

Cleaner Fossil Fuels Systems Roundtable: Financial Strategies to Accelerate the Deployment of Cleaner Power Systems

Session 1: Energy for People, Energy for Peace

Thanks to organizers.

Letter of invitation noted intention to identify new strategies for getting cleaner energy to more people, strategies that were not considered seriously before because of historical policies, federal budget levels, and philosophical perspectives.

Makes this timely event as it is increasingly clear how necessary it is to approach energy systems and their financing in new ways. Environmental, social, security issues connected with energy use are large and getting larger. Need with some urgency fresh approaches. So early congratulations to organizers. I hope this optimism is borne out.

Asked to speak about the topic energy for people, energy for peace. Remarks today are personal and based on perspective on someone working in intergovernmental environmental organization and who focuses on energy issues. Three sub-themes:

Energy for people: what do we mean?

And how this is linked to **Energy for peace:**

Finally, something on **systems**; fair game as word appears twice in roundtable title.

First, **Energy for people**

Energy for development is biggest challenge globally:

- Lack of access, 2 billion people (modern, commercial, electricity?); by any measure many people suffer from a grinding energy poverty
- Energy critical for reducing poverty, improved health, education, sanitation/clean water – all difficult without energy; energy needed for development, reaching Millennium Development Goals; under-appreciated in development circles
- for the poorest, energy must be tied to productive uses; linked to ability to pay for energy services provided; important for financing; government aid funds not enough so need to involve commercial sector, particularly small entrepreneurs

- energy for development is not the same as electricity
- so from development perspective cleaner fossil fuel system might be an improved coal stove for Chinese who heat and cook with coal or LPG for cooking in Africa; clean fossil fuel systems are not only high efficiency CC/GT; need to also think small about technologies while thinking big about the scope of the problem
- Challenge: how to match development *process* which is slow, people intensive, and time consuming (*education*), but that yields great dividends over time with shorter term view of financial markets. Energy for development investment yields are slow but steady.
- Disconnect between time scales is problem. Patience is required but patience is not a characteristic of our institutions; fast project cycles and quick expectation of results are norm.

Energy for people is not only a rural development issue.

- Many in urban areas, particularly developing countries, suffer from existing fossil fuel energy systems, both stationary and mobile; need *clean* energy for people; jobs in industrial and commercial sectors, transportation, heating/lighting/cooking.
- Existing fossil energy systems are often not good for people; improved urban air quality a major policy goal of many countries, both developing and developed.
- Need better boilers, furnaces, kilns, ovens as well.

Energy for peace

Energy for peace linked to energy for people of course:

- In development context, without energy that drives development world's poor will become further marginalized; without growth not hard to see world with deeper poverty and greater inequality leading to destabilized regimes, economic migration to crowded urban centres and across borders, increased international tension.
- Not only developing countries are energy issues divisive, recent EU summit disagreement over opening markets to provide competition in electricity sector; energy as stumbling block to further EU integration/cooperation
- And in US, imagine if all the acrimony over the Bush administration's energy plan didn't exist and the efforts spent on arguing were channeled into more productive areas. Peace at home. Good to live in society where debate and discourse are encouraged, but not when it gets nasty, rancorous, and partisan; this blocks progress

If energy is a source of tension, matter of national security, or threat to peace then surely logic dictates if less of it is used tension is reduced.

Energy efficiency must be critical element of clean fossil fuel systems and renewable energy systems. If can get equal or better value from energy services while using less then we are ahead.

Energy Systems (or cleaner fossil fuel systems)

Critical that we think in systems approach. Comprehensive view of *the energy system* and its links to other systems that matter. Shouldn't necessarily divide fossil fuel system from the energy system.

Energy system is linked now to climate system, the biosphere 'system', and social systems; can't examine change in one without thinking of effects on others. Failure to see interconnections has led to problems.

Existing energy system is large, complex, costly. Some \$15 trillion to be invested in coming decades. Make decisions that don't preclude future choices if technologies improve, costs drop. Avoid technological 'lock in' that makes change difficult. Hard to predict future. Personal computers, internet, cell phones, genetic manipulation / biotech. Will distributed generation and new technologies be the same?

Good to note that title is *cleaner fossil fuel systems*, not *clean fossil fuel systems*. Continuous improvement.

Think of possible transition to non-fossil fuel economy in 'foreseeable future'. Look for innovations in financing that apply to both fossil and non-fossil energy systems.

Again systems: in thinking of cleaner fossil fuel system, think of entire cycle relative to GHG emissions. Need to look at sequestration, in biomass or in capture and storage technologies. System boundary must be large enough to force thinking beyond only generation, for example. What of waste products? What of improvements in the efficiency of the '*energy system*' and their effect on need for new supply?

Conclusion

- People need energy, but to state this more correctly, greater numbers of people need access to the services that energy provides and they need those services provided in a way that respects the assimilative capacity of the earth's bio-geo-chemical systems.
- If we want to make wise choices must look at energy systems in a comprehensive and systematic manner.
- Need somehow to do this in a way that does a better job of coupling the longer term views we know are necessary with the shorter term perspective that characterizes the financial sector .