

STI for SDG7: Ensuring energy access

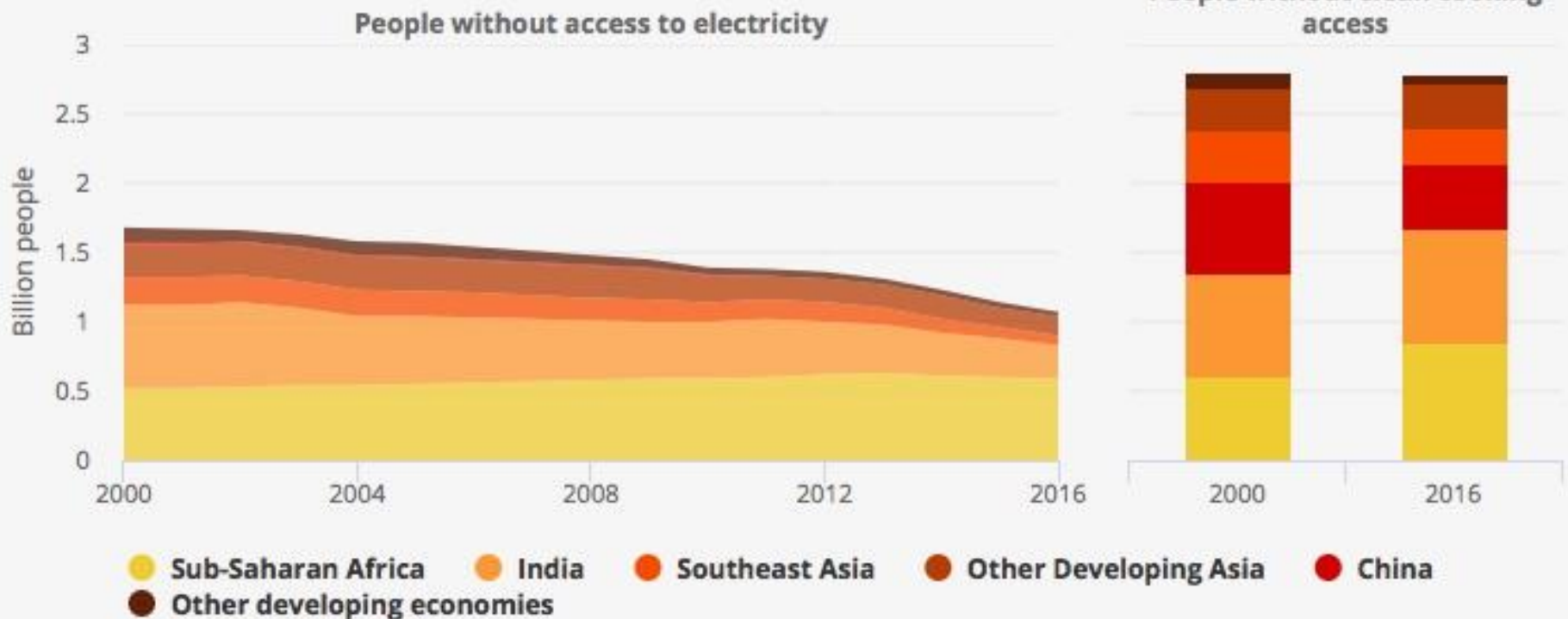
Prof Jim Watson, UKERC

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Mixed progress to meeting SDG7

People without access to electricity and clean cooking facilities



Source: IEA WEO, 2017

Renewable energy and the SDGs

SDG 7 + SDG 2



TARGETS	KEY INTERACTIONS	SCORE	POLICY OPTIONS
7.2 → 2.1	If not restricted to degraded lands, large-scale global production of purpose-grown energy crops could drive up food prices and so constrain the achievement of ending hunger for the poor	0/-1	Design legislation so that competition of bioenergy crops with land use for other purposes is avoided. This can be done by prioritising bioenergy production on degraded land; maximising energy production from agricultural wastes (from non-bioenergy crops), and investing in research and technologies that lead to higher crop yields
7.2 → 2.3	Bioenergy production could reinforce initiatives pursuing agricultural jobs creation and higher farm wages. Bioenergy from agricultural wastes also provides higher returns for job creation	+2	Structure policies should be designed so that they promote the creation of bioenergy-related jobs and diversified income streams for farmers, particularly for women, indigenous groups, family farmers and fishers. Policies should favour waste-to-energy projects for bioenergy
7.2, 7.3 ↔ 2.3, 2.4	Greater agricultural productivities for all types of crops, particularly bioenergy, can aid the achievement of the renewable energy target by allowing as much bioenergy to be produced on as little land as possible, thereby minimising land use competition	+2	Put in place mechanisms to manage the energy, land, fertiliser and water inputs to agriculture, thereby helping to mitigate any negative effects on the environment as well as on agricultural prices (and thus on food security)

- Positive impacts go well beyond SDG7
- Synergies with SDGs for health, poverty reduction, food, climate change
- Potential negative impacts (e.g. of bioenergy on land use) need to be managed

An innovation systems perspective

- Systems of innovation can be national, regional, technological and sectoral
- Innovation varies in scope and scale, e.g.
 - From incremental to radical innovation:
 - e.g. larger wind turbines to smart electricity systems
 - Social *and* technical innovation:
 - e.g. new financing models for off-grid renewables; collaborative innovation for cleaner cookstoves
- Policy mixes often required to support renewable energy innovation and deployment

Challenges and opportunities for developing countries

- Potential to build renewables into energy development plans, taking advantage of cost reductions
- Centralised renewables (grid extension) *and* small scale renewables (off grid) have important roles
- Clean cooking remains an urgent priority, taking into account lessons from past successes and failures
- Affordability remains a significant challenge: new business models can help spread upfront costs
- Need to integrate policies to support renewable energy with reforms to fossil fuel consumption subsidies

The role of international collaboration

- Technological collaborations focused on R,D&D: e.g. Mission Innovation and Alliance for Clean Cookstoves
- Collaboration to develop manufacturing capacity; installation, operations and maintenance skills
- Improved grid interconnection across borders to help integrate renewable energy at a regional level
- Policy learning and capacity building, e.g. energy strategies; policy mixes; policy instruments and their implementation

Thanks

<http://www.ukerc.ac.uk>

@UKERCHQ @watsonjim2

