

The Italian Regions in Astana

Today's Italy's transition toward new more sustainable modes of energy production and consumption sees the regions start to take on a leading role within a European and national policy framework

DOI 10.12910/EAI2017-025

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What brings Italian regions to a universal exhibition devoted to the energy of the future? The first reason lies in the historical discontinuity which differentiates today's universal expositions from those which, in the previous two centuries, preceded them. While the Universal Exhibition of the 19th and 20th centuries were events celebrating economy and science as engines of unlimited and continuous progress, the historical phase we live in raises the issue of the limits to the development and the necessity to rethink the use of the enormous overall increase in the productive, technological and cognitive capacities of society. At the heart of Expo is increasingly the concept of *power of the limit* as a factor of a new social, economic and cultural organization, resource for producing, living, thinking in a new manner. Now this

new frontier needs to be declined not only through broad objectives and global policies, but also via political and cultural transformations and local technology infrastructures. Today's Italy's transition toward new more sustainable modes of energy production and consumption sees the regions start to take on a leading role within a European and national policy framework.

There is also another important reason that is important to justify the regional presence at the Expo. Today's global scenarios depict energy as a flow which connects nations and continents through global infrastructural networks, technological development and socio-cultural developments, decentralising and pluralizing the forms of management and organization. That is why the field of energy is structured by a dialectic between global flows and places. Starting from the centrality

that territorial factor plays in his historical model of development, Italy can offer the world interesting experiences. During the first and second industrial modernity, the production, distribution and consumption of energy was characterised by forms of public-private management consisting in large public national operators or large private players, both characterized by a centralization logic: by contrast, today the growth of network technologies favors the emergence of diffused, decentralized and polycentric energy modes of production, according to new community logic between public and private sectors. To date, energy systems are based on fossil resources developed according to the logic of concentration and linear development: extraction of the resource, its transformation, combustion and emission into the atmosphere of the residues of the use. One of the tech-

nical drivers of the current transition is the availability of artificial intelligence and network technologies which can potentially collect, accumulate and store the energy that is available in the natural and/or anthropic environment by reducing the costs of its production and accumulation. The sources can be multiple: wind, currents, sea, geothermal energy, energy from transformation of biomass and commercial waste; in addition to the energy from sun-

light. Therefore, one of the basic characteristics of the actual era is that the maturation of a new generation of technology allows not only to experience unprecedented solutions in the market sphere, but also social and transformational uses of the same technologies. Energy today is one of the major areas in which this dialectic is at work. For this to happen, however, it is necessary to develop forms of social network and kind of policies that enable the

widespread use of technological innovations: we need to develop forms of active citizenship and of public intervention on territorial units. Today the territory and local Community networks, operating according to a logic of concurrency through digital space, may constitute new organizational governmental arrangements of energy that must be supplemented by the market and by the public actor. *The territory can thus become a third regulatory model that grows*



beside and/or in connection with the market and the state.

The issues by the regional system

The presence of the region's system at the Expo, with the coordination of the Committee of Italian Regions, is fulfilled in two ways: the contribution to the national representation in the exhibition-tale of Italian pavilion, and a schedule of events, workshops, exchange of good practices with a weekly rotation. The theme of energy has been dealt with by focusing on two major transformations that characterize today's societies: the transition toward a model of circular society based on mechanisms for networking knowledge, innovation and exchange to achieve sustainability targets; the emergence of the green economy and first of all the emergence of circular economies that put the environmental limit at the center as new possible value. At the heart of the elaboration by Italian regions are indeed the experiences of energy innovation working in the territories. The plot of the regional narrative thus has developed through some keywords: the relevance of territory, of human landscape and the identity of places; the emergence of an active citizenship as leading actor of decentralised experiences of sustainability; a widespread geography of innovation and hence the centrality of the notion of smart land beyond that of smart city; the importance of a network capitalism made of utilities and energy companies; the sustainable transformation of productive sectors; the soft power of creativity as a means of country representation and of territorial narration toward the world; the importance of the regions as an institutional system that accompa-

nies the territories towards an Italian model of future energy. This shared pattern of thought is the basis for many concepts elaborated by the 15 participating regions and referable to five macrothemes:

- **The transition to a low-carbon economy** through policies of efficiency and energy saving. An objective declined through efficiency and energy saving projects in the building sector, sustainable mobility, reduction policies for emissions and dependence on fossil fuels.
- **The circular economy and energy from renewable sources**, that is the leap forward of the regional green economy in the field of renewable energy production (wind, photovoltaic, hydroelectric, biomasses, wave motion, geothermal).
- **The “third industrial revolution”: networks and smart infrastructure for decentralised development of energy systems premises.** Regional proposals focuses especially on the presentation of territorial good practices of decentralised production, distribution and accumulation platforms through smart-grid, micro-grid, storage technologies, urban regeneration projects for energy sustainability (*smart city/smart land*), clusters and networks of local authorities or active citizenship;
- **Access to energy as a vehicle for social cohesion and inclusion:** This is a theme strongly linked to the previous one, but in this case the emphasis is on the social infrastructure rather than the technological one. The regional narration is divided into topics such as energy mutualism, experiences of community energy

companies, *social housing*, etc.

- **Clusters of innovation and sustainable energy supply chains:** in this case regional topics tell of networks of research and innovation, regional energy clusters, research centers and universities, incubators, start-ups and spin-offs and innovative SMEs, energy efficiency in individual companies and/or systems of industrial chain, the regional excellences in the energy field on the side of enterprises and territorial utilities.

The regional content in the exhibition of the Italian Pavilion

Starting from the five themes mentioned above, the regional presence is organized into a series of contents distributed in the different spaces of the *Padiglione Italia* (Italian Pavilion) on the basis of two keywords: on the one hand, the close relationship between social and economic history of territories and technological innovation in the field of energy; on the other hand, the presentation of a series of community experiences and technological excellences for which Italian regions play leading roles.

On the first point, the main content is the relationship between what we could define as “consciousness of place” and ingenuity, described by means of a collective story of 50 places symbolising the value of sustainability from the point of view of the interweaving among landscape, urban culture of 100 cities, and energy infrastructure for production and distribution. Next to this regional video-tale, 90 video-interviews with ordinary citizens from the 15 regions will tell us how the Italians had understood, in their everyday experience and in cultural perceptions, the



theme of the energy of the future. In parallel, each region will tell its own territorial experiences of social and technological innovation in the field of energy. Thus 73 experiences have been selected, referred to the idea of smart land and smart communities and to local examples of circular economy.

Close to these contents that define a space of representation in which the territorial element and the conscience of place are prevalent, the regional system leads some experiences to Astana that clearly bring out the levels of technological excellence achieved in territorial systems in the field of energy research. Here it is not possible to give a complete

overview of the variety of experiences. At the end of this article we limit ourselves to indicate an experience which seems to us well representing an Italian way to the energy of the future: the case of «Watly». Watly is an Italo-Spanish startup developed between Udine and Barcelona and constituted by a team of young researchers, who created the first thermodynamic solar powered computer in the world, that purifies water from any contamination (nuclear) and, at the same time, generates electricity and allows internet connectivity. A machine able to tackle the themes of circular economy (is a closed circuit that allows you to save up to 2,500 tonnes of

greenhouse gas generating 1 GWh of clean and free electricity) and water crisis determined by environmental and economic changes trying to take action to tackle the mass migration from the countries of the South of the world. A project that for its creativity and ability to tackle the issue of energy sustainability, can well describe an approach to global issues that has always characterized the Italian approach: on the basis of its territories, Italy is a country that can exert its soft power on the international scene.

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