IEA PVPS
Emerging Markets
Role of Electric Utilities

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Emerging Countries ?

- Traditional PV markets covered by the PVPS membership
- A few remarks on member countries:
  - China, Malaysia, Turkey, (Thailand)
- Emerging markets (countries):
  - Bangladesh, India, Taiwan
  - MENA Countries, Latin Americas, Africa

Role of Utilities in PV

- Utilities play a role in:
  - Deployment
  - Regulatory framework – grid codes
- Passive (deployment) utilities are found in countries such as Germany, Belgium and France; active utilities in countries such as USA, Japan, Denmark.

(New) PVPS member countries

- China
  - In August 2011 NRDC introduced nation wide FIT (1-1,15 Yuan/kWh ~11€c) – boost domestic demand – target: 10 GW by 2015; maybe 2 GW by end of 2011; 3 GW of roof tops by 2015, 25 GW by 2020.
  - Role of utilities: uncertain but very limited.
- Malaysia
  - Success full MBIPV programme completed; FIT and SEDA established.
  - Utilities in a very passive (hands off) role

(New) PVPS member countries

- Turkey
  - MoE in August 2011: “nine-item solar energy action plan”: interim cap. 600 MW; expected investment level: US$ 2,8 bill.
  - EPDK: private sector focus – competitive bidding process.
  - Role of utilities: ?

EPDK: Energy Market Regulatory Authority

(New) PVPS member countries

- Thailand (expected member by 2012)
  - FIT and regulatory framework in place; national target: 500 MW by 2020; mid 2011 oversubscribed 6 times by applications of more than 3 GW; result: everything on hold.
  - Role of utilities: EGAT, MEA & PEA running technical pilots, but little show of interest in deployment and business models.

Emerging markets

- Bangladesh
  - So far focus on SHS (45 MW) and PV pumps; target for 2014: SHS 125 MW and PV pumps 80 MW. Actors: IDCOL and other government agencies.
  - Role of utilities: none

IDCOL: Infrastructure Development Company

Emerging markets

- India
  - Central gov.: indicative FIT + a “blind” bidding process: target 20 GW by 2022 and 100 GW by 2030, with 90 % G-C.
  - Several * local gov. initiatives not coordinated with central gov.
  - Role of utilities: little show of active interest – “forced” to enable grid connections

* Rajastan: 500 MW / 10 GW by 2014; Gujarat: 500 MW Solar Park; Karnataka: 80 MW, etc.

Emerging markets

- Taiwan
  - FIT system since 2009 (capped at 70 MW/Y); installed capacity by end of 2010: ~20 MW; production capacity (cells) > 5 GW; slow domestic market growth expected.
  - Role of utilities: none.

Emerging markets

- Latin Americas
  - Brazil: negligible PV market – 1 MW GC announced at utility Electrosul Centrais
  - Peru: 80 + 20 MW awarded* - blind bidding with ceiling FIT at $c 27/kWh
  - Argentina, Chile and Columbia: GC PV just being introduced.
  - Uruguay: first net metering scheme in S.A. in 2010

* Peru's Energy Regulator (OSINERGMIN)

Emerging markets

- MENA Countries
  - Moroco plans for 3 GW (solar) by 2020; ONE will be facilitating deployment.
  - The UAE continues with MASDAR, at slower pace; utility involved.
  - Oman: RE strategy incl. PV; utility involved.
  - Egypt, Algeria and Jordan solar plans – role of utilities not clear.

Emerging markets

- Africa
  - IRP2010* targets 600 MW PV by 2019; new solar park of 5 GW; ESKOM involved in PPA – not very pro-RE.
  - Cape Verde reaches 4 % PV penetration with 7,5 MW.
  - Uganda introduces RE-FIT scheme – as a first African country

•IRP: Integrated Resource Plan, DoE
Electricity Regulatory Authority

Conclusions (1/2)

- Emerging markets grow very fast
- Governments have (to some extent – ongoing dissemination efforts certainly needed) seen the “PV-light” and learned the lesson and are setting up regulatory frameworks based on experiences from “old markets”. Request of local content!
- Utilities are in general uninterested, “sleeping” or against PV.

Conclusions (2/2)

- The challenge for the PV community re. the emerging markets:
- Continue to target governments with information
- But start to help utilities in emerging markets to see the “PV-light”, the business opportunities, the constraints and the issues related to grid integration.