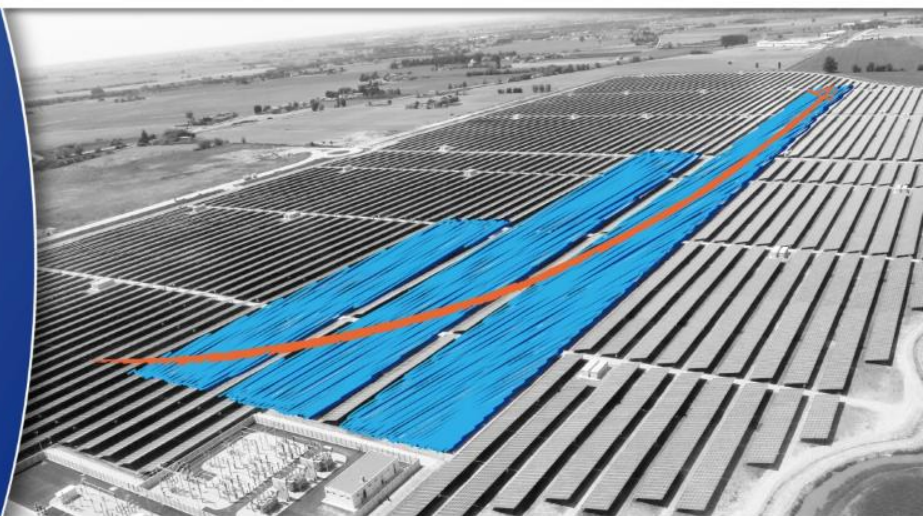


# Self-consumed electricity can be cheaper electricity



Alexandre Roesch, Policy Director, SolarPower Europe

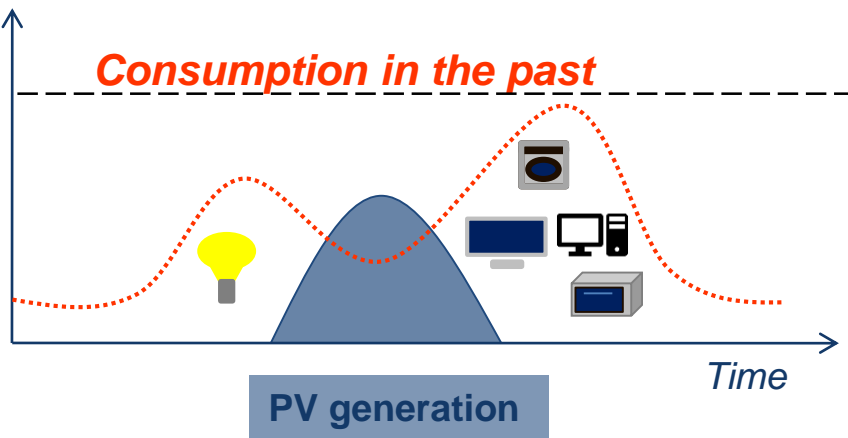
Policy makers workshop “Solar: helping consumers and businesses control their energy costs”, Brussels, Tuesday 2 May 2017



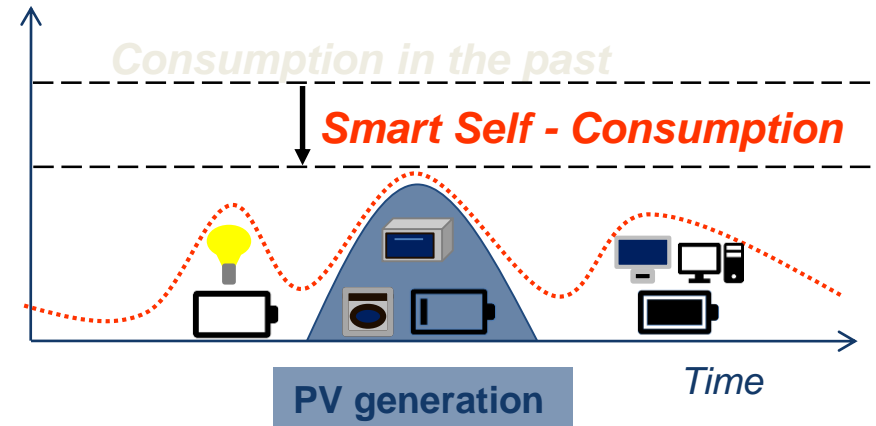
This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 646554

# Towards smart self-consumption

Load curve

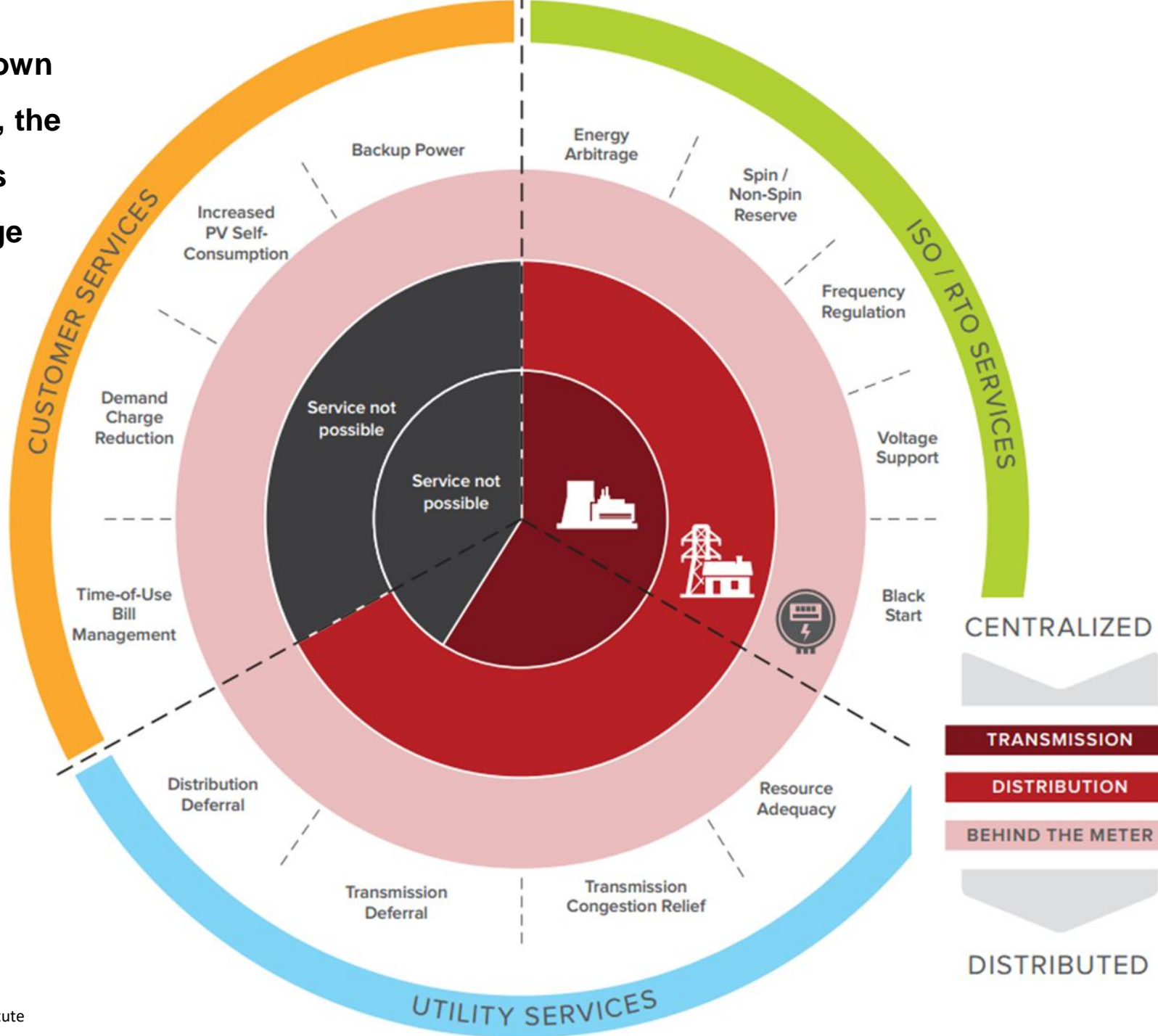


Load curve



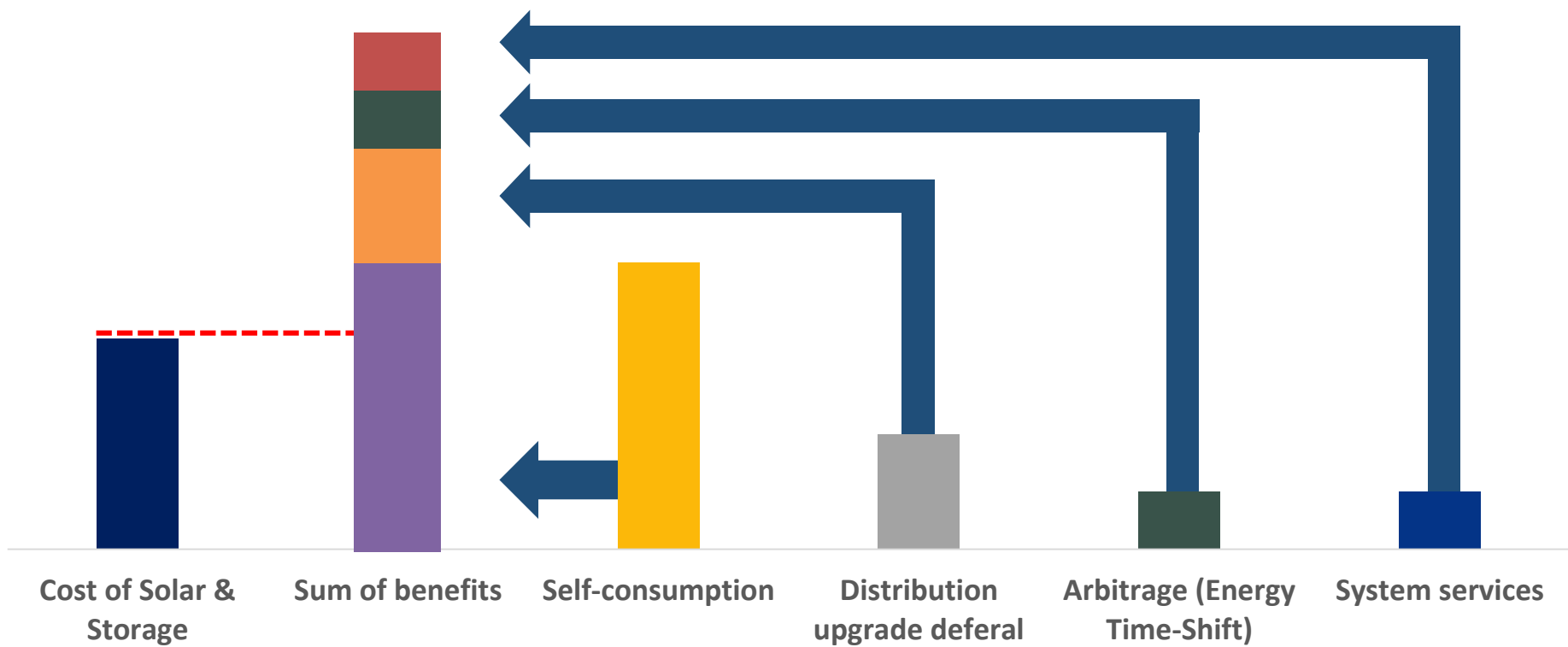
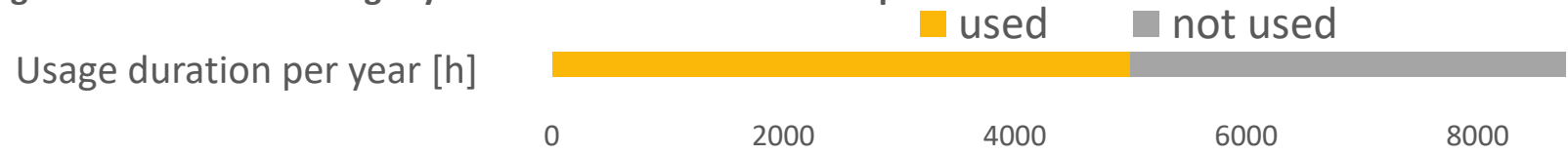
\*adapted from Enedis l'ELECTRICITE EN RESEAU

The further down  
in the system, the  
more services  
battery storage  
can provide



# The prosumer as a new source of flexibility for the system

Usage of a residential storage system to increase self-consumption





European Union



## DESIGNING EU POLICY TO ENCOURAGE NEW SOLAR BUSINESS MODELS

### EU POLICY ADVISORY PAPER

PV FINANCING project | January 2017  
Deliverable 6.4 – Public – EU Policy Advisory Paper

Sonia Dunlop - Alexandre Roesch - James Watson



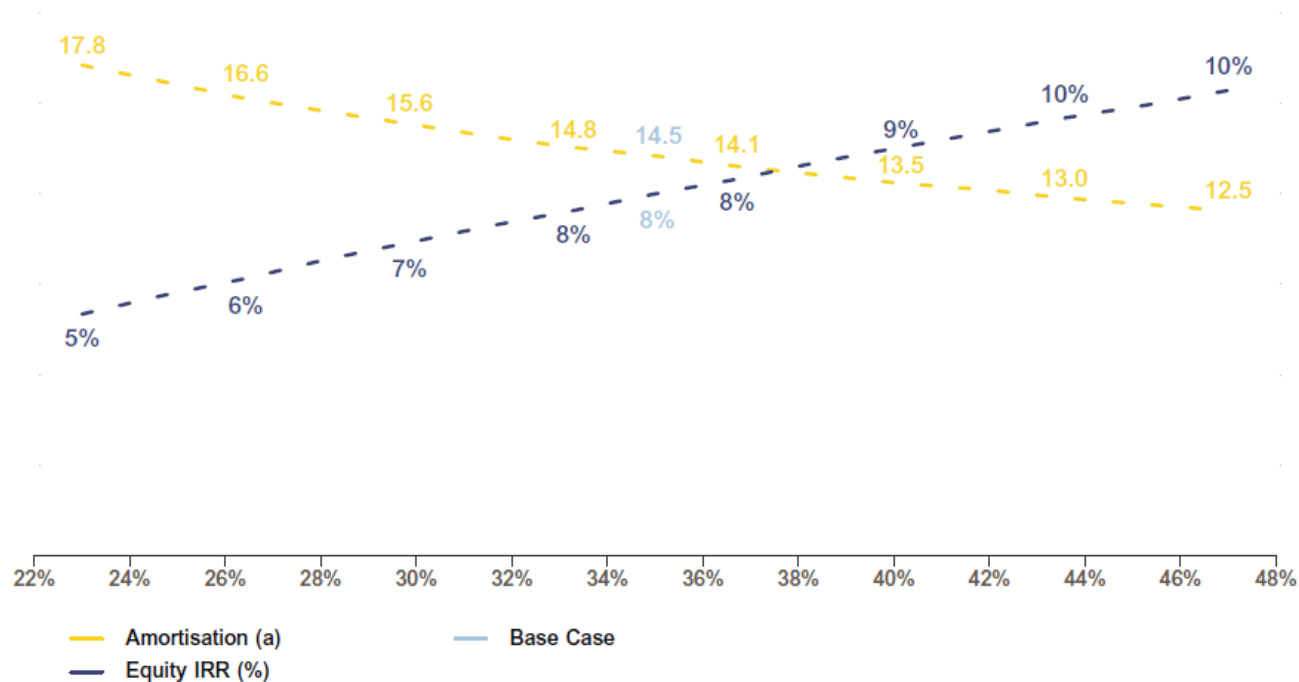
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## AVOID GRID CHARGES THAT DISINCENTIVISE SOLAR

# High impact of self-consumption rate on business models

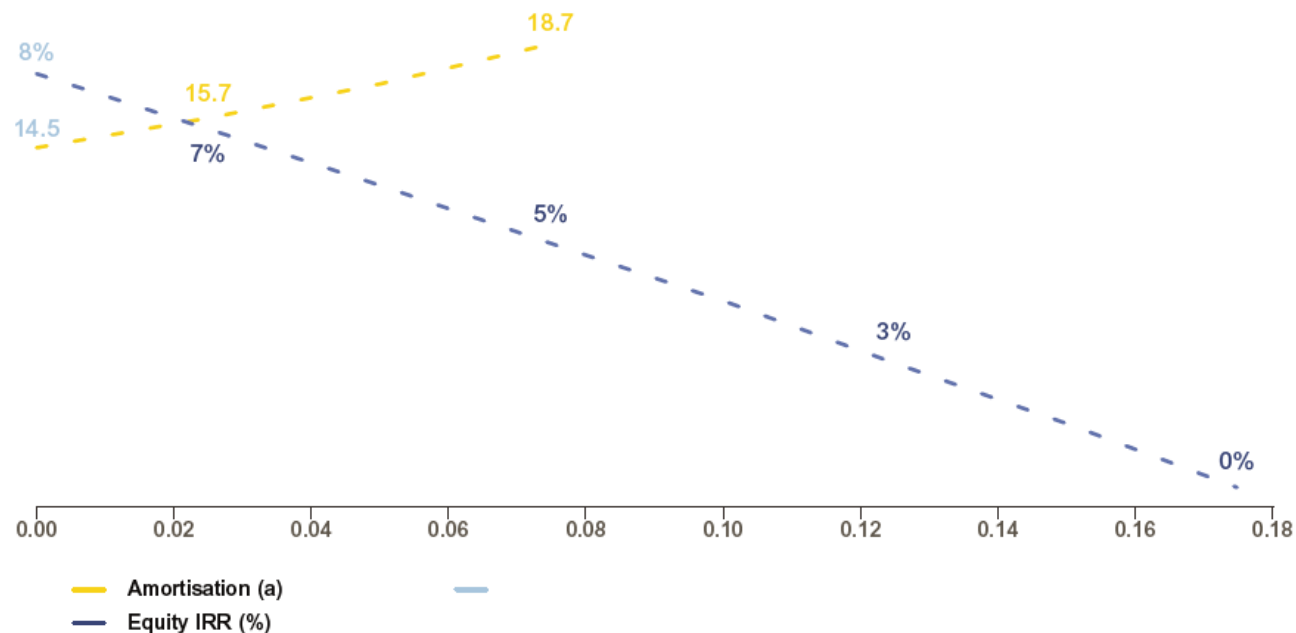
**Figure 18.** Sensitivity analysis of self-consumption based on self-consumption rate





# High sensitivity to grid charges and fees

**Figure 19.** Sensitivity analysis for self-consumption based on levies and fees on self-consumed electricity



- Self-consumed electricity should not be subject to taxation
- Self-generators and prosumers need to be protected from disproportionate grid charges
  - Grid tariffs are adjusted by national regulators every 4-5 years
  - Balance between volumetric and capacity-based grid charges may evolve over time with increasing penetration of solar in the system
- Deploy local flexibility markets to multiply the revenue streams for smart self-consumption
- Ensure that storage-based services can be stacked and ensure a « free movement of kWh » from storage unit to the grid





European Union



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ENCOURAGE SELF-CONSUMPTION MODELS  
& REMUNERATE EXCESS SOLAR ELECTRICITY



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Solar Together Norfolk has been a huge success with over 800 householders accepting their personal offer of this council-led solar scheme. In the coming months all solar panels will be fitted on the rooftops of houses in Norfolk.

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- Member States to lift regulatory barriers to the uptake of **individual and collective** self-consumption and PPA business models, especially where:
  - Self-consumers are tenants and not landlords
  - RES producer, plant operator and self-consumer(s) do not coincide
  - Self-consumers need a second supply contract for residual power demand
  - Not all building occupiers want to self-consume
  - Self-consumers are located in different premises/sites
  - PPAs do not entail the physical transfer of the electricity from the producer to the consumer
- Excess electricity should be valued ***at least*** at market price



# Questions?

**Alexandre Roesch**

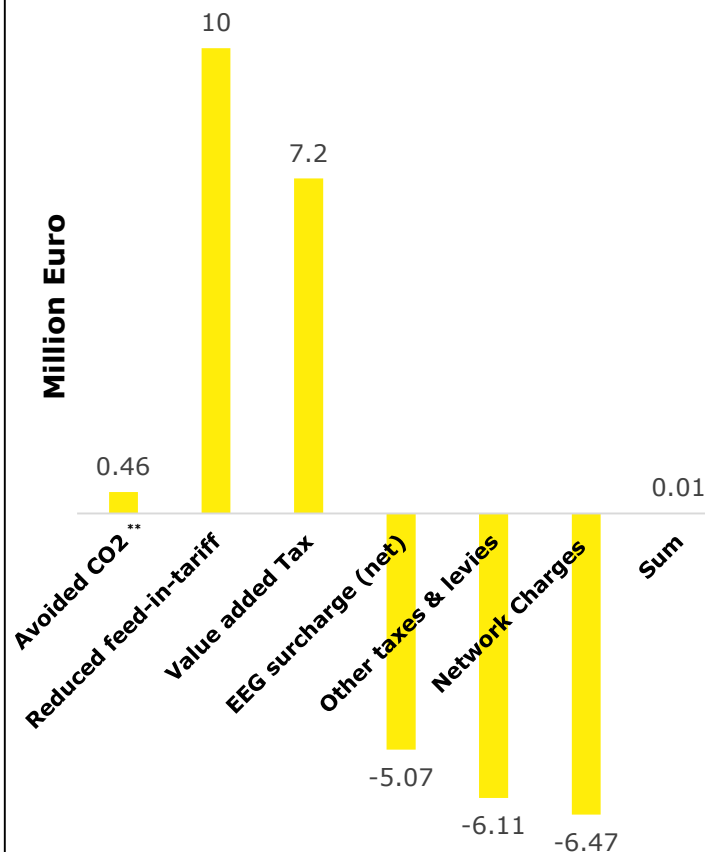
**Policy Director, SolarPower Europe**

Email: [a.roesch@solarpowereurope.org](mailto:a.roesch@solarpowereurope.org)

# Solar & Storage has positive effects

## Monetary effects of 78.5 GWh self-consumed electricity\*

### KfW programme for Solar & Storage

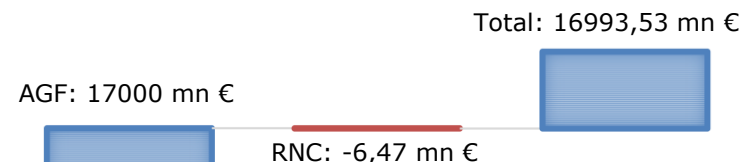


## Benefits not quantified

- ✓ **Reduced network upgrade needs** (studies estimate by factor 2 in Germany)
- ✓ Health & environmental effects of **46000 tons of avoided CO2 & avoidance of other externalities**
- ✓ New jobs
- ✓ Decreased Solar & Storage prices
- ✓ Real consumer empowerment
- ✓ Local flexibility

## Conclusion

- **Effects of self-consumption are positive**
- Non-quantified benefits increase such effects, example **network upgrade deferral**:
  - **1 km transmission cable  $\approx$  1 mn €** \*\*\*
  - **1 km distribution cable  $\approx$  10 mn €**
- **Reduced Network Charges (RNC) must be seen in relation to the total Approved Grid Fees (AGF):**



- **It is therefore necessary that regulators**
  - **Do not apply any charges on self-consumption**
  - **Introduce principles to assess the real economic, technical and social impacts of self-consumption**
  - **Distribute benefits to all stakeholders**