Securing our energy futures

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Main discussion points

1. **Energy should be considered as a means for sustainable development, though it may not be "sustainable" itself → we need to differentiate between and within different energy options**
    a. Over 2 billion people depend on traditional biomass. They should be allowed to increase their consumption. 1,500,000 women and children die from indoor air pollution each year (Ashok Khosla). Liquid natural gas (LNG) may not be sustainable per se but allows a transition from traditional bioenergy.
    b. A "coal to liquid" plant in Louisana, USA produces methane while also capturing CO2. The energy generated is 1.5 times that produced from all wind power and is cheaper than burning coal.
    c. Thorium as a nuclear energy source produces small amounts of nuclear waste with a shorter half-life, and cannot be used for nuclear weapons. Can this be considered sustainable as part of a sustainable solution?
    d. Both small and large-scale hydropower may be affected by climate change which can reduce predictability of water flows, such as from melting glaciers or storm deluges.

2. **Energy security does not mean energy self-sufficiency → we need regional cooperation, while differentiating regional needs and demands**
    a. Treating energy as an issue of national interest/security reduces opportunities for regional cooperation needed to achieve more sustainable paths.
    b. A policy of energy inter-dependence and solidarity would achieve more sustainable development.
    c. Possible frameworks include:
        i. International Renewable Energy Agency (IRENA)
        ii. Regional banks
        iii. Within the UN, it should be brought about beyond a UN Commission on Sustainable Development. UN Energy is leading the way.

3. **Much needed behavioural change is difficult → we should prioritise funding where biggest wins can be achieved**
    a. Behavioural change has arguably eaten into any efficiency gains. Combine the two aspects and communicate the gains.
    b. Existing systems leak energy, money and emissions. Efficiencies should be targeted as a priority, e.g. investment in city grid management.
    c. Renewable energy is increasingly becoming cost effective vis-à-vis conventional energy options
    d. Small projects can also be financed through microfinance/public-private finance schemes.
    e. Buildings use 40% energy. Need to encourage R&D in the construction industry.

Main recommendations

Many aspects of energy need to be addressed but, while focusing on individual actions, an integrated approach across the below issues is needed for optimal results.

1. Energy efficiency is the number one priority for low-hanging fruit to reduce carbon emissions. A range of complementary drivers from regulation and financing, matching incentives and innovation in materials are required.

2. Information access on sources and technologies is required. Education and awareness should be focused on key groups including children, architects and engineers.

3. Renewables that are currently available should be pushed widely, accompanied by continuous investment in innovation for new energy technologies.

4. Political will is required to help push through necessary energy reforms and investments. The creation of jobs through renewable technology is synonymous with this approach.

5. Carbon pricing is an effective way of stimulating investment in the right areas. Pricing on other natural assets such as oceans, water and forests will also encourage investment in the energy services they can provide.

6. Subsidies should be eliminated for polluting energy technologies, to create a level-playing field with renewable energy technologies.