
EVALUATION OF A MIDDLE-TERM PARTNERSHIP BETWEEN ADEME AND FRENCH COMMUNITIES

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1. SYNOPSIS

This paper presents the evaluation frame developed by Ademe through, on the one hand, evaluating and programming research in energy and environment fields, and on the other hand evaluating projects and operation results. The CiteVie is taken as an example programme. CiteVie programme is a middle term partnership between Ademe and local authorities in the fields of energy and environmental management.

2. ABSTRACT

The evaluation theoretical frame was defined on the basis of the results of the global evaluation of research programme realised in 1986. One of the results of this evaluation was the definition of the network model. This network is based on interactive model, from research to market place. This model presents four poles : Science (public and private research), Technology (companies and firms), Regulation (government, local authorities), and Market (users, consumers). This concept gave Ademe an analytical frame, where its methods of intervention could be explained and organised. Through this scheme, the agency developed some methodological tools used for programmeme planning and evaluation.

We will see how management of programmes and dynamic networks contribute to implement :

- Evaluation of projects with regard to different types of stakes (the strategic evaluation)
- Evaluation of the state of the network (the techno-economic evaluation)

We will see the different operational scales and evaluation of corresponding scales

- The programme scale and evaluation of macro economic effect
- The project scale and evaluation of leverage effect
- The operation scale and evaluation of immediate results :

So as to monitor each programme, these different scales defined several results indicators :

- context indicators
- results indicators

Finally, we take an example to explain this evaluation methodology : The CiteVie programme. This programme is a middle term partnership between Ademe and local authorities in the fields of energy and environment management.

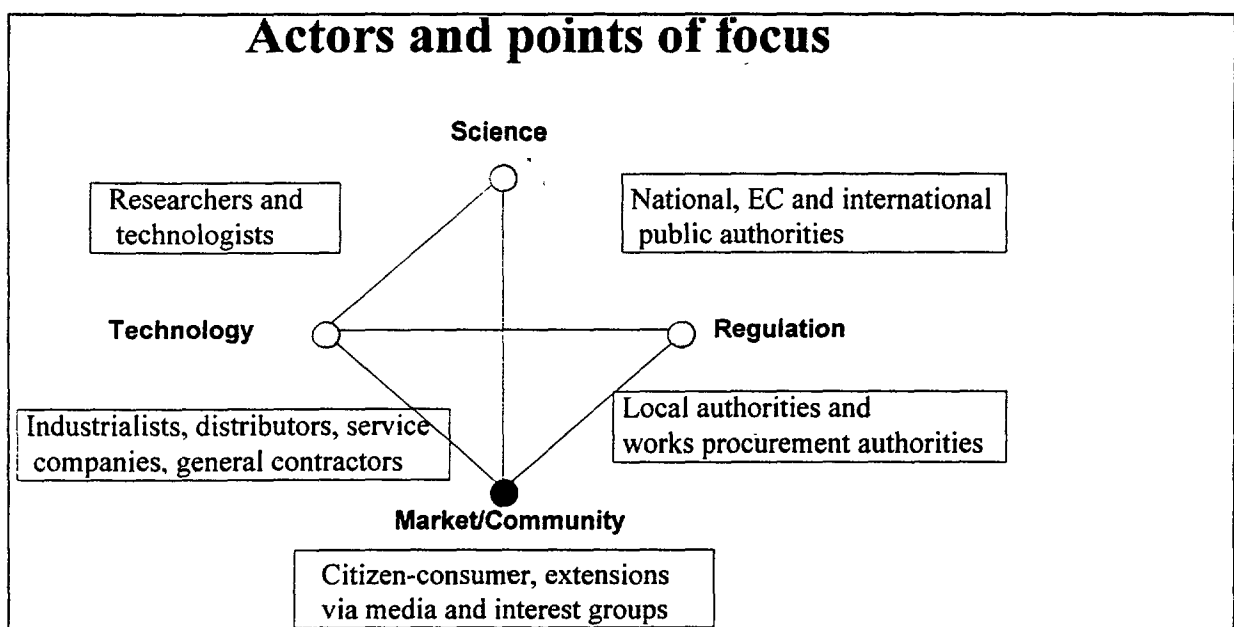
3. THEORETICAL FRAME OF ADEME'S EVALUATION PROGRAMME

3.1 The techno-economic network theory

In 1986, the former ADEME, the energy agency, initiated for a global evaluation of its research programme, which set up in 1983 : the question was how we could evaluate the effects of Ademe's intervention on the development and the use of technological resources in industry for energy management.

The outcome of this work went further than a traditional impact assessment :

- it proposed an evaluation but also provided tools for planning research ;
- the analysis based on the network concept gave the research programme a certain coherence as it could be applied to the totality of projects developed by the agency, setting up a common language between engineers working in different subjects and areas ;
- it has also given more accuracy to the concept of success or failure of a research project (which could not be judged only by the commercial results, or the success of a pilot) : the result must be seen to the creation of a network that is flexible enough to adapt itself to the diversity of environment, and convergent enough to associate the actors in the same strategy.
- it confirmed the weakness of the sequential model of research-development (from research to market place), raising to a first objective to promote the development of sustainable networks which link the research world and the economic one. Ademe finds easily the coherence of its action in this scheme, as its intervention is also downstream from research, at the demonstration phase for example, where it can benefit from market experience and in return modify or go further with the technological development.



This concept gave Ademe an analytical frame in which it could explain and organise its intervention strategies. Through this scheme, the agency developed some methodological tools used for programme planning and evaluation.

3.2 Program planning and evaluation

• 3.21 Management of programmes and dynamic networks contribute to implement :

Programme planning consists in adopting strategic directions for a period of 5 years. Each year, programmes are set up and adapted to financial resources, even if they stay in the strategic scope stated initially. The planning of these actions is done through two stages :

a) Evaluation of projects with regard to different types of stakes : the strategic evaluation

This evaluation is based on criteria which are not purely economic but can also take into consideration national independence (in terms of resources or technology), impact on the environment, social aspects (availability of energy resources in isolated regions...) :

- resources criteria : energy, raw materials
- environmental impact criteria : air quality, water quality, global ecosystem..
- industrial activity and market criteria : French competitiveness, technology transfer...
- structural determinants criteria : community infrastructure...
- criteria regarding long term technological options

The tangible outcome of this multicriteria analysis is a list of products, or of families of products which can be considered as strategic for agency activities or assignments. This strategic evaluation precedes any intervention, and constitutes an obligatory passage point. This does not enable the projects to be classified in order but helps the choice in regard to multiple objectives.

b) State of the network : the techno-economic evaluation

Once the strategic evaluation has been carried out, and this list established, a second evaluation is necessary in order to identify areas which can contribute to the development and promotion of new or improved products : the goal here is to define accurately the application points (scientific themes, technical specialities, laboratories, companies, etc.) and the possibilities of intervention to mobilise research (grants, concerted actions...). This evaluation is technical and economic as it deals with relations between the market place and research. The object of this second evaluation is to define the poles but also the linkages between them.

In this scheme, there are two first steps in the construction of a programme : deals with strategic evaluation and products or families of products which can be considered as strategic, and one which deals with techno-economic evaluation and gives the state of the network on these areas defined on the first phase : these two steps are extremely linked and interdependant.

From these statements Ademe can define the objectives and the actions to be engaged.

• **3.22 Evaluation and impact assessment**

The use of the concept of a techno-economic network has also produced tools for evaluating of intermediary results. The goal of this evaluation is to see how an action influences the convergence to an optimal network. Instead of limiting the evaluation to a comparison between inputs and outputs, towards we are interested by the process of transformation, where inputs become in outputs. This is crucial when dealing with research activities, where outputs can be seen only over a quite long term. Strategic analysis has by this way an important tool, which consists in following this portfolio of intermediary results, and see where they are situated in the network and what is their evolution with time. It enables us to identify and describe the barriers to the deployment of technological innovations.

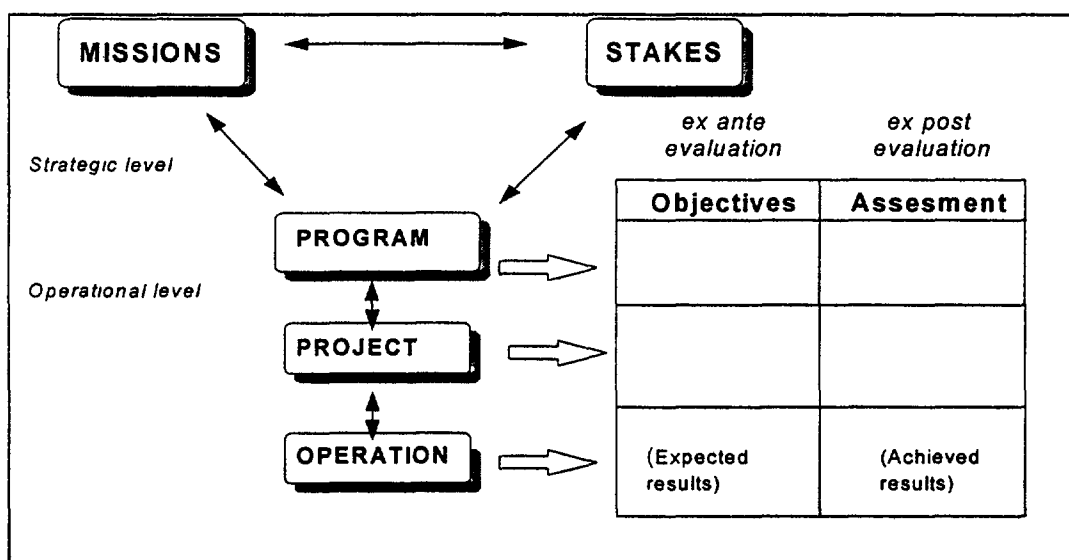
These barriers exist when :

- links are missing between actors in the techno-economic network
- actors are missing
- only weak links exist between actors. The existing links do not favour the flow of intermediaries and information needed in the process of innovation.

This notion is very important as it also changes the ideas about the contribution of a public institution in the research field. It is there to make new networks emerge, to follow them during their development, and eventually to facilitate their "durability", and then withdraw from an area when the network can exist in a sustainable way.

• **3.23 Operational scales and evaluation**

In concrete terms, Ademe has structured its activity around 3 different operational scales, for which the evaluation will have different scope.



- The programme scale and evaluation of macro economic effect

Programmes represent the strategic segmentation of Ademe's action. They are set up for a period of five years at the level of the whole agency, and give a description of the stakes, of the state of the network, and in answer to them the agency's objectives and the action that it wants to develop to achieve them. The evaluation at this level is a macroeconomic evaluation, which must be able to identify the impact of Ademe's action on an area, including indirect effects. It must determine the global efficiency of the agency's intervention.

- The project scale and evaluation of leverage effect

A project consists of a group of coherent operations, and is planned on a medium term period. It is specific to the team that is piloting it. It can concern for instance the whole of interventions on one network. Its results will correspond to the "lever effect" (which "multiplies" Ademe's actions : for instance, an industrialist which will have carried out a diagnosis will invest in new machines which will produce an energy saving of x T.O.E...).

- The operation scale and evaluation of immediate results :

Operation is the smallest scale of description of the action. It is typically monitored by one engineer. It is situated on one or another link of the network, and corresponds to direct "contacts" with it. At this level, the evaluation will look to its immediate results or that are visible at short term.

• 3.24 Programme evaluation and dashboard : results indicators

A monitoring process is going to be set up by Ademe. It will gradually be informed by several annual indicators connected to each operative and sectorial programme. Two types of indicators have been defined :

- **context indicators** that give an image of the techno-economic context in which programmes are managed
- **results indicators**, that aim to identify and asses Ademe's action in each programme. Results indicators, according to network theory, must be able to give information concerning :
 - . research activity
 - . technical and organisational results
 - . mobilization of partners and evolution of local or national network connected with each programme

Among these three levels of indicators, technical results are the easiest to produce and to understand. It's possible, for example, to show the number of electric cars sold during a specific programme concerning energetic diversification in transports ; or the number of thermal diagnoses of buildings realized within the building optimization programme.

Research activity indicators should be more difficult to define. However, the network theory in this field have clarified what should be Ademe's contribution in building networks between research, technology and users. Research indicators must then concern concrete results of research programmes, and also Ademe's implication in national and international researchers network.

Finally, the most important part of future studies will concern indicators able to assess local network and partnership development. For example, it should be such to build indicators showing expertise mobilization rate, development of specific structures as users associations (electric car users club for example), etc.

While identifying these three indicators, it will be possible to connect them through a dashboard defined for each specific programme, and composed of annually corrected data : for example, three context indicators and ten results indicators per programme.

4. APPLICATION OF THE EVALUATION METHODOLOGY : CITEVIE PROGRAMME

4.1 CiteVie programme and concept

The CiteVie Programme is a middle term partnership between Ademe and local authorities. This agreement has been signed on both partners during three or four consecutive years. In some cases, the regional administration participate at the charter as a third partner. The CiteVie programme is aimed, in most cases, at middle-sized communities between 20 000 and 200 000 inhabitants as the operative process needs a technical staff contribution which is not possible in smaller municipalities or doesn't interest bigger ones because of their own ressources.

Through CiteVie charters, Ademe proposes to develop structured tools to help in decision making and to facilitate information and mobilization of local actors around joint purposes. Some of them are programmatic tools used in the first steps of project definition as impact analysis or land use studies for example. Others are more operational tools such as thermal diagnosis of buildings or car engine adjustments.

4.1.1 Ademe's intends through this programme

- motivate the integration of energy and environment topics in the development plans of local authorities.
- process and test thematic and transversal strategies toward sustainable communities,
- launch dynamism and competition among local authorities trough local dissemination,
- inducé new ways to manage community organisation,
- create and develop local networks and technical competencies.

These purposes will be applied to all Ademe's tasks : energy rational use and environment in building sector, in transports and in industry, renewable energies, agriculture and bioenergies.

4.12 Main Ademe's contributions :

- Technical advice and support with a regional team of engineers. Stimulation of technical teams and local networks, liveliness and mobilisation of municipal staffs and local actors
- Financial support : Ademe pays up to 50% of technical or sociological studies and 10% to 20% of equipment
- Advice and support for development of training programmes : information to general public and school, and dissemination campaigns
- Advice and support for evaluation programme and development of local dashboard on energy and environment indicators

Local programmes are then defined, with an annual contract on operative purposes, by both local authority and Ademe's local representation. This programme may be different in each case according to the city concerned specific problems and must remain flexible to be adaptive.

4.2 Evaluation methodology

4.21 CiteVie programme specificities and methodology choice

The CiteVie programme was an experimental programme. It's an adaptative and informal instrument. In fact, his evaluation presents several difficulties :

- variability of local strategies and aims
- dispersion and unavailability of data
- non definition of national aims

Thus, the object/results evaluation model isn't appropriate.

So, we have choosen a qualitative analysis : meeting and interview of Ademe's managers and town officials about local project and technical operations.

It's a methodology in three steps (characterization, evaluation, monitoring tools and advice) for the three operational levels (programme, project, operation).

4.22 Synthesis

Action levels	Evaluation steps		
	1. Characterization	2. Evaluation	3. Advice, monitoring and programme planning tools
	→	→	→
Programme	- Constitution of a global and general file of the programme . history, official and contractual documents...	- Global evaluation of the programme : macro economic and impulse effects in the economic, environmental and organisational fields	- Guidance proposals : local urban planning, urban transports, federation of cities... - Development of context and results indicators
Project	- Sample of towns to evaluate - Local survey on Citévie's experiences through local project manager meetings and interviews (Ademe and town officials)	- Local evaluation of a selected part of projects : show impacts and leverage effect	- Development of an annual dashboard per town - Development of a pluriannual balance sheet purpose/outcomes
Operation	- Exhaustive survey of all operations realised within the programme frame : techno-economic data	- Local evaluation of a selected part of operations : give economic, environmental and organisational results.	- Data records by operation - Data base development

4.3 Results and development

4.31 First results

Ademe launched CiteVie programme in 1990. A total of 60 millions of French francs (9 millions of ECU) have been invested by both cities and Ademe. Ademe average contribution rate is of 25%.

First results of the evaluation of 25 French towns that have already signed a CiteVie charter, will then be presented, showing interesting information :

- CiteVie is an adaptive and informal instrument that may give optimal answers to city's specific demands
- It permits earlier co-ordination of projects and efficient decisions and operations
- It raises a concrete operative process to develop new technical tools, new ways to manage energy and environment staff and to develop urban indicators and dashboards

- It shows that public grants have an adequate impact to local communities decide to invest in the fields of energy and environment. The most important investments have been made in the community's own property (schools, offices...), in waste management and disposals, in transports and building sites.

4.32 Development of monitoring tools (see annex)

The first target was produce monitoring tools : the same tools for all Citevie projects.

- **Programme scale :**

- Context and results indicators
- Annual dashboard per programme

- **Project scale :**

- Annual dashboard per each town : description of environnemental local targets, budget, organisation and town staff, partners, type of monitoring, technical operations (in transport, energy in building, waste...)
- Pluriannual balance sheet purpose/outcomes

- **Operation scale :**

- Data records by operation : description of budget, partners, operation process and technical data
- Data base development (with all data records by operation) : the 30 Ademe's setting up are connected to this data base.

4.33 Indicators development

- context indicators (urban indicators) : air pollution level, public transport rate, etc.
- results indicators :
 - . technical results : number of building thermal diagnosis realized
 - . organisational indicators : Technical staff reorganization (establishment of an environment structure for example)

4.34 Evaluation record

All of the data and indicators are resume by project in a evaluation record with diagram (see annex) : we name this diagram "compass card". Each record consists of :

- **5 boxes :**

- . area and town signatories, number of inhabitants
- . date of signature
- . Financial budget
- . Partners
- . Innovation and principal operation

- the compass card

The diagram represents the partnership **global budget** : Ademe's assistance and partners budget.

- 5 series of compass legs

Each sery represents the **budget** giving to :

- . different targets (users and scholars / local authority staff)
- . technic subject (transport, building and equipments. waste, renewable energies, air pollution)
- . operation type (methodological and technical support, financial support, continuing education, information and media)
- . innovational levels
- . external partnership

5. CONCLUSION

During the past, Ademe has defined a new programme evaluation system. This model is based on a network concept. The network concept appears operational and effective for the action of the agency, and enables to adopt a common language between on the one hand the engineers of the agency, whatever their area of action, and on the other hand between the agency and its multiple partners. It also enables to adopt a coherence in the programme planning activity.

It reinforces the idea that policy makers need a more multicriteria approach in order to select their interventions, and to mobilise the various actors involved in an innovative project.