‘The social construction of renewable energy – How is it that some renewable energy technologies have developed faster than others?’

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Abstract:

New renewable energy sources, chiefly wind power, are now a mainstream, rather than ‘niche’, contributor to electricity supplies in several countries. This contribution is growing rapidly. This change has implications for the theory of large technical systems. The new emphasis on sustainability and supply-side constraints is associated with a much increased emphasis on managing demand, e.g. for matching variable electricity supplies with demand for electricity. Yet wind power and solar power achieved political support and actual commercial deployment much more easily and earlier than sources like wave power and tidal stream power. This difference is explained by utilising a version of social construction of technology involving the interplay of social and material factors. These factors are: differences in physical terrain, popular ability to deploy the technologies, the nature of pre-existing models, the technological frame, the attitudes of the existing electricity industry and the social/political landscape. As a poetic example of such factors, the lack of anti-nuclear mermaids has been a factor inhibiting the development of wave power and tidal stream power.