

Hache, E., Palle, A., 2017, Integration of variable RES into power networks, ANCRE survey

Survey conducted for the French National Alliance for the Coordination of Energy Research (ANCRE) in 2017 (may-june).

1. Survey

The French National Alliance for the Coordination of Research on Energy (ANCRE) launches a study on the conditions for the integration of high level of variable renewable energies into power networks. In this respect, we try to ask specialists of this domain about their perception of the stakes and challenges regarding the topic. This quick survey (5 to 10 minutes) is a first approach, it might be followed, if you are interested by a short interview to further discuss the topic.

All the answers will be aggregated and non-nominal.

It is of course possible to choose not to answer some of the questions.

Introduction

Surname

Name

Institution/Firm

Current Function

Are you currently working on the integration of VRE into power systems?

General questions

1. Which do you think are the most important conditions for a fast and smooth integration of VRE into power networks? (You can select several answers)
 - Technology evolution
 - Cost reduction
 - Funding facility
 - Regulation evolution
 - Social acceptability
 - Public Policy Evolution
 - Evolution of markets and economic patterns
 - Network development
 - Other

2. In the scenarios or modeled simulations for high integration rates of renewable energies, what are the important elements which are not taken enough into account ? (Network stability, economic dimension, consumer behavior, design or functioning of power markets, etc.)

3. Which do you think are the most influential actors for a fast integration of VRE into power networks? (You can select several answers)

- Politics
- Regulators
- Industry
- Research
- Transport System Operators
- NGOs
- Local actors
- Other?

4. Which is the most appropriate geographic level for this integration ?

- Individual (producer consumer)
- Local
- Regional
- National
- Group of neighboring countries
- European
- Other?

5. Which do you think are the most important technologies that should be developed to insure a fast and smooth integration of VRE into power networks (You can select several answer)?

- Network flexibility technologies
- Storage Technologies
- Forecast technologies (weather, demand, production)
- Integrated energy management systems
- Demand side management
- Other?

6. Which do you think are the most relevant publications regarding the integration of VRE into power networks?

7. Are you a scenario producer or a modeler?
8. Would you be available for a 30 minutes interview by phone or Skype to discuss this topic further?

Specific questions for modelers and model producers

9. Is this topic of the integration of variable renewable energy into power networks central in your current modeling exercises?
10. Do you wish to comment on your previous answer?
11. Which type of model do you use?
12. What is the name of your model?
13. The modeling exercises currently available in the scientific literature propose very different results, how would you explain this disparity? (intrinsic state of play of modeling issues, available data, hypothesis, methods, questions asked, position of the different clients)
14. Is a convergence of these results possible given the current available means and what would be the prerequisite?
15. What criteria would you suggest to benchmark these models?

2. List of Institution respondents

Institution / Firm	Current function
Joint Research Center European Commission	Researcher
JRC	Analyst
EDF	Head of Strategy
IFPEN	Head of Economic Department
Tecnalia	Researcher
HACE Hydro Air Concept Energie	CEO
Ecole des Ponts ParisTech	Research Director
Energy Institute at the Johannes Kepler University Linz	Project Manager
ADEME Hauts de France	Head of Energy Transition
NOVA University of Lisbon	Researcher
EDF	Futures Studies
EPRG University of Cambridge	Director
Kadir Has University	Assistant Professor
OECD/NEA	Energy Analyst
Isterre	Phd Student
KU Leuven/EnergyVille	Professor
AutoGrid	Solution Architect
I4CE - Institute for Climate Economics	Project Manager
GERAD, UQAM	Head of Research
CIREN (CNRS-ENPC-CIRAD-EHESS)	Head of Research
World Bank	Economist
International Energy Agency	Analyst

University of Zagreb	Professor.
Aalborg University	Researcher
Aalborg University	PhD
University of Massachusetts	Postdoctoral fellow
Umweltbundesamt, Germany	Scientific Officer
CEA	Scientific Director for Nuclear Energy
UNSW Sydney (formerly called University of New South Wales)	Honorary Associate Professor
Lappeenranta University of Technology	Doctoral student/Researcher
Europa-Universitaet Flensburg	Professor and Director
ENGIE	Market analyst
MINES ParisTech	Head of Department
Mines ParisTech	Researcher
UPJV-CNRS	Professor
Université de Nantes	Vice-Chair Valorisation
Eneris Consultants	Consultant
Futuribles	Head of Study
Mines Paristech	Scientific researcher
KU Leuven	Postdoctoral researcher
RTE	R&D Director
CEA	Research engineer
Ministère de l'économie et des finances	Energy and Climate Spécialist
France Energie Eolienne	Economist
Lappeenranta University of Technology	Researcher/Doctoral student
Shanghai Jiao Tong University	Assistant professor

Energy Pool	CEO Western Europe
ENEA	Head of Scenario Analysis Service
UFBA Brazil	PhD candidate
Aalborg University	Professor
UNSW Sydney	Academic
Association Hespul	CEO
CEA	Director
EDF (R&D)	Researcher
EDF	R&D Program Director
GAEL (Univ de Grenoble Alpes, CNRS)	Research Engineer
IHS markit	Senior associate
Imperial College London	Research Fellow
Stellenbosch University	PhD student