AN EXAMPLE OF A CLUSTER TO DEVELOP PROJECTS IN THE FIELD OF ENERGY IN FRANCE: CAPENERGIES

Christophe Storai, Christian Cristofari, Jean-Louis Canaletti
Université de Corse Pascal Paoli, UMR CNRS 6134, UMR LISA 6054
Route des Sanguinaires, F-20000 AJACCIO, France
storai@univ-corse.fr, cristofari@univ-corse.fr, canaletti@univ-corse.fr

ABSTRACT
Business clusters consist of economic structures assuring the often tenuous link between research regarding efficient national industrial policies, and regional planning and territorial anchoring issues. From this perspective, the logic of a synergy relating to global and local issues remains to be created around a new imperative: territorial attractiveness. In the era of globalization, and the current configuration of globalization, the concept of attractiveness, sometimes overused in the economic literature, is a crucial issue for regions competing over geographically mobile investments. In this context, the issue of promoting and attracting investments reflects a multidimensional dynamic in which the existence of business clusters is of great importance. Corsica, a small island economy, represents a typical target of analysis with respect to its long-standing project PADDUC (Corsica decentralization law of January 2002) and the business cluster CAPENERGIES - an important part of its technological research, the clearly pronounced goal of which consists of entrusting to it the role of leader of the islands involved in the movement toward autonomy in decentralized energy. The presents work seeks to identify the specificities of a territorial governance to be established around the business cluster CAPENERGIES from the perspective of the construction of a plan for ongoing island attractiveness, currently in search of a foundation.

KEY WORDS
Energy, policy, territorial attractiveness, business cluster local target of investments, territorial governance, technological research, globalization.

1. Introduction

Business clusters consist of economic structures assuring the often tenuous link between research regarding efficient national industrial policies, and regional planning and territorial anchoring issues. In the era of globalization, and the current configuration of globalization, they also represent the French response to the requirements brought by inherent constraints of the increased necessity for competitiveness in the framework of global markets, consistent with the desire of European authorities to construct a knowledge-based economy. Entry into the global economy does not preclude the issue of development concerns regarding the strictly local. This apparent ambivalence, at the origin of the concept of globalization (Mair, 1994), is fully integrated into the progress of business clusters, the ambition of which, in a given geographic area, consists of associating businesses, centers of research and training, the State and territorial groups, all of which partner synergistically on innovative common projects (Backgammon and Darmon, 2005).

Invariably, the principle itself of a business cluster contributes to conceiving a policy of territorial attractiveness, the new imperative resulting from globalization. Corsica, a small island economy, represents a typical target of analysis with respect to its long-standing project PADDUC and business cluster CAPENERGIES, forming an important part of its technological research, the clear goal of which is to spearhead the movement among islands toward autonomy in decentralized energy. After highlighting the characteristics of the Corsican island geographic territory, the presents work will set out to identify the specificities of a territorial governance to establish around the business cluster CAPENERGIES from the perspective of the construction of a plan for ongoing island attractiveness, currently in search of a foundation.

2. The exemplary nature of the Corsican territory

In Corsica, the island economy is characterized by the absence of the large multinational groups that direct and shape the world-wide economy. Medium-sized businesses that, in many other regions, as in the example of Lombardy, constitute the spearhead of a dynamic economy, are rarely seen. The economic fabric of Corsica is primarily composed of very small businesses, small farmers and producers, craftsmen, and merchants. Considering the hypertrophy of the public sector, private businesses seem to constitute the only likely option for launching territorial development. This occurs necessarily through the joint development of training strategies for human capital and through a process of technological research in which the objective is to increase competence level, in response to the immanent needs of the island, while respecting relevant national and international standards.
2.1 From the plan for the regional and sustainable development of Corsica (PADDUC)…

Promulgated by law n°2002-92 of January 22, 2002 on Corsica, the Corsican Territorial Collectivity (CTC) maintains authority over the development of the PADDUC. The Plan establishes objectives for the economic, social, cultural and touristic development of the island, as well as for the preservation of the island's environment. "It defines the basic strategies of physical development of the territory, multimodal transportation, telecommunications, development of energy resources, and the protection and preservation of the territory of the island. These strategies respect the objectives and the principles announced in articles L. 110 and L. 121-1 of the code of urban planning. It determines the principles for locating large transportation and equipment infrastructures, natural spaces, sites and landscapes to preserve, urban extensions, and industrial, hand-craft, commercial, agricultural, forest, tourist, cultural and athletic activities..." (law n°2002-92 of January 22, 2002 on Corsica, article 12). Highly strategic for the future of the island, PADDUC, currently still at the project level project and the fruit of particularly acerbic ideological and political negotiations and confrontations, exhibits a character of timelessness, which reinforces, if indeed this is so, its legitimacy for the construction of a functional outline for the local economy.

2.2 … to the plan for renewable energy development and energy control (ENR –MDE)

Corsica is the only region that has created a permanent institution for consultation, the function of which is specifically the examination of the energy issues of the island: the Corsica Energy Council. The Council establishes a geographic area and seeks to characterize a model of sustainable development and tenable energy management, and to become an exemplary territory in the Mediterranean. To this end, the Executive Counsel of Corsica has developed and pushed through the Corsican Assembly the Plan for Renewable Energy Development and Energy Control (ENR-MDE) in November 2007.

This plan should bring to 34%, between now and 2015-2020, the fraction of renewable energy in the energy supply of Corsica, which is currently at more than 21% (almost 10 points higher than the national level). The Plan rests on three pillars:

- Manage electricity consumption;
- promote substitution of renewable energies for electricity (thermal solar and wood energy);
- develop renewable energy for electricity production (photovoltaic, wind and micro-hydraulic).

Energy control and substitute renewable energy (thermal solar, wood energy) should mitigate the growth curve of electricity demand, reducing it from 3.8% per year currently to 3.1% per year in 2013 and 2.3% per year in 2020. Energy control (MDE) would represent 2.9% of electricity saved in 2013 and 11.9% in 2020. Substitute renewable energy (thermal solar, and wood energy) would assure 1.2% electricity savings in 2013 and 2.6% in 2020. Wood energy is comprised mainly of substituting fuel oil or gas and would additionally allow for the reduction of the energy needs in these areas by 1.8% in 2013 and 3.6% in 2020 (Source: www.capernergies.fr/index.php interview with the President of the Executive Counsel of Corsica, CTC, May 15, 2008)

With the ENR-MDE Plan, the CTC establishes a variety of tools and measures so that renewable energy will become a true strategy of development and an integral element of the image of Corsica - among these, progressing making the use of devices using renewable energy, or energy control, obligatory in all new construction, and integrating an eco-conditionality into aide related to the profits of both businesses and local groups. Other strategies are also planned, such as considering installing, across the island, compact florescent lamps (CFLs), promoting the development of heating networks using wood energy, or creating an energy check allowing individuals to regulate any contractor that undertakes an ENR or MDE installation.

On an island region where the issue of energy autonomy and sustainable development constitute cornerstones of political will and a citizen movement centered on valuing and protecting an exemplary environmental heritage, the establishment of the business cluster CAPENERGIES, centered on a strategy of growth of greenhouse gas free energy, offer a real opportunity to reconcile the elements of the local development and territorial attractiveness.

3. From business cluster to the territorial attractiveness of Corsica: the opportunity offered by CAPENERGIES

In the era of globalization, the concept of territorial competitiveness acquires a major significance, particularly in the field of development policy. Camagni (2002) states that a competitive territory is one with a local advantage and a dynamic nature. The availability of traditional elements such as labor and capital plays a less significant role. Now, companies are looking for effective territorial organization. It is by way of a high-performance local industrial infrastructure that new technologies are managed and connections between different economic agents are quickly made. In this way, the territories, for which the productive infrastructure, the quality of human capital and the environment are all failing, are exposed to marginalization. In this context, institutional and political forces have any interest in fostering the creation of specific resources.

In sum, in the current logic of globalization, a firm will permanently establish itself in a territory if and only if it
offers technological potential and qualified and responsive human capital. The settling of firms in a site will occur after the development of the latter. Public action plays a key role in the stimulation of attraction factors, by means including the emergence of industrial districts enriched with a trio of virtuous innovation, technological research, and professionalizing training, optimizing a strategy of human capital development (Colletis and Levet, 1997). This is precisely the vested goal of the CAPENERGIES business cluster, and particularly its delegation 'Corsica Center Energy' created by the interdepartmental Committee on the Development and Competitiveness of Territories (CIACT) in October 2005.

3.1 Research and transfer technology in the service of the emergence of a Corsican territorial dynamic

The economy of Corsica represents an example of an island territory characterized simultaneously by the pre-eminence of trade sectors and of non-market services near to final demand as well as by a structural weakness of the upstream stages of the production process. It is, accordingly, the latter that should be developed. Among the means available to achieve this objective, the development of activities relevant to research and technology transfer in an organization based on partnership approaches, designed for unleashing synergies and promoting collaborative work on innovative projects, is a major strategic priority.

With this in mind, CAPENERGIES intends to invigorate and promote Corsica as a territory of excellence and a crossroads in the development of energy efficiency and renewable energy within a sustainable development context. The geographical position of Corsica, its natural assets, enables it to play a leading role in this area. The positioning of Corsica as a land of renewable energy responds to several objectives:
- develop and strengthen synergy between all stakeholders, be they public or private;
- support a process initiated since almost a decade ago aiming to emphasize the use of renewable energy;
- accompany the strategy seeking to make renewables a source of wealth creation;
- strengthen the capacity for training, and for research and development.

This is about making renewable energy an economic engine, a training and R&D base, a real axis of expansion of the economic and social fabric of Corsica.

3.2 Territorial governance and competitiveness in service of establishing Corsican territorial attractiveness

An examination of the past three years indicates a real dynamism operating in Corsica and the PACA region, the greater CAPENERGIES area. There is a consequent change in the number of projects reviewed, approved and funded (see figure 1), an increase almost 500% from 2009 to 2011 including an approval rate of 75%. The total amount of projects approved amounted to 560 M€, including funding of 130 M€. The distribution of financial backers is illustrated in figure 2. Almost 60% of the funding is from the National Research Agency (ANR). The most promising sectors are biomass, projects linked to energy control and solar-related projects (figure 3).

The creation of the center allowed the synergy among the various actors, as 37% of the approved projects have more than 5 partners, 54% between 3 and 5 partners and less than 10% of the projects have less than 3 partners.

During its three years of existence, 116 projects have been approved, 2 of which are “anchor” projects. The first, located in the PACA region, deals with fission, while the
This project, named Myrte, a foundational part of a division of the university's technological research, is carried out together with Hélios industrial, subsidiary of AREVA, the Raffalli group and in research with the Office of the Commissioner for Atomic Energy. This R&D tool is also essential to testing the developments emerging in the hydrogen sector actors concerning electrolyzers, fuel cells, hydrogen storage and strategies for coupling with renewable energy sources. This platform, major anchor project of CAPENERGIES, will be a cornerstone of the Energy Plan (ENR-MDE) of Corsica voted into law by the territorial Assembly. The plan for funding for this project, totaling 32 M€, has been budgeted.

It formalizes the synergy between university, private and institutional actors, serving research/action/training, enhancing the attractiveness and anchoring of the island territory in search of foundation. Carried out and directed by the Economic Development Agency of Corsica (ADEC), the Corsican portion of the business cluster CAPENERGIES presents a positive three-year (2006-2008) analysis, given its status as introductory project. An evaluation, conducted in 2008 by Boston Consulting Group and CM International on behalf of the French Government, figures it among business clusters that have met or exceeded their objectives (BCG & CM International, 2008). As of 2012, it has about 120 members (including 100 companies) and supported through approval 23 innovative projects. For the 2011-2013, its strategies are structured around 5 areas:

- promotion, and raising public awareness, in order to simultaneously foster real growth in the sectors of renewable energies and the MDE, ensuring real added value deriving from membership in the business cluster;
- building partnerships with other island members of the center (Guadeloupe and Réunion) in the ILENERGIES network.
- a strong contribution to the policies of initial and continued training responding to the needs associated with the emergence of new energy technologies;
- a strategy of international development targeted at the commercial sphere (in partnership with the Cors'Export mission of ADEC) and in scientific and technical matters in conjunction with AFIIviii ;
- the operational monitoring of anchor projects similar to Myrte et Paglia Orba (another jewel of Corsican university technological research).

4. Conclusion

CAPENERGIES aims to be a point of reference, an engine for competitiveness and the development of its many SMBs, based on the excellence of its research laboratories, its training organizations and the involvement of its industrial groups. In this context, the formation of human capital and technological research are fundamental determinants in creating a plan for continual business attraction and the structuring of the territory. Corsica, a small insular economy seeking a sustainable development path, is a veritable macro-experiment on contextualized practice management and the organization of stakeholders.

In order to maximize the probability of success, Corsica must first accept the need for change, and then implement organization and suitable methods. The Corsican portion of the business cluster CAPENERGIES - by federating actors involved in training, research and industries - contributes to structuring its territory by making it more attractive. The real possibility of development of the latter depends on measurable and evolving gradients. It also flows from a vision, from quantified objectives, from a serene analysis of strengths and weaknesses, opportunities and threats, and only then, the scheduling of means through strategic initiatives. The alternative of a business cluster based on acting within the system via a reorganization of its forces, rather than on the system via an increase in means. In this way, it takes a lesson from beyond Corsica, substituting a project-based logic for one of one-stop shopping. Thus, the bulk of the investment is undertaken in the form of intangible resources, with an eye to sustainably transforming relations between the actors participating in development.

Although it is still premature to assess the impact of the method on the dynamics of innovation and the creation of jobs in Corsica, one can nevertheless point out that the Corsican portion of the business cluster CAPENERGIES has sparked the development of cooperation among actors hitherto divided, and the creation of new bridges between the University of Corsica, laboratories and business. For this purpose, university governance on the island is now fully involved in the activities of the center, both for research and training. Local anchoring of R&D projects (Vignola site) is directly in sync with the territorial problems relating to sustainable development (ENR-MDE development plan).

In a region where youth, the environment, cultural identity and membership in the Euro-Mediterranean region constitute so many assets, the potential for sustainable development created through knowledge and organization represents a tangible opportunity for achieving real attractiveness and less economic dependence.
As Patrick DAMBRON states, "the birth of business clusters in France results from a joint effort by the European Union and the French State. Their definition is connected with the European framework. Their functional principles and their missions are, in fact, dictated by the objectives of the ""L""isbon Strategy, even if they are adapted to national context, as with the DATAR-DIACT in France." (Dambron, 2009, p.149).

Specifically, the University of Corsica has offered, since 2004, strategic orientation regarding research founded on 7 multidisciplinary anchor projects: Territorial Dynamics and Sustainable Development, Identities and Cultures: the Processes of Patrimonialisation, Forest Fires, Natural Resources, Management and Development of Mediterranean Waters, Information and Communication Technologies, Renewable Energy. The latter it is involved in the dynamics of the business cluster CAPENERGIES.

The data presented in the table and figure below are from the Observatory of CAPENERGIES.

In this case, the technological research stems from the renewable energy project (see above note 3).

For example, CAPENERGIES has approved the Energy Systems and Renewable Energies Masters offered by the University of Corsica since 2005. This ensures the recognition of the diploma by the 400 actor members of the business cluster from industry, research, and training in the PACA, Corsica, Guadeloupe and Réunion regions.

See "the Assembly of Corsica reaffirms CTC involvement in CAPENERGIES" Blog on the Corsica section of the business cluster CAPENERGIES http://www.pole-enr.fr.

The French Agency for International Investments.

Its objective, in 5 years, is to become the point of reference in France, Europe and the world, for the integration and coupling of the energies of the future on isolated or island systems and on fragile zones in larger interconnected networks.

See notes 3 and 6 above. Thus the vast majority of the projects approved for the Corsica initiative have been made in partnership with the University of Corsica.