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### **CV Annex I: Recent Energy System Innovation Projects**

- **IEA ENARD Annex I (2008+)**: International Energy Agency ENARD (Electricity Network Analysis R&D): Contributions to develop an authoritative, comprehensive and unbiased international source of information, data and advice, such as to inform governmental officials, policymakers and key industry stakeholders of the pertinent issues relating to current and anticipated developments in electricity transmission and distribution networks and systems (Partners: AT, BE, DK, FI, FR, IT, NL, NO, South Africa, ES, SW, CH, UK, USA)
- **EU SmartGrids ERA-Net (2008+)**: Consulting and research advice to national governments and the European Commission (7th Framework program; co-representation of Switzerland together with Swiss Federal Office of Energy (SFOE)) to stimulate the right interdisciplinary European innovation, research, development and deployment activities (pilots) in the areas of production, transport, distribution and storage of electricity/energy. Bacher is a work package leader. This European SmartGrids Research Area Network (ERA-NET) project is funded by European Commission (Partners: NL, CH, AT, DK, FR, ES, NO, GR, Macedonia, BE, CR, SI, Basque Country, Estonia, Latvia)
- **IEA Active Distribution Grids ENARD Annex II (2008+)**: Analysis of grid operator and new business stakeholders strategies and means for a high security of supply, optimal operation and new business models of active distribution grids and systems (Funded by SFOE; Partners: AT, BE, DK, FI, FR, IT, NO, ES, SW, CH, UK; BACHER ENERGY LTD is a task leader; Austria is project leader)
- **SmartGrids Research Monitoring (2010+)**: Collection, categorization of ongoing interdisciplinary national and international SmartGrids projects (technical, economic, environmental, social, legal), their participants, goals and project descriptions within Europe. This project intends to create a living, distributed information base with continuous, active contributions of European SmartGrids researchers and involved funding institutions (Funded by SFOE and self; Several hundred interdisciplinary SmartGrids projects and associated SmartGrids researchers will be involved)
- **Swiss2G (2009+)**: Pilot and demonstration SmartGrids research project with application in Mendrisio (Ticino) for the optimal integration of electrical vehicles in the distribution grids with minimum central and as much as possible distributed monitoring and control (Funded by Swiss Electric Research and SFOE, Partners: Universities (SUPSI Ticino – Sustainability and Economics), Berner Fachhochschule – Grid model and computation, Battery specialists (Ticino), Hydro power generator company (KWO) and Bacher as grid based system and technical / regulation expert)
- **SmartGen (2010+)**: Research project for the “Efficient identification of opportunities for Distributed Generation based on Smart Grid Technology”: Develop real-world applied models which illustrate both energy resources and grid information visually by combining SmartGrids technology scenarios with input from Geographical Information Systems (GIS) and Network Information Systems (NIS), including electrical grid models. (Funded by Romande Energie, ERA-Net-SFOE, Self; Bacher is coordinating a team of three other Swiss institutions and leads the coordination with the European partners NO, DK and Latvia)
- **Improsume (2010+)**: This research project focuses on “prosumers” (Producer & Consumer) and their role and influence on the future energy system and market. The interdisciplinary research will include long-term scenarios where virtual power producers and micro-generation units emerge. The project will study consumer acceptance and adoption of the prosumer role. Improsume intends to extract system constraints, rules and relationships that can help design and optimize the Smart Grid, the definition of new market mechanisms, trading instruments and grid management facilities to achieve optimal use of resources, high regularity, acceptable price levels and stability of supply as well as sustainable growth for the European countries (Funded by ERA-Net SFOE, self; Bacher is responsible for grid related issues in the market model and cooperates with the Swiss partner University of St. Gallen); European Partners from NO, DK)
- **GridBox (2011+)**: A monitoring and control infrastructure for the future electricity grids is defined, realized and tested. It consists of an intelligent low-cost “GridBox”. The goal is high operational grid stability at low costs assuming decentralized electricity infeeds and flexible consumers including electric cars. At the same time this technology should allow open end-consumer markets.