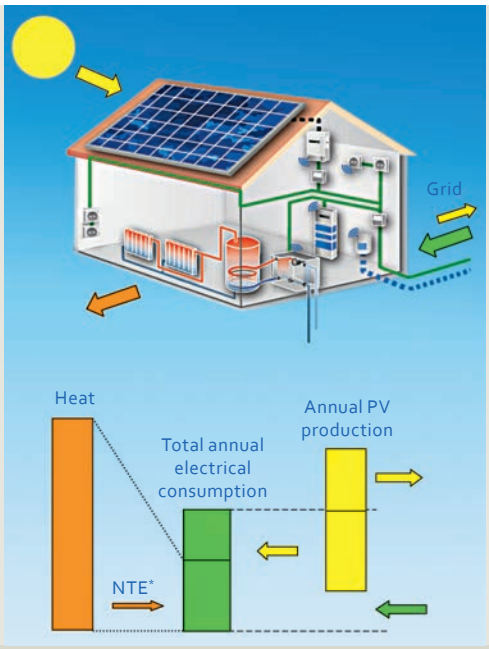
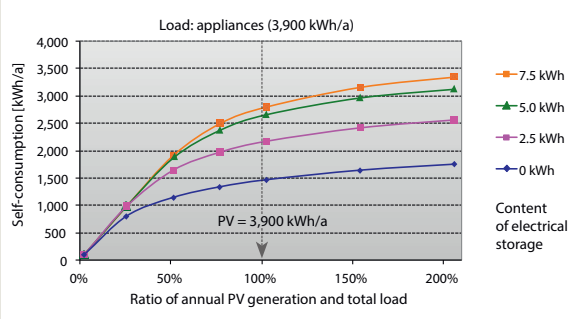
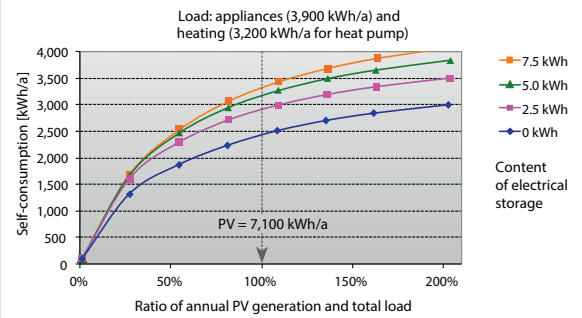
// ZSW Research in Photovoltaics, Heating and Storage: My Home Is My Power Station



// Photovoltaics and storage as part of an energy-efficient domestic infrastructure to supply both heat and electricity.





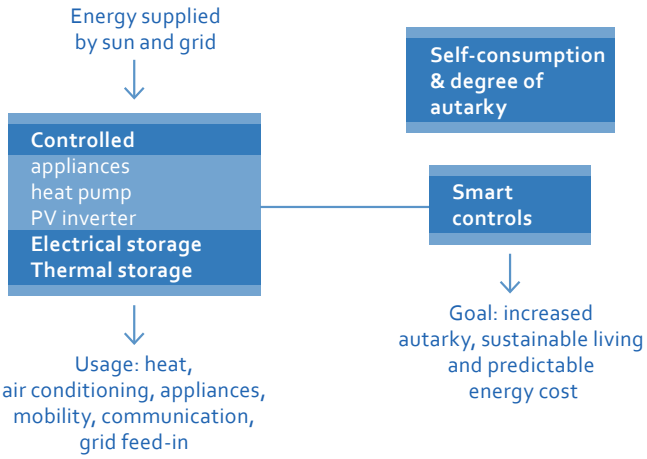
// Photovoltaics and storage as part of an energy-efficient domestic infrastructure to supply both heat and electricity

// Self-consumption of locally produced solar PV power reduces pay-back time for PV systems compared to grid feed-in.

// Smart use of appliances and electrical storage increases self-consumption. An additional increase of self consumption is possible with heat pumps or other electricity-driven systems to provide space heating and hot water.

// ZSW has experience from field tests on PV storage systems and fuel cell heating systems, as well as competence on system modelling and economic evaluation.

// ZSW is partner to equipment manufacturers, local utilities, as well as commercial energy consumers, helping them to optimize systems and suggesting ways to reduce energy costs through smart investments and the smart use of systems.

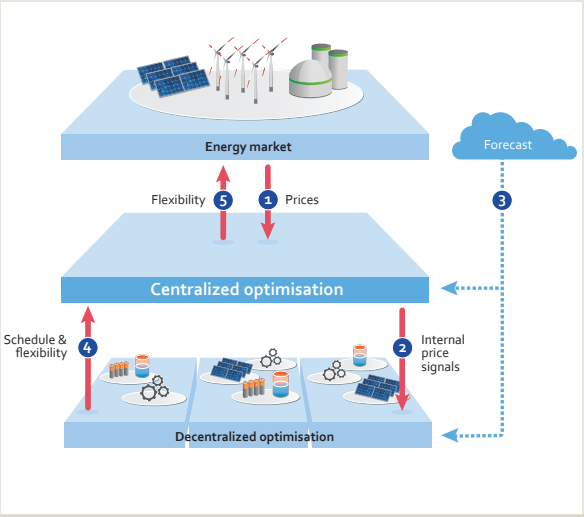


Contact
Dr.-Ing. Jann Binder
+49 (0)711 7870-209
jann.binder@zsw-bw.de

05/2017

Zentrum für Sonnenenergie- und Wasserstoff-Forschung Baden-Württemberg
Certified according to DIN EN ISO 9001:2008
www.zsw-bw.de

// ZSW Research to integrate renewable energy sources into the grid



// Smart Grids – Smart Districts

Demand Side Management (DSM), Sector Coupling and smart use of storage are tools to enable an efficient operation of energy systems dominated by renewable energy sources (RES).

// The design of optimized energy generation systems for network regions, urban or industrial quarters and single buildings is covered by the ZSW tool P²IONEER.

// Generation and load forecasts (see figure on the left: 3) are key for the efficient operation of such systems; ZSW is employing state-of-the-art machine learning for short-term and long-term forecasts.

// Pricing information (1, 2) on different aggregation levels is a means to perform central and decentralized control of such systems.

// Flexibility (4, 5) from DSM and storage is a key factor – we develop methods to optimize the use of those resources from a network and market perspective.

Contact
Dr.-Ing. Jann Binder
+49 (0)711 7870-209
jann.binder@zsw-bw.de

05/2017

Zentrum für Sonnenenergie- und Wasserstoff-Forschung Baden-Württemberg
Certified according to DIN EN ISO 9001:2008
www.zsw-bw.de