

energy authority

Prosumers and Active Self-consumption



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1995 – 2020

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Fair energy

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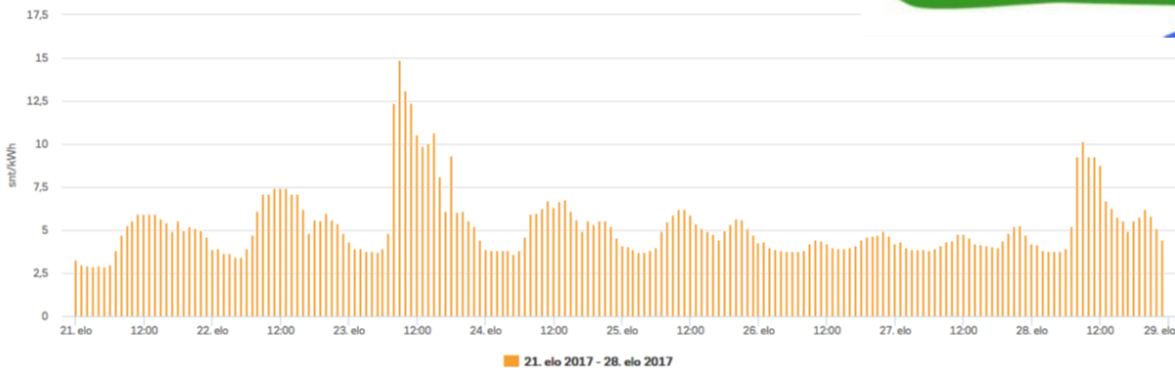
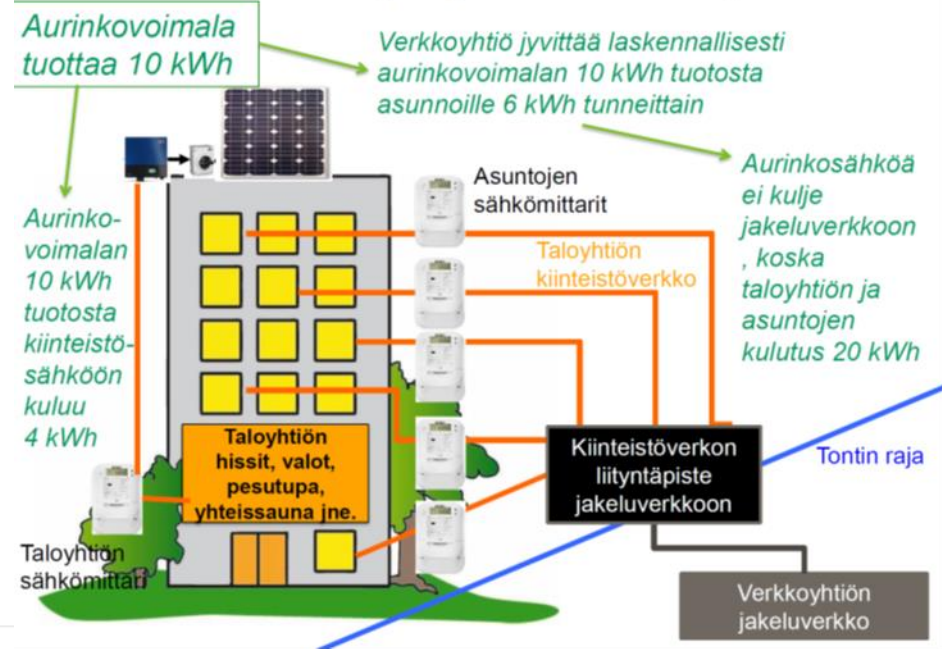
- Local Energy Communities in Finland
- New regulation on LEC's
- Smart Grid Forum



Local Energy Communities

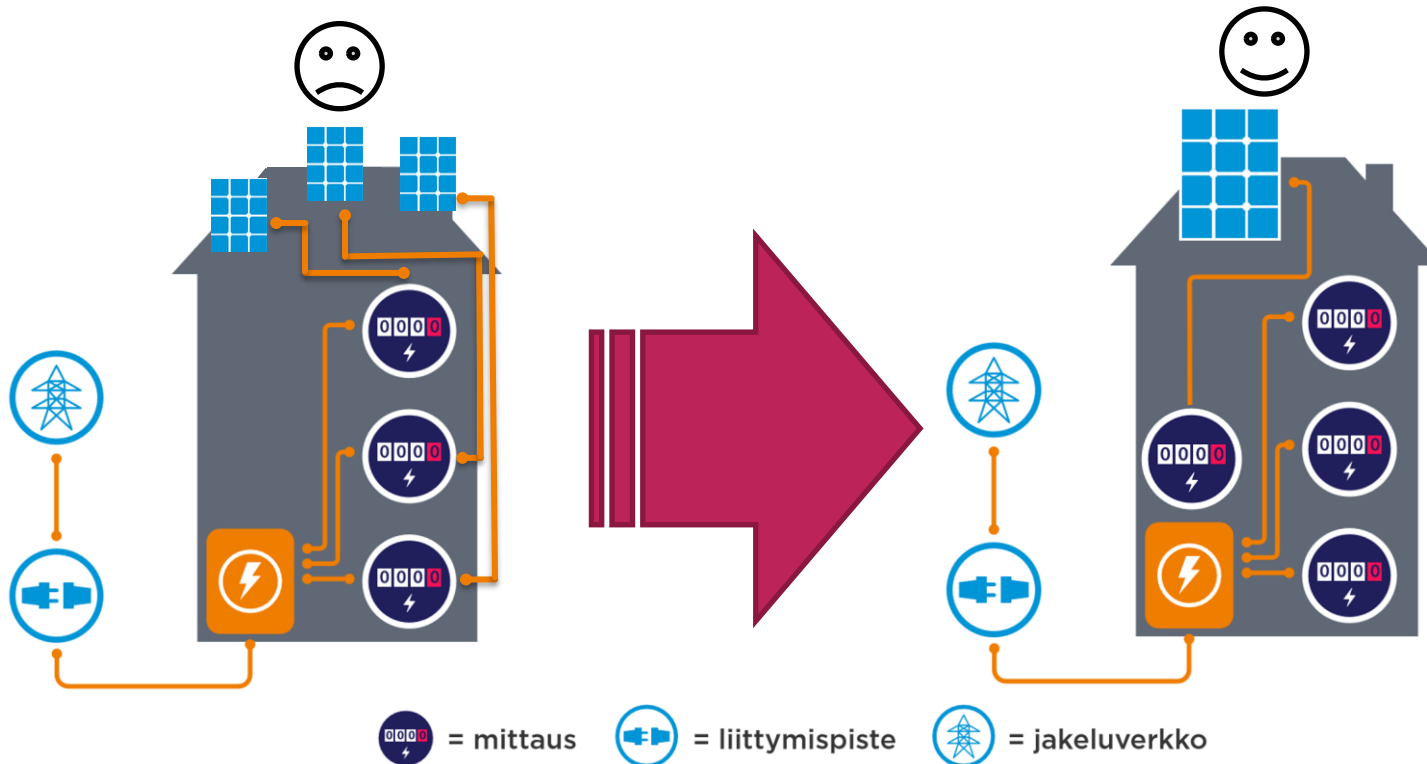


Aurinkosähkön hyvityslaskenta taloyhtiössä





Reasoning on net-calculation for LECs



A Governmental degree

- A new degree to regulate balance settlement and metering to enhance LECs
- Definitions:
 - Local Communities
 - Active Consumers
 - Net-calculation of electricity consumption and production in distribution networks
 - Balance settlement with the LECs and active consumers and usage of their metering data
 - In force since 1st Jan. 2021

Calculation inside of Balance settlement period

- When to apply?
 - A local energy community that meets the requirements of the Decree (Chapter 1, Section 3), a group of active customers or an individual active customer under certain conditions (Chapter 1, Section 4)
 - Registration with the DSO and providing of the necessary information
 - Production equipment, power plant or storage less than 1 MVA
- What does application mean in practice?
 - Electricity produced / stored by LEC or group is distributed to sites within the reporting period according to the declared shares
 - The consumption of the electricity use at site and the share of electricity produced / stored are added together
 - Unused electricity is fed into the grid for distribution (surplus)
 - the surplus is allocated to the location of production, with coming Data Hub, it is possible to allocate it to each connection point
 - Net-calculation > value to be used in balance settlement > invoicing

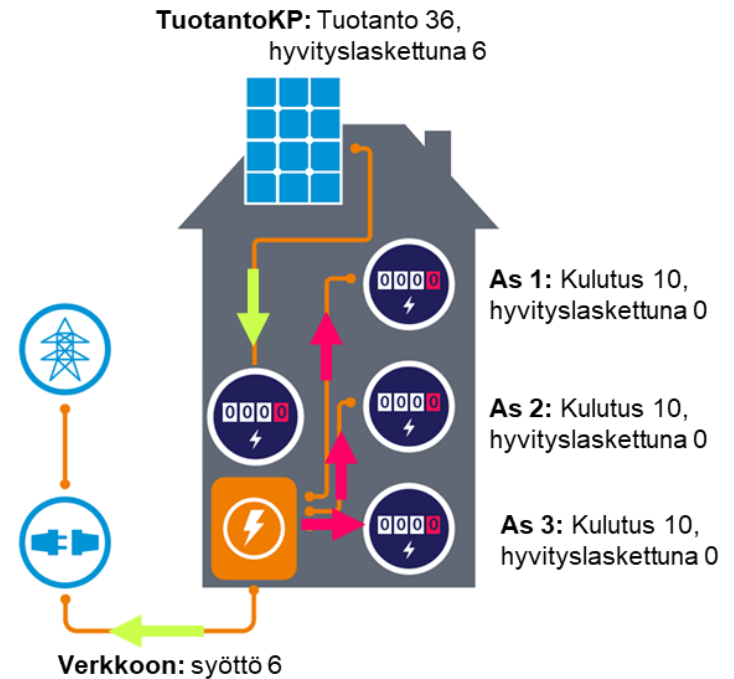
Net-calculation within balance settlement period

- When to apply?
 - At the same site of production and consumption
 - Consumption and production are measured with the same distribution system operator's metering equipment
 - Up to 100 kVA power generation equipment or power plant
- What does application mean in practice?
 - During the same balancing period, the electricity consumed and produced at the place of use is added together
 - A reading into either a consumption or production measurement time series
 - The value obtained from netting is used in balance settlement clearance and invoicing
 - Netting is not done with a meter, but with systems
- When and by whom?
 - DSOs can provide service for calculation
 - Data hub will take over 1st Jan. 2023



A Simple Example

- Production 36 kWh
- Consumption of each three consumers 10 kWh
- Surplus distributed via production point





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Smart Grid Forum objectives:

- 1. Support the implementation of the Clean Energy Package and Smart Grid Task Force proposals,** in particular on consumer resilience, consumer choice and energy communities
- 2. To have dialogue on the development of the network regulatory methodology** to promote market access and efficient use of consumer flexibility in network operations, citizens' energy communities and a customer-centric retail market model
- 3. Identify and share experiences on operating models and best practices** to achieve the goals of the Clean Energy Package and Smart Grid Vision



Smart Grid Forum themes

1. New tasks for distribution network operators

- Supporting the use of market-based flexibilities in distribution network operations, ownership of energy storage and charging infrastructure for EVs

2. Independent aggregators

- Enabling service providers and parties to participate in different markets

3. Citizens' energy communities

- The need for regulation and guidance for energy communities

4. Metering and information exchange

- Cybersecurity, enabling new services and more real-time markets in regulation, open interface for measurement flexibility

5. Customer-centric retail market model

- Reform of delivery obligations, harmonization of distribution fee structures

6. New operating models and methods, Sandboxes

- Enabling pilots and experiments to gain experience and knowledge



Smart Grid Forum

- Energy Authority established in autumn 2019 a Smart Grid Forum to assist and discuss proposals to the Ministry of Economic Affairs and Employment for implementation of smart grid provisions of the Directive and proposals of the Smart Grid Working Group.
- During winter-spring 2019 – 2021 Energy Authority discussed in the Forum together with relevant stakeholders on:
 - LECs
 - Sandboxes
 - Role of DSOs and new tasks
 - DSO tariff harmonisation
 - Customer-centric retail market model
 - Independent aggregators
 - Based on these discussions and NordREG recommendations Energy Authority prepared suggestions to implement independent aggregator provisions in the Finnish legislation
 - These suggestions were submitted to the Ministry in June 2020.



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Thank you!

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