ENERGY

Standardization in residential energy storage

IRENA's Electricity Storage Roadmap – Concluding Workshop

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Who are we?

*

3000 energy experts help customers throughout the electrical power industry realise efficient, reliable and clean energy for today and the future

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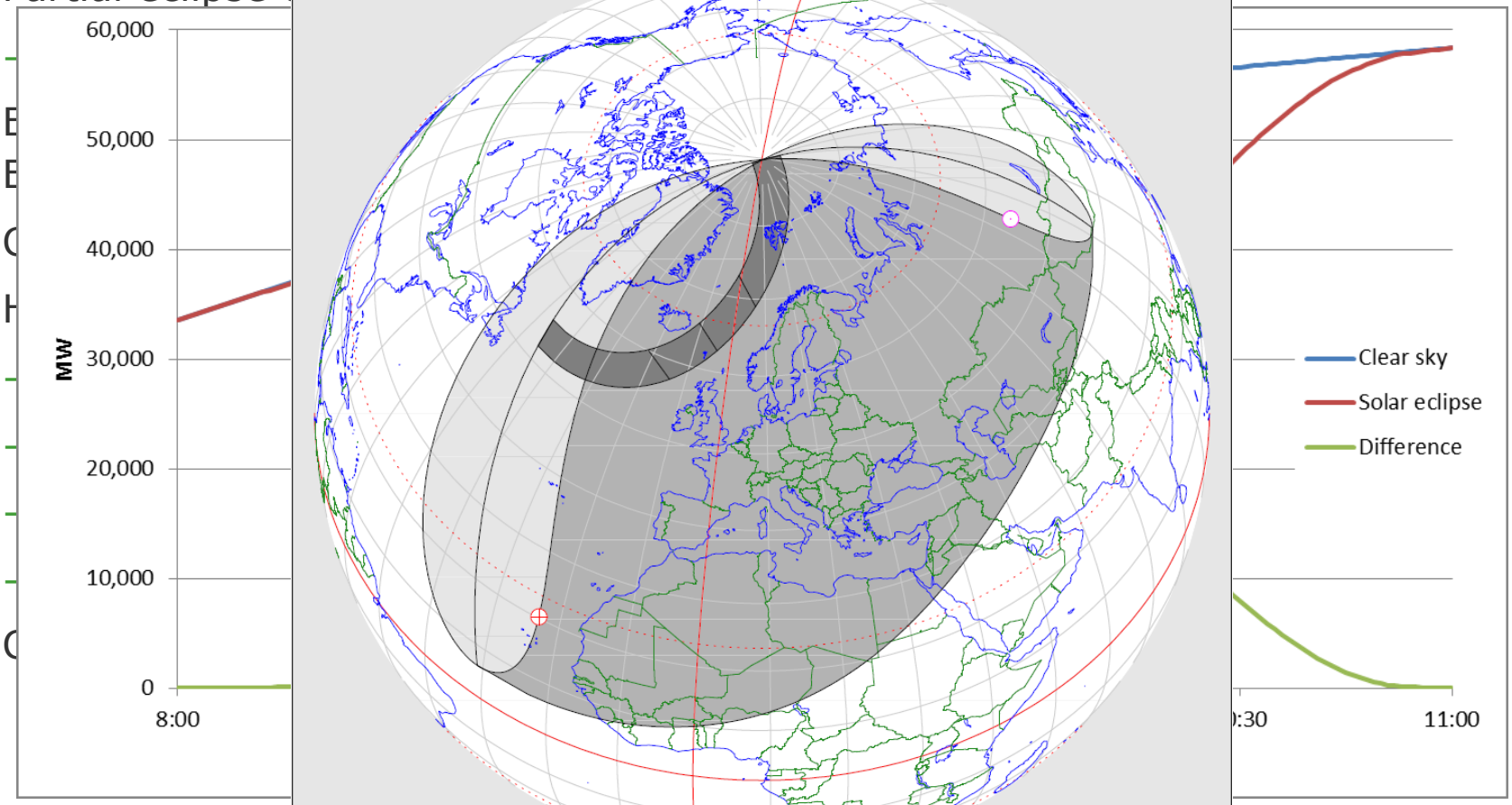
*Renewables Certification services are offered separate from remaining services to ensure impartiality and to fulfil accreditation requirements of DIN EN ISO IEC 17065:2013

What do we do?

- Testing and certification
- Modelling
  - PLATOS storage integration model
  - PLEXOS market simulation model
  - HEMSFLOW model for home energy storage system functionality
- Implementation support
  - Customer specific
- Standard development
  - Member of IEC TC120
  - Member of IEC SC21A
  - Member of IEC TC21
  - GRIDSTOR joint industry project
  - IEC 61427-2 joint industry project

Eclipse March 20, 2015

- Partial eclipse
- E
- C
- H
- C



Standardization of (residential) energy storage systems

- Standardization: safety first!
  - Battery safety: many standards exist, application specific in development (IEC TC21 and SC21A)
  - System safety: in development (IEC TC120 WG4 and 5)
  - Operational safety: in development (IEC TC120 WG 4 and 5)
- Performance standards
  - Battery performance: many standards exist, application specific in development (IEC TC21, IEC 61427-2)
  - System performance: …

Standardization of (residential) energy storage systems

- Functional system requirements: no standardization yet beyond UPS duty
  - Area of active research
    - Stimulate self-use of energy in the individual home or neighbourhood
    - Prevention of local grid overloads
    - Operation as “virtual power plant”
      - Remote control, grid support by providing inertia and reserves
      - Requirements depend on actual grid situation
- How is storage paid for?
  - Subsidies (Germany)?
  - Valorisation through use on the balancing market?

Conclusion

- Standard development: **SAFETY**, performance, functional
- In order for storage to be viable
  - Functional demands must be well established
  - Valorisation model of storage needed

Thank you for your attention

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SAFER, SMARTER, GREENER

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