

Winds of change. Expanding renewable energies in developing countries

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Propositions Accompanying the Dissertation

Winds of Change

Expanding renewable energies in developing countries:

Towards a better understanding of the determinants of technological transitions

by Hans-Erik Edsand

1. The comprehensive understanding of transitions to renewable energies, especially in developing countries, is improved by systematically understanding contextual factors, social, economic, environmental and political. These factors may influence the emerging systems (Chapters 3 and 6).
2. In high-income countries, the delimited system includes an inner and outer boundary, the former involving integral processes (functions) and the latter, framework conditions that may positively or negatively influence the process (Chapter 6).
3. Systematically and explicitly analyzing framework conditions as part of an energy transition study would expand the avenues for empirically based policies (Chapter 7).
4. Colombia, an upper middle-income developing country, is experiencing a significant hydroelectric power lock-in, whereby hydroelectric power continues to be the dominant source of electricity. The impact of climate change on the hydrological cycle can contribute to decreasing the hydroelectric power lock-in and promote the deployment of wind power (Chapter 4).
5. Politicians, civil servants and thought leaders in the community have to believe that sustainable development is possible, then they have to take steps to make it happen.
6. Poverty, unequal access to education and corruption are impediments to change and that includes taking sustainability measures.
7. “Modern science is characterized by its ever-increasing specialization, necessitated by the enormous amount of data, the complexity of techniques and of theoretical structures within every field. Thus science is split into innumerable disciplines continually generating new subdisciplines. In consequence, the physicist, the biologist, the psychologist and the social scientist are, so to speak, encapsulated in their private universes, and it is difficult to get word from one cocoon to the other” (Ludwig von Bertalanffy (1968) *General Systems Theory*, p. 29).
8. Publishing information on the resistance to the adoption of renewable energy empowers the people who could benefit from renewable energy.
9. “Problems cannot be solved at the same level of awareness that created them” (Albert Einstein).