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Implementing Agreement of the International Energy Agency (IEA): Electricity Networks Analysis Research & Development (ENARD Annex I)

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Inhaltsverzeichnis

Abstract	4
1. ENARD Vision	5
2. ENARD organization	5
3. ENARD Membership	5
4. Achievements	6
5. Future Activities	6
6. Internet	7
7. References	7

Abstract

The important role of electricity transmission and distribution (T&D) networks in the delivery of energy policy objectives was recognized by the International Energy Agency (IEA) via the establishment of ENARD (Implementing Agreement on Electricity Networks Analysis, research and Development), July 2006. Switzerland is represented in ENARD as one of currently 13 countries. This report gives a short overview about ENARD and describes the development of ENARD in the year 2008.

1. ENARD Scope

ENARD's vision is to facilitate the uptake of new operating procedures, architectures, methodologies and technologies in electricity Transmission and Distribution networks. The goal is to enhance their overall performance in relation to the developing challenges of network renewal, renewables integration and network resilience. As such, ENARD provides a major international forum for information exchange, research, analysis and collaborative research and development across a range of electricity transmission and distribution system issues.

2. ENARD organization

Overall management responsibility for the Implementing Agreement (IA) is by an Executive Committee (ExCo), comprising representatives from each of the participating countries. The ExCo is responsible for overseeing the work within individual operational Annexes and for the ongoing strategic development of the Implementing Agreement. The ExCo works within the terms of a 5 year Strategic Plan and is also responsible for approving a Programme-of-Work, on a rolling annual basis. A dedicated Secretariat supports the ExCo in the discharge of its duties. The ExCo reports to the IEA's management structure, via the End Use Working Party (EUWP), to the Committee on Energy Research and Technology (CERT). The EUWP and the CERT support the coordination of the activities of individual Implementing Agreements and, ultimately, via the IEA Secretariat, provide high level policy advice to OECD member countries and to the G8. ENARD was developed from the outset with the organizational and operational structure of a multiple Annex Implementing Agreement, figure 1.

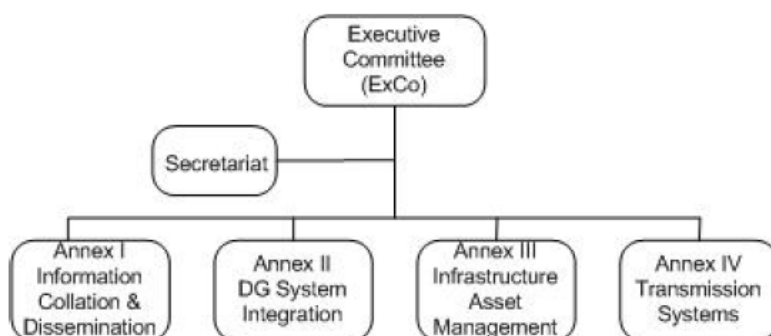


Figure 1: Organization IEA IA ENARD

By the end of 2008, ENARD has succeeded in establishing the bases for three Sub-Annexes besides Annex I which represents the original and ongoing Annex on Information Collation and Dissemination. The three Sub-Annexes are:

- Annex II: “DG System Integration” (Initiated: 2008+)
- Annex III : “Infrastructure Asset Management” (Initiated: 2007+)
- Annex IV : “Transmission Systems” (Initiated: 2009+)

3. ENARD Membership

Membership of the Implementing Agreement is on a national basis. Switzerland is currently member of Annex I. Each participating country is represented on the ExCo by a Delegate and/or Alternate, and with one voting right per participating country. At the end of 2008, thirteen countries are members of ENARD, namely Austria, Belgium, Denmark, Finland, Italy, Netherlands, Norway, Spain, Sweden, Switzerland, UK and USA, and with France joining beginning of 2009.

4. Achievements

Annex I serves as the central information exchange forum and with all member countries participating. It also serves as the definition Annex for the development of the associated series of follow-on Sub-Annexes. The Annex I Operating Agent (EA Technology, UK) has overall responsibility for the delivery of the Annex I work program and works in close collaboration with the Annex I National Coordinators, as designated by the participating countries. The principal Annex I activities to date have comprised the collation and dissemination of Transmission and Distribution related information and data, the organization and delivery of a series of topical workshops, the provision of support to the definition and development of the small series of follow-on Sub-Annexes and a general program of representation and outreach activities.

Information collation and dissemination represents one of the core activities of Annex I. A major activity over the first two years of the Implementing Agreement has involved the compilation of an authoritative digest of T&D developments, for the benefit of Annex I and the Ex-Co, and the complementary publication of a series of topical briefing sheets and workshop profiles.

The organization and delivery of a series of topical workshops represents a second integral component of Annex I. Six such workshops have been organized:

- Distribution systems and end-user issues;
- Distributed Generation (DG) system integration;
- Management of ageing infrastructures (jointly with CIRED 2007);
- Economic and regulatory issues;
- Transmission System issues;
- Intelligent distribution networks, micro-grids and active network management.

The outcomes from these workshops have influenced the development of the series of follow-on Sub-Annexes.

Representation and outreach activities represent an important component of the Annex I work plan, consistent with ENARD's strategic objective to engage with and provide authoritative, comprehensive and unbiased international information, data and advice to its four key stakeholder communities, namely:

- Governments;
- Policy makers
- Electricity T&D companies;
- Power engineering equipment suppliers.

Annex I has effectively represented ENARD at various IEA, governmental and industry forums. It has also maintained responsibility for the ENARD web-site, at www.iea-enard.org, which serves as the principal public domain dissemination medium for the Implementing Agreement.

5. Future Activities

At the end of 2008, ENARD is some 2½ years into its present 5 year Term. In this time, it has developed considerably, having now 13 participating countries and with it initiating three follow-on Sub-Annexes, each addressing highly topical and relevant subject areas.

Over the next 2½ years, ENARD will continue to develop its activities and work programs, including the ongoing delivery of the individual Annex work programs, the organization and delivery of selected further topical Annex I workshops and in contributing expert input and advice to the IEA Secretariat, in relation to the latter's policy considerations concerning electricity T&D networks.

6. Internet

<http://www.iea-enard.org>

7. References

- [1] Energy Technologies at the Cutting Edge. International Energy Technology Collaboration. IEA Implementing Agreements. IEA, Paris, 2007.
- [2] Baker, J.N. 2007. "ENARD: International Action in Electricity Networks R&D", CIRED 2007, Vienna, Paper 0434.