



**institute for advanced studies on science,
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Title of presentation: *Regulating wind energy accumulation in autonomous units and industrial parks:
Historical to policy considerations*

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Abstract:

Popular assumptions about wind energy habitually conflate autonomous (individually or community owned) wind energy units and industrial wind parks (farms), which are formed by the concentration of a considerable number of wind energy units in one area. This is also the case with other energies called renewable. This research seeks to question this assumption and think of its implications for policy-making in general and sustainable energy policy in particular. Differentiating properly between the two involves the very definition of an energy technology as renewable. Sustainable energy policy may not be compatible with all wind modes of energy generation.

From a technical viewpoint, this research project focuses on a key component of wind energy apparatuses used in order to regulate wind energy structures. The techniques of regulation (self-regulation, automation, control) of autonomous energy units have been rather different from those used in the case of wind farms. I focus specifically on a historically-grounded comparison between regulatory techniques of electricity generating wind energy structures. Differences in the mode of regulation of wind energy have resulted in important differences in the way energy has been accumulated and/or transmitted. This was coupled by important policy differences, governmental and business. In assessing comparatively these techniques I look at the decisive intervention of governmental policies favoring certain versions of electrification (ex. the huge water dams) instead of others (ex. small autonomous wind generators). The distinction between these different modes of energy production has been historically not only a matter of scale but fundamentally of the mode of energy production. The history of the use of considerably viable from a technical point of view wind-generators has a much deeper past than the literature that takes as its point of departure the early 1970s energy crisis suggests. It is not restricted to the attempts to construct gigantic wind-generators that were meant to supply an extended, large-scaled and long-distanced transmission network, but includes the individually owned wind-generators of the mid-war years in the USA, as well as cases of communal uses of wind-power in Europe. This history also challenges the popularly held assumption of wind-powered arrangements being predominantly pre-industrial, traditional, and pre-capitalistic. Wind energy has had a significant past as well in historical capitalism.