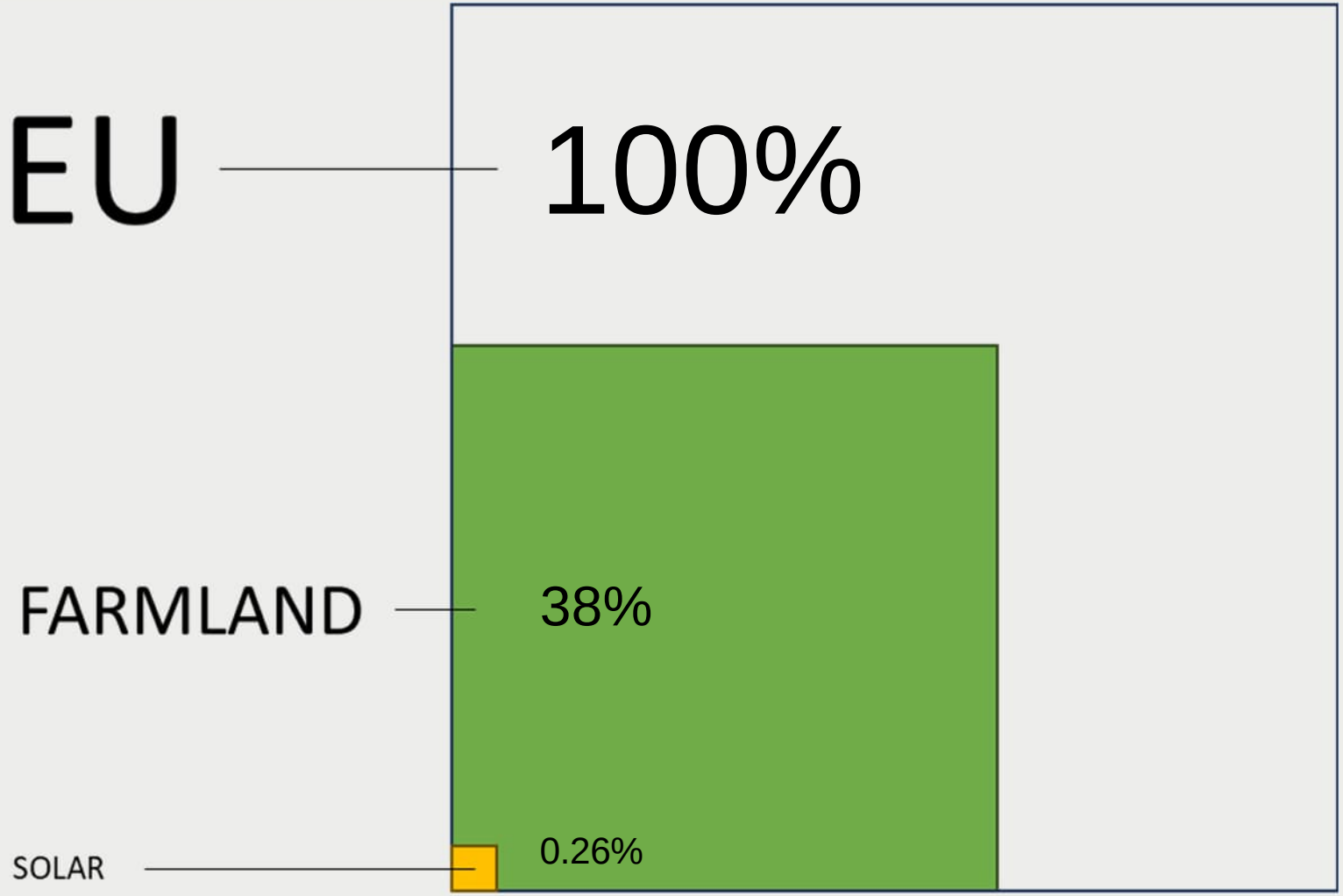
What would it need to cover ALL EU power demand with PV ?



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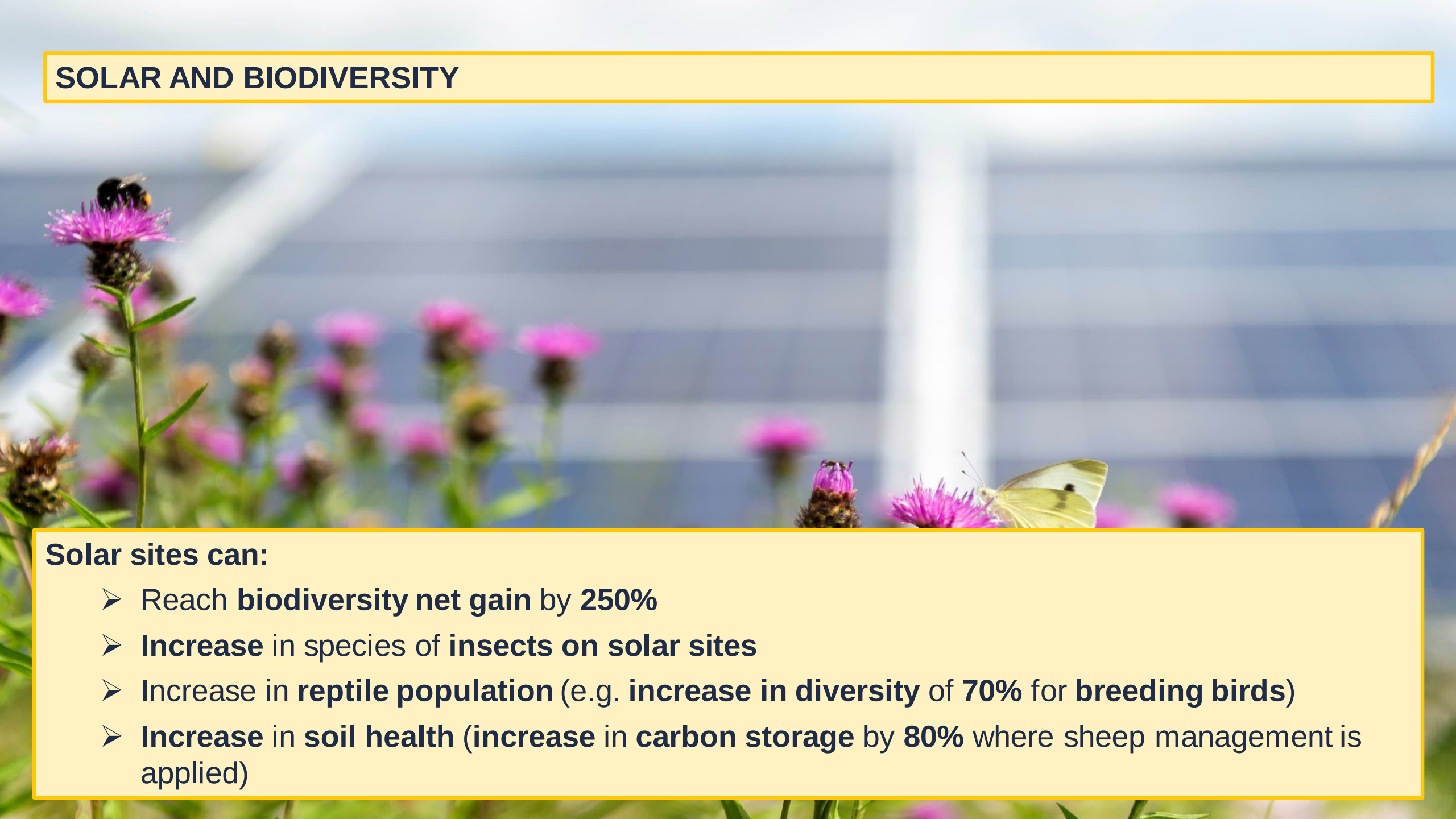
source: SolarPower Europe, Eurostat

Renewable Energy Targets (Stated Policy pathway)
Total Resource available on Low-Conflict lands
(in GWh)

Source: Ember (Rosslowe, C., E. Cremona, and T. Harrison. 2022. New Generation: Building a clean European electricity system. Ember)
Countries: EU 27 (minus Cyprus, Malta), Balkan 5 (Albania, Bosnia & Herzegovina, Montenegro, N Macedonia, Serbia), Switzerland, United Kingdom.

SOLAR AND BIODIVERSITY



Solar sites can:

- Reach **biodiversity net gain** by **250%**
- **Increase** in species of **insects on solar sites**
- Increase in **reptile population** (e.g. **increase in diversity** of **70%** for **breeding birds**)
- **Increase** in **soil health** (**increase** in **carbon storage** by **80%** where sheep management is applied)

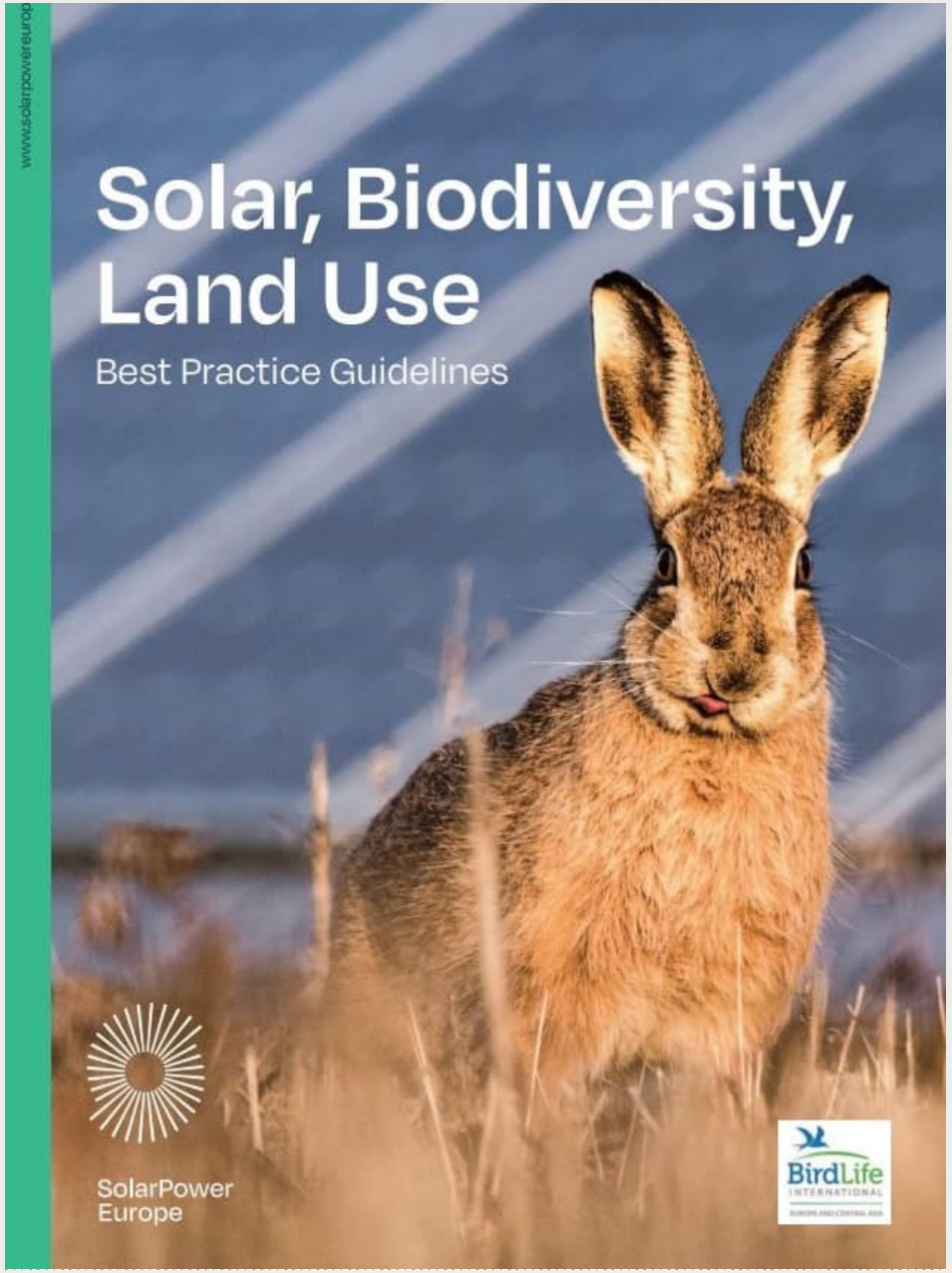
Project: *Spitalhöfe solar PV park* (BayWa r.e.) - Germany

Benefits:

- ✓ Creation of **flowering islands** + **increase** of **pollinating insects**
- ✓ Creation of:
  - **nest boxes**
  - **biodiversity corridors**
  - **habitats** (for reptiles, small mammals)
  - **hedges** and **trees**
- ✓ **Improving soil health** by introducing sheep grazing
- ✓ **Restrict the use** of **herbicides** and **pesticides**

Check our report

- **Overview of nature legislation at EU** and national levels, and **Member State examples**
- **Addressing** the potential **impacts on land use** from solar PV projects and outlining **key actions** for **suitable land identification**
- **Provision of best practices**:
  - solar PV projects and initiatives that protect and enhance biodiversity;
  - best practice guidelines on how to incorporate environmental considerations across solar PV phases



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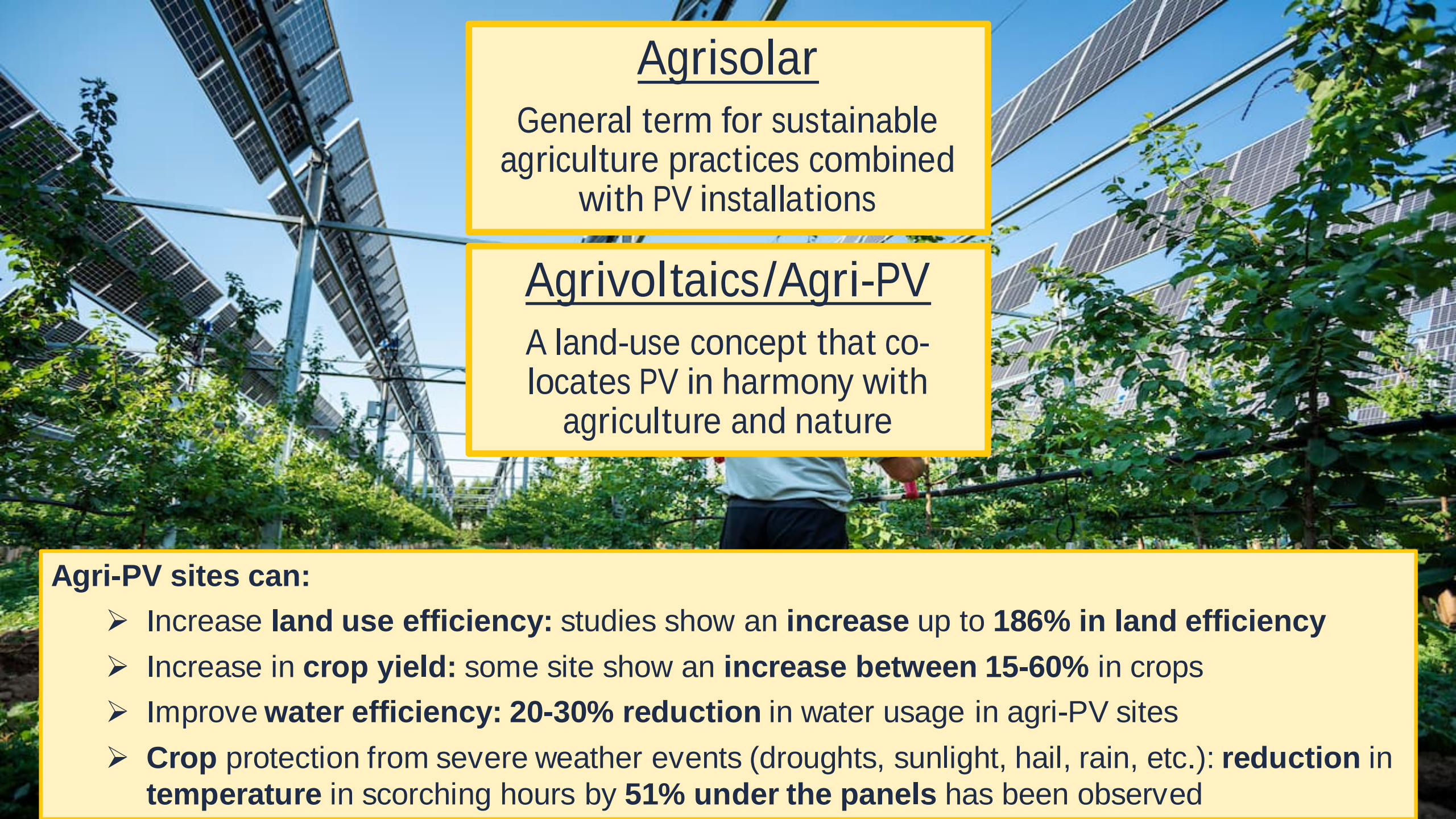


Agrisolar

General term for sustainable agriculture practices combined with PV installations

Agrivoltaics/Agri-PV

A land-use concept that co-locates PV in harmony with agriculture and nature

Agri-PV sites can:

- Increase **land use efficiency:** studies show an **increase** up to **186% in land efficiency**
- Increase in **crop yield:** some site show an **increase between 15-60%** in crops
- Improve **water efficiency: 20-30% reduction** in water usage in agri-PV sites
- **Crop** protection from severe weather events (droughts, sunlight, hail, rain, etc.): **reduction** in **temperature** in scorching hours by **51% under the panels** has been observed

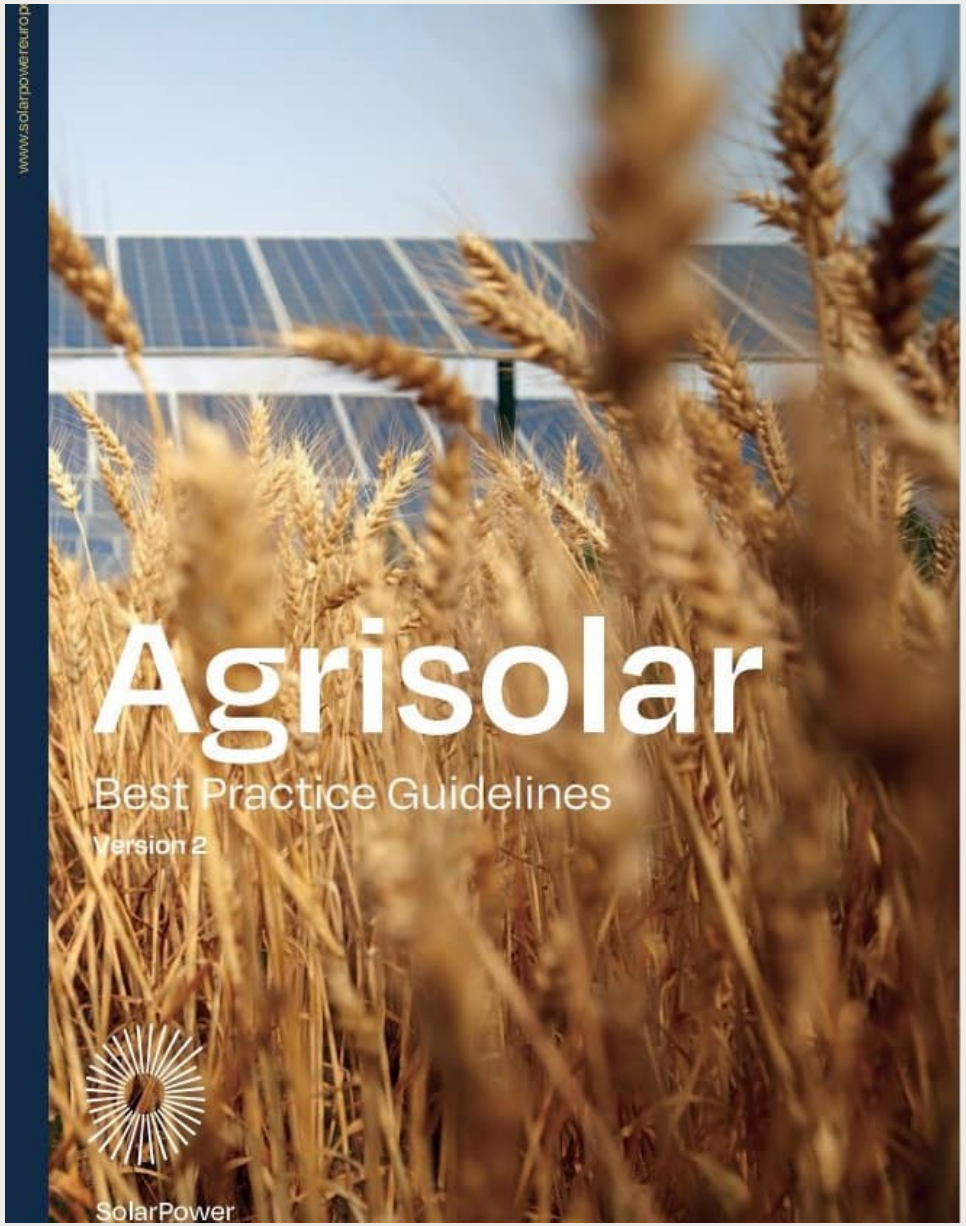
Project: *Agri-PV demonstrator projects* (Enel Green Power) - Greece

Benefits:

- ✓ **Increase in crop yield** between **15-60%** depending on the crop type
- ✓ Implementation of sensors **to monitor the reduction** of **fertilisers**
- ✓ **Reduced water use** by **15-20%**
- ✓ **Use** of **biodegradable mulching films** to reduce plastic use

Check our report Agrisolar Best Practice Guidelines Vol 2 (2023)

- **Overview** of **existing business cases**, **trends**, innovations, and **best practices** for implementation
- **Identification** of Agrisolar **solutions for dual-land use**, additional **revenue schemes** for the agriculture sector, and opportunities for **greener rural development**
- **Recommendations** to local and international actors on how to **successfully implement Agrisolar technologies**



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What is happening on the ground ?

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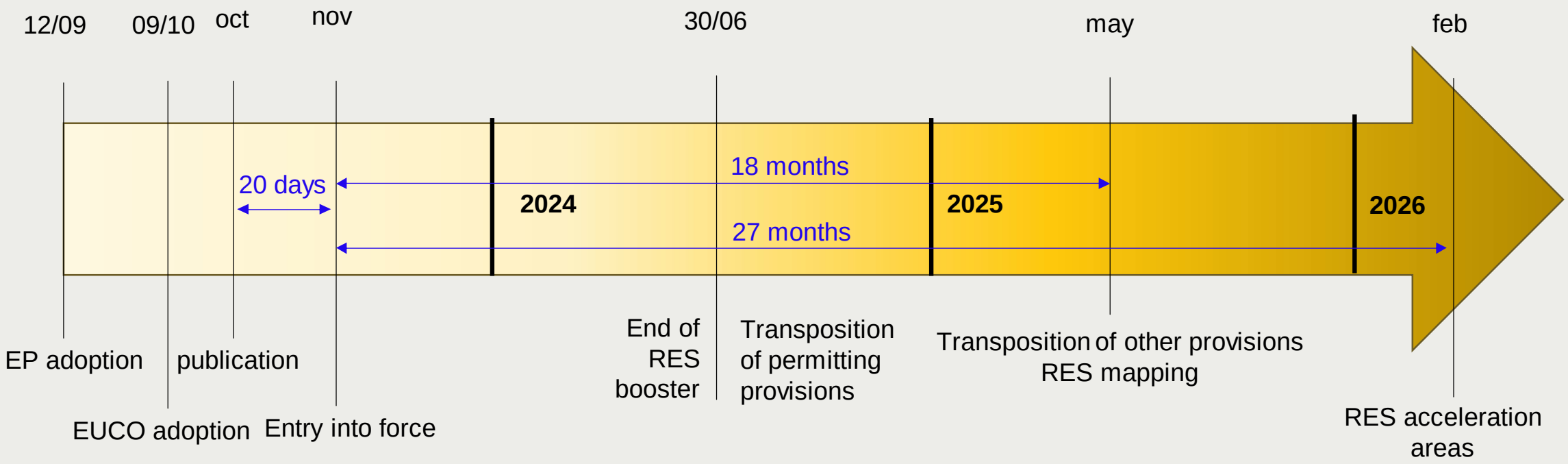
Renewable Energy Directive



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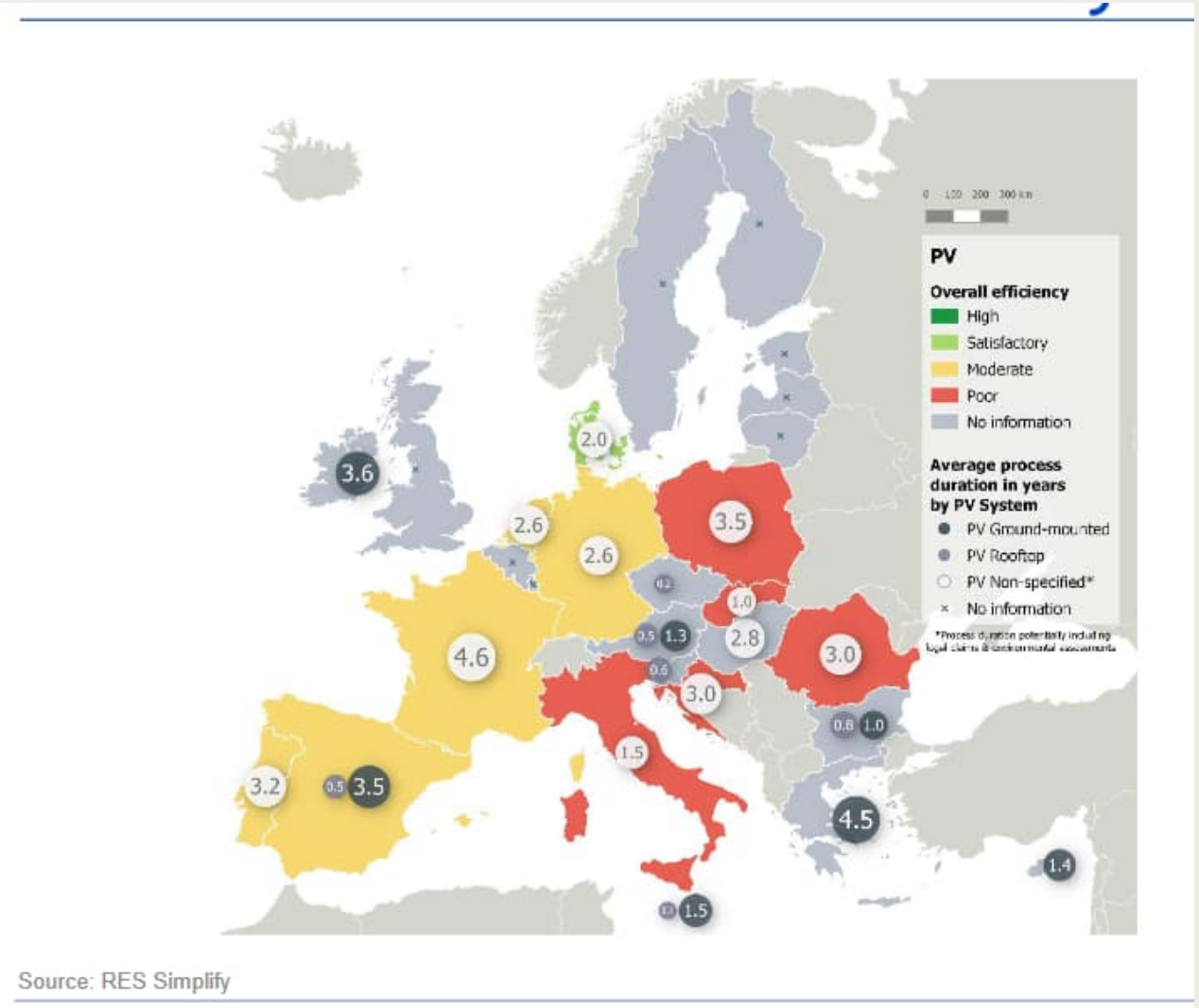
Results of industry survey shows permitting can take up to 4~5 years



Source: RES Simplify

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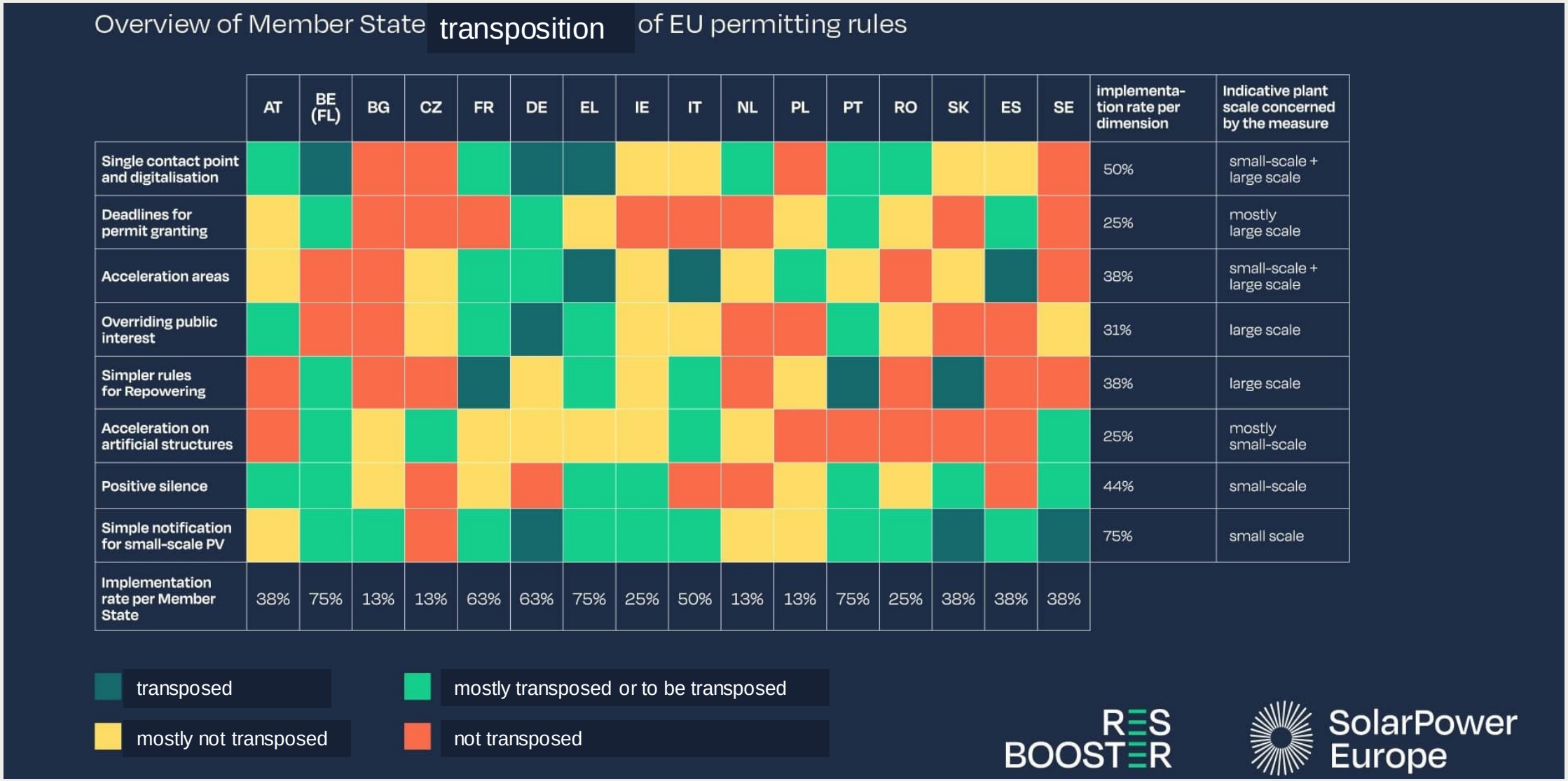
Permitting Benchmark



	AT	BE (FL)	BG	CZ	FR	DE	EL	IE	IT	NL	PL	PT	RO	SK	ES	SE	implementation rate per dimension	Indicative plant scale concerned by the measure
Single contact point and digitalisation																	50%	small-scale + large scale
Deadlines for permit granting																	25%	mostly large scale
Acceleration areas																	38%	small-scale + large scale
Overriding public interest																	31%	large scale
Simpler rules for Repowering																	38%	large scale
Acceleration on artificial structures																	25%	mostly small-scale
Positive silence																	44%	small-scale
Simple notification for small-scale PV																	75%	small scale
Implementation rate per Member State	38%	75%	13%	13%	63%	63%	75%	25%	50%	13%	13%	75%	25%	38%	38%	38%		

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Available here: https://www.solarpowereurope.org/advocacy/position-papers/res-booster-stocktake

Small Scale PV (Article 4.3. and 4.4 of RES booster)

Where we are

- Transposition rate: 75%
- Overall well transposed but not going far enough (most countries limit to 10.8kW vs. 50kW)

Examples

- In Belgium, it is possible to derogate and apply such a procedure only to projects below 10kW.
- In France, in certain conditions, tacit refusal is applied
- Bulgaria *de facto* excludes projects exporting to the grid.
- In Italy, the use of a simplified model is envisaged for rooftop PV < 200kW.
- In Sweden, users <63 A do not have to pay a fee to connect a unit <43.5 kW at an existing grid connection point.
- In Portugal, for self-consumption facilities with an installed capacity equal to or less than 30 kW, R&D projects, are submitted to 'prior communication'.

What we need

The 10,8kW thereshold should be the exception, not the rule. Member State should justify why they use this lower threshold.

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Overriding Public Interest (Article 3 of RES booster)

Where we are

- OPI transposition rate: 31%
- When OPI is transposed, it is not always well implemented on the ground.

Examples

- France leaves potential exemptions to be defined by decree.
- In Greece, local jurisdictions sometimes fail to consider OPI
- Romania has limited the application of the OPI to public projects
- In Germany, OPI must be applied to Solar PV until climate neutrality is achieved.
- In Germany, OPI applies not only to environmental legislation, but also to architectural heritage

What we need

Solar PV can work hand in hand with nature. We need more education of staff (including administrative agents and legal officers in Court), joint work with NGOs on how IROPI is applied on the ground, including compensation measures.

PV on artificial structures (Article 4.1. of RES booster)

Where we are

- Transposition rate: 25%
- Good progress on rooftop PV, but we still have a problem with architects (Naomi to find a figure)

Examples

- Belgium has put in place an acceleration procedure on artificial areas, but the list is limited to certain specific areas. For instance, structure such as carports are not considered artificial structures.
- In Belgium, the emergency Regulation of December 2022 has been (at least partially) implemented, with a three-month deadline on artificial structures.
- In France, the law establishes deadlines for the greening/solarisation of artificial structures (e.g. car parks or non-residential buildings)

What we need

A non-exhaustive but long list of artificial structures, including: rooftops, building façades, carparks, sound barriers on motorways or railways, cycle path shelters, buffer zones along transport infrastructure, industrial areas, former industrial areas, mining sites, built areas in military zones, public transport depots.

Renewable acceleration areas

Where we are

- Transposition rate: 38%
- Generally in progress, but several MS have started with “no-go” zones
- Good examples in ES or some DE Länder: provide information to the developers on suitable areas
- Generally, lack of real acceleration in these areas on the ground

Examples

- In France, local authorities (cities or borough councils) must identify ‘acceleration zones’ for renewables. The complexity of the administrative process entails the risk for delay
- In several cases, Member States do not possess specific legislations to manage how these acceleration areas shall be treated for the deployment of renewables.
- In Spain, the Ministry published of areas suitable for wind and solar PV. These rules are, in addition, applied nationally, so federalism is not an issue – national standardisation is applicable.

What we need

A clear checklist / guidance from the Commission to Member States on how to define mapping.
Staffing / Skilling of local authorities will be paramount

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Thank you for your attention.