

Phase-out of Nuclear Power and Switch to Intelligent Energy Systems

Where to Start?

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“Yes, that is what I mean - a society that doesn't rely on nuclear power.”

Prime Minister Yoshihiko Noda, Tokyo, 2 September 2011

1. *Energy Service Needs Analysis*

“The availability of adequate, affordable and reliable **energy services** is essential for alleviating poverty, improving human welfare, raising living standards and ultimately for achieving sustainable development. As global development challenges continue to be undertaken, it is increasingly recognized that provision of adequate energy services has a multiplier effect on health, education, transport, telecommunications, and water availability and sanitation.”

United Nations
“Promotion of new and renewable sources of energy”
Report by the Secretary General
15 August 2011

Basic Energy *Services*

- Cooked Food
- Heat/Cold
- Lighting
- Communication
- Mobility
- Motor Torque

2. Get the Priorities Right

- Passive *versus* Active Systems → Light, Heat/Cold, etc.
- Local/Decentralized *versus* National/International → Prod./Cons, etc.
- Horizontal *versus* Vertical Integration → Grid, etc.
- Systemic *versus* Sectoral Approaches → Networks (Electricity+Heat+Cold+Gas...), etc.
- Identify Mutually Excluding Options → Nuclear + Renewables, etc. (Planning Security...)

3. Involve Social Sciences and *all* Stakeholders

4. Don't Believe in Silver Bullet Solutions

5. Analyse Failure as Much as Success (Best/"Worst" Practice)

6. Innovate In Order to "Use What There Is"

- **Capacity Building**
- **Policy Instruments/Tools**
- **Business Models**
- **Full Scale Implementation Strategies**