



Renewable energy in the MENA region

Supporting technological capabilities, innovation and employment

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➤ What does it take to create a **renewable energy innovation system** that supports local *industry development, employment* and the enhancement of *knowledge capabilities*?

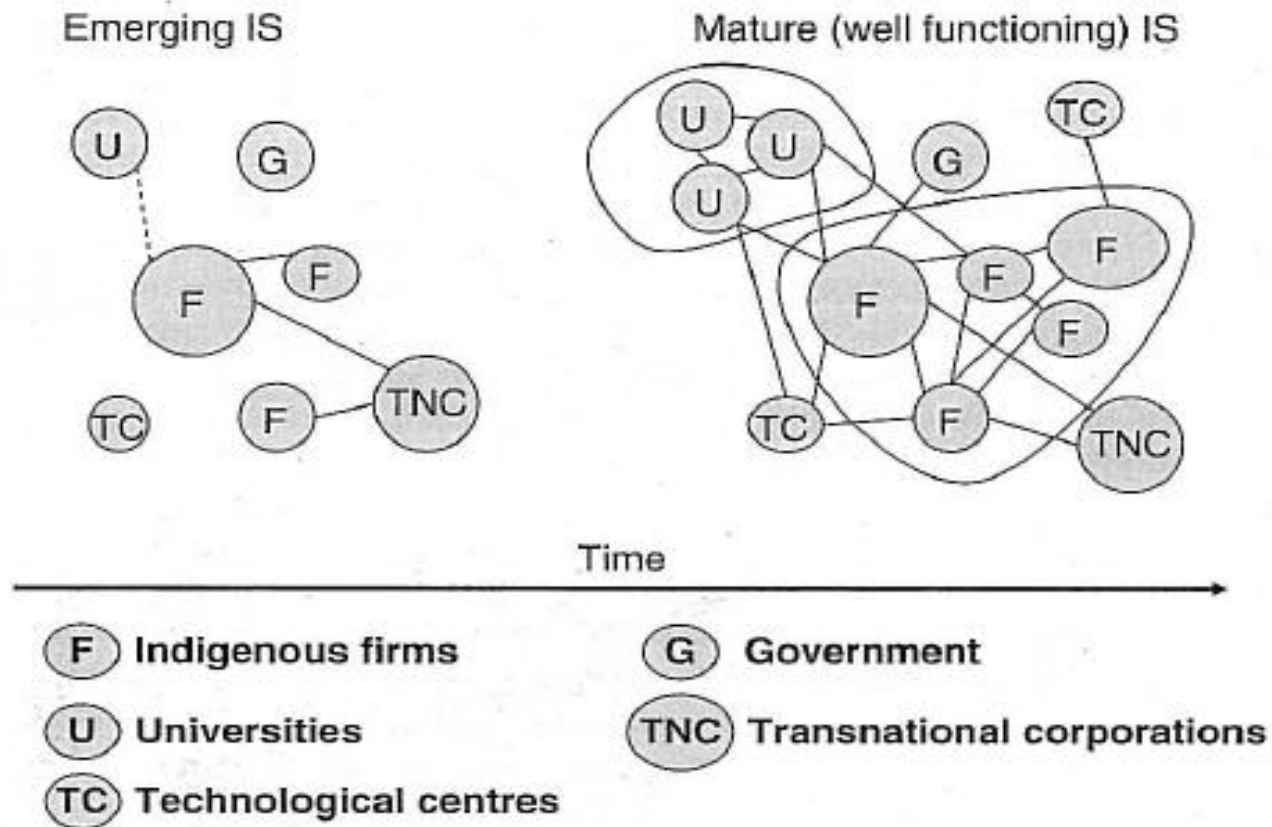
- “Business as usual” --- will not work
- “Wishful thinking” --- not enough

Systematic, transformative changes to the current energy innovation system are needed to achieve a sustainable energy future

What is an innovation system?



- Stages in the development of an innovation system



Source: Chaminade and Vang (2008).



- What specifics do renewables bring to the innovation policy discussion?
 - Focus should be **on deployment** mechanisms:
 - Smart subsidies, mandatory use of renewables, green public procurement, etc.;
 - Stronger **role for the government**, higher demands on governance:
 - Develop long term horizon strategies;
 - Choose technologies;
 - Set incentives to enable investments.

Key challenges in Egypt



- **High investment costs** – lack of policy incentives and financing options;
- **Lack of awareness** regarding renewable energy;
- **Centralized, non-transparent** decision-making process;
- **Weak institutional** framework;
- **Lack of R&D activities** oriented towards high technology value-added products and processes;
- **Limited collaborations** between stakeholders.



Institutions and governance

- Reform subsidy scheme in an integrated approach;
- Strengthen institutions (accountability; rule of law; transparency; trust building);
- Decentralize decision-making and clarify roles and responsibilities;
- Regional collaborative programs.



Private sector development

- Incentives for local industry development:
 - Technology transfer mechanisms;
 - Local content provisions;
 - Guaranteed purchases of electricity;
 - Supply chain development programs (i.e. capacity building; quality assurance).
- Build-in performance standards for competitiveness;
- Bottom-up approaches to disseminating renewable energy applications (e.g. solar thermal water heaters)



Capacity building through education and research

- Systemic collaborations (national & international) on education, technology development and socio-economic aspects:
 - Foster multi-year partnership programs (and flows of information) between public research institutions and private sector;
 - Build capacity in universities for industrial cooperation and entrepreneurship (i.e. industrial liaison programs; tech incubators; tech transfer office);
 - Streamline funding and procurement procedures.



Thank you!

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