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Environmental reporting and accountability in the Lazio Region between national guidelines and pilot experiences of local governments in Italy

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Abstract

The need to support traditional annual financial balance sheets with environmental balance sheets is a strong priority for public organizations in order to communicate the use of public resources to their citizens through the processes of governance, and from the perspective of sustainable development.

Currently environmental reports are still not widespread, yet a lot of social reporting experiences have taken place in regions, provinces and municipalities (at present over 150 nationally).

APAT (the Italian Agency for Environmental Protection and Technical Services, now ISPRA), which coordinates a network of 20 regional environmental agencies, has recently begun a process to harmonize environmental reporting methods at a local level by analyzing the implemented experiences. This led to the formulation of the "Guidelines for the preparation of reports on the state of environment at a local level".

This work examines the experimental application of the methodological guidelines proposed by APAT for defining a model of integrated environmental reporting in the Lazio Region. In particular, the case study analysis of the regional government of Lazio is linked with a preliminary analysis based on the methodology of previous case studies carried out by the authors (investigating social reporting in Lombardia and Veneto (Veneto Region, 2003, 2004), not presented in this paper).

Keywords: accountability; social report; environmental report; physical, monetary and integrated environmental accounting

1 – Research question and methodology

Many Italian public administrations have implemented innovative experimental systems of accountability in recent years (in particular municipalities, provinces, regions, local health and hospital agencies, chambers of commerce and universities). As a result, public organizations can "account for" their actions by building a relationship of trust with the various stakeholders involved.

Environmental reporting may be considered as one form of the social accountability process. Even though it is circumscribed in a specific sector, its objective is to make the public administration socially responsible for the quality of the environment.

The growing need to manage environmental problems (which are increasingly more complex and frequently conflicting) and to redirect collective interest towards objectives that improve the quality of the environment and life, should lead public organizations to provide adequate accounting of the costs and environmental benefits of their actions and increase the levels of transparency externally.

Research conducted at a national level in Italy on the many experiences of accountability implemented in regions, provinces and municipalities highlights that the diffusion of environmental reports is limited (around 20 at a national level, mostly in municipalities (CERIECA, 2007) as accountability is documented through other accounts, such as gender budgets, participatory budgets and sustainability reports.

The aim of the paper is the analysis of the possible models that may introduce environmental reporting systems in the regions. It does so by analyzing the Lazio Region, which as introduced social reporting in recent years.

The choice of regions is justified from the increasingly relevant role that they assume at EU level and, especially in the Italian context, in the formulation and realization of environmental policies.

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The role of the regions will be further strengthened by the changes in progress to institutional and administrative levels that anticipates full institutional autonomy and fiscal federalism in Italy. The research question on the possible options for environmental reporting connects with a more general consideration of the public administrations' accountability systems. There are two possible alternatives to consider during the qualitative research: the first, analyzed and discussed below, foresees the adoption of guidelines developed at European and national levels, through top-down logics, well-known to the researchers of public management and public governance.

The second is based on the diffusion and dissemination within the regions of practices developed in other public administrations. This particularly involves the adoption of an environmental reporting logic, developed and implemented for local governments (municipalities and provinces), organizations which provide direct services to the citizens/users, and which have shown a weak interest in producing environmental reports until now. This second option follows a bottom-up approach, more particularly interested in capacity building. Some doubts arise considering the possibility of repeating the procedure of local government accountability at a regional level which, in contrast, formulates and implements policies and which is tentatively moving towards introducing tools of accountability.

To investigate the research question we began with the identification of models and methods of environmental reporting disseminated at a national and European level so as to focus on the analysis of the EMBA Guidelines proposed by APAT (the Italian Agency for Environmental Protection and Technical Services). Secondly, we studied the pilot application of the guidelines to the case of a regional government such as the Region of Lazio.

We used a research method (Thietart, 2001) based on a case study analysis (Yin, 1984). We conducted interviews (approx. 30) with regional political decision makers and public managers within the regional administration and in some regional public agencies (regional agencies for the environment and for economic and social development). The authors analyzed official documents; moreover the authors were directly involved in the project of implementing social reporting in the Lazio region, starting in 2007.

Before presenting our research and its main results, we will discuss some of the theoretical background of environmental accounting and reporting in the public sector.

Finally, in the conclusions, we will assess the impact of variables and factors capable of influencing the outcomes of any pilot project for introducing environmental accounting and reporting in Regional Governments.

2 – Environmental reporting in the public sector

Social responsibility has been introduced into the Italian public administration system in recent years. In the public sector, social responsibility is strictly connected to the institutional mission of each individual public administration, which is called to generate positive effects for the local community.

The primary tool for accountability that has been widely used in recent years is the social report or statement, which many public administrations have adopted voluntarily. The social report is a tool that the administration can use to demonstrate decisions that were made, actions that were taken, resources that were used, the results in terms of public value created (Moore, 1995) and the impact on citizens and on various stakeholders. These last two are important for formulating opinions and evaluating the activities undertaken by public organizations.

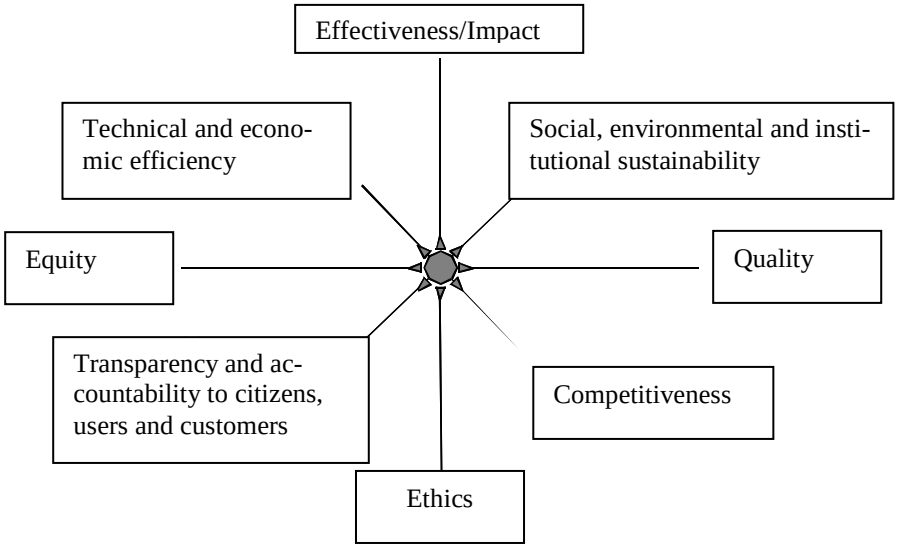
From this perspective, social reports should illustrate to citizens, civil society, private companies and non-profit institutions (Formez, 2005b) the most complete view of the performance of the different areas of intervention (Hinna, 2004; Tanese, 2004; Lattanzio e associati, 2004; Formez 2005a).

One characteristic of the accountability process is its flexibility, since it is used by decision-makers to evaluate actions, interventions and policies as well as plans and programs (which means future strategies can be modified). The areas of the public administration's performance evaluation based on the traditional 3E model (efficiency, effectiveness and economics) have been integrated in the last five years into a multidimensional evaluation model of results (GRI, 2005; CIPFA 2004; GBS, 2005). In this new framework, key issues of performance are equity (particularly relevant for users and stakeholders with weak contractual capacity), competitiveness, ethics, quality, economics, and social and environmental sustainability of the various public policies. While introducing social or environmental reporting systems, it is important to pay attention to the mapping and the involvmente/engagement of stakeholders In recent years special attention has been paid to the identification of relevant stakeholders by adapting to the public sector one of the main assumptions of managerial literature (Freeman, 1984).

Citizens, other public administrations, families, private firms, nonprofit and voluntary associations, financial institutions, media, and environmental groups can be considered key and prominent stakeholders in social and environmental reporting.

Moreover, public managers and professionals deserve to increase their efforts to deal with institutional and public communication and with the management of the relationship with stakeholders .

Chart 1 – Multidimensional evaluation of public administration performance



Source: *Misurare per decidere*, Department of Public Administration, Italian Government (2007)

Environmental accounting was developed from experiences with social reports and therefore, from public and private organizations' increasing need to fine-tune accountability systems; not only economic-financial ones, but also social and environmental ones, in order to evaluate the overall impact of their activities on civil society, environment and territory (Odum, 1996; Gray, Owen and Adams, 1996).

The structure of environmental accountability is represented by a system of accountability that integrates with the processes of governance. The aim is to reform governance by internalizing the environmental variables in the public decision-making process.

An environmental report is a document distributed to the different "publics" and drawn up periodically.

In this report the administration describes its primary environmental issues, strategic approach, planning and environmental management organization, as well as the actions that have been carried out for environmental protection.

In the environmental report the public administration communicates its own environmental impact and the related financial aspects with statistical data and indicators.

Beyond serving as a tool for communicating with the various stakeholders involved, environmental reporting represents a fundamental element for the strategic management of the "environmental" variable within the whole strategic planning process (Van Dieren, 1995).

Adopting a document for environmental accountability allows for better monitoring of the efficiency and effectiveness of the policies implemented and for redefining objectives and priorities based on the stakeholders' needs, priorities and expectations.

This document can also illustrate the strategies for managing the environmental assets and quantify the "capital to be invested" for managing environmental resources.

3 – The environmental reporting models and an analysis of the Italian national guidelines

As previously stated, a small yet important number of local administrations (in provinces and municipalities) have introduced some self assessment methods on the basis of environmental reporting (in Ravenna, Rovigo, Reggio Emilia, Modena, Venezia, Napoli, and Catania).

The experiences included the public administrations' "best practices" (used in Italy as benchmarks in the field of environmental reporting) and other public administrations that decided to integrate social accountability interventions with environmental reporting.

Those initiatives and experimental projects developed in the field of environmental certification (the ISO 14000 and Agenda 21 municipalities) and in the field of sustainability reporting may supply a useful reference for in-depth comparison and bench learning activity.

All of the experiences share the same accountability system that is determined by *environmental policies, accounting systems and environmental reporting*.

The formulation of environmental policies is strictly related to the definition of aims and objectives

in the environmental field and the specification of the actions that have an effect on the environment (those already undertaken by the public administration and those to be undertaken in the future).

The parameters for measuring and evaluating the impact of public policies are integrated (CLEAR, 2003) into the accounting system.

The latter is designed as a list of indicators that are strictly connected to the different policies (not only environmental ones, but also those related to energy, urban planning, transportation, mobility, sustainability and more).

The different methods for environmental accounting may be categorized as physical, monetary and integrated (physical-monetary) (see table 1).

Reporting occurs in the instance when environmental policies and their effects are evaluated, approved and communicated.

Through the analysis of the financial documents, which is carried out by re-classifying the environmental-related costs, it is possible to identify and classify the allocation of resources to different programs. The document is made up of an organized system of environmental accounts (both physical and monetary) that are related to the policies and functions of a public administration.

It is created in order to allow for comparison with the strategic plans, medium term programs and financial statements, as well as to evaluate the environmental impact of some sectoral policies (e.g., housing, transportation, health care) that have been and will be implemented by the public administration.

The objective is to create a set of eco-efficiency indicators, divided according to accountability areas so as to compare the environmental variables and the economic variables.

Through comparison with the physical indicators, it is possible to evaluate if the resource allocation is coherent with the needs and priorities expressed by the local community.

With eco-efficiency (and possibly eco-effectiveness) indicators, it is possible to evaluate long-term efficiency (and effectiveness) of policies and to improve institutional responsiveness.

Over recent years, APAT (the Italian national agency for environmental protection) launched a survey of the methods in use for environmental reporting.

Table 1 – Methods for environmental accounting

TYPE	METHOD
ENVIRONMENTAL MONETARY ACCOUNTING	SERIEE – EPEA
	Economic value: tangible components
	Economic value: intangible components
PHYSICAL ENVIRONMENTAL ACCOUNTING	DPSIR Indicators
	ECI Indicators
	Ecological footprint
	EcoBudget
	Materials Flow Analysis (MFA)
INTEGRATED ENVIRONMENTAL ACCOUNTING	NAMEA
	CLEAR
RESEARCH AND EXPERIMENTATION	EMBA Guidelines
	RAMEA
	ANTEO Research
ACCOUNTABILITY STANDARD	GRI
	GBS

Source: *ARPA (Regional Agency for Environmental Protection)*, Emilia Romagna and National coordination of the Local Agenda 21

This analysis made possible the elaboration of "Guidelines for drawing up reports on the status of the environment at a national level."

These are the EMBA (Elaborazione di Modelli di Bilancio Ambientale – Elaborating Environmental Report Models) guidelines, which are the result of a negotiation process between all the Italian regional environmental agencies.

The process is made up of three phases:

- defining the procedure for formulating the environmental report;
- preparing the environmental report;
- presenting the environmental annual budget.

While defining the procedure for formulating the environmental report, it is necessary to clearly identify the internal and external stakeholders. The motivations that led to the environmental report must also be identified and the availability of financial resources must be verified.

When preparing the environmental report, it is necessary to monitor the indicators, control the quality of information, draw up the final version of the document, approve it and communicate it externally.

Finally, presenting the environmental annual budget requires the revision of the quantitative budget objectives and the identification of feasible targets connected to concrete advantages for sustainable development. The originality of the proposed approach should be underlined. It modifies the traditional budgeting process in public administrations, which begins by formulating the preliminary annual budget (*ex ante* phase), then it continues with management of the official budget and ends with drawing up and approving the final financial statements (*ex post* phase).

With reference to the first point, organization of the environmental budgeting and reporting process is reported in chart 2, which has been provided by APAT.

The final goal to achieve is to verify consistency between environmental policy objectives, financial figures (forecast and final), management and physical result indicators.

The most delicate and strategic phase in the process of defining an environmental accountability model is the creation of the most suitable performance indicators for each strategic objective.

The use of integrated indicators that are able to compare economic and financial variables with environmental performance also helps in evaluating eco-efficiency and the effectiveness of environmental spending and, as a result, the managerial capability of public managers as well.

The final objective is to have indicators that demonstrate evolution in the utilization of natural resources and the environmental impact produced by the public administration's interventions over time.

After the environmental public policies and specific program interventions have been defined, the performance analysis chart may be prepared by taking into account both economic management results as well as physical environmental impact results.

This requires highlighting how the analysis is influenced by certain factors, such as:

- the institution's ability to define clear and specific objectives that can be further measured;
- defining those objectives within the strategic plan;
- the lapse of time between the definition and the achievement of the objectives.

In recent years in Italy there have been significant contributions (Catalfo, 2007; Cerieca, 2006) in developing environmental reporting models for public administrations, moving from the results of pilot projects of environmental reporting in some Italian municipalities. The initial research and pilot applications identified a need to reconsider the idea of the environmental report from the perspective of environmental performance accountability, considering it as an idea which includes managing governance, planning and monitoring processes together with the management of the environmental assets of local institutions. It then becomes necessary to correlate financial-management input with environmental output to be able to reach a decision regarding costs that includes not only the financial situation, but also the strategic perspective on investment and management.

According to this model, measuring performance is aimed at analyzing the management capacity of the local institution through the creation of a management efficiency indicator (IEG – *indicatore di efficienza gestionale* – managerial efficiency indicator). The indicator compares the spending allocated by formal decision to the sum actually paid, which allows the evaluation of:

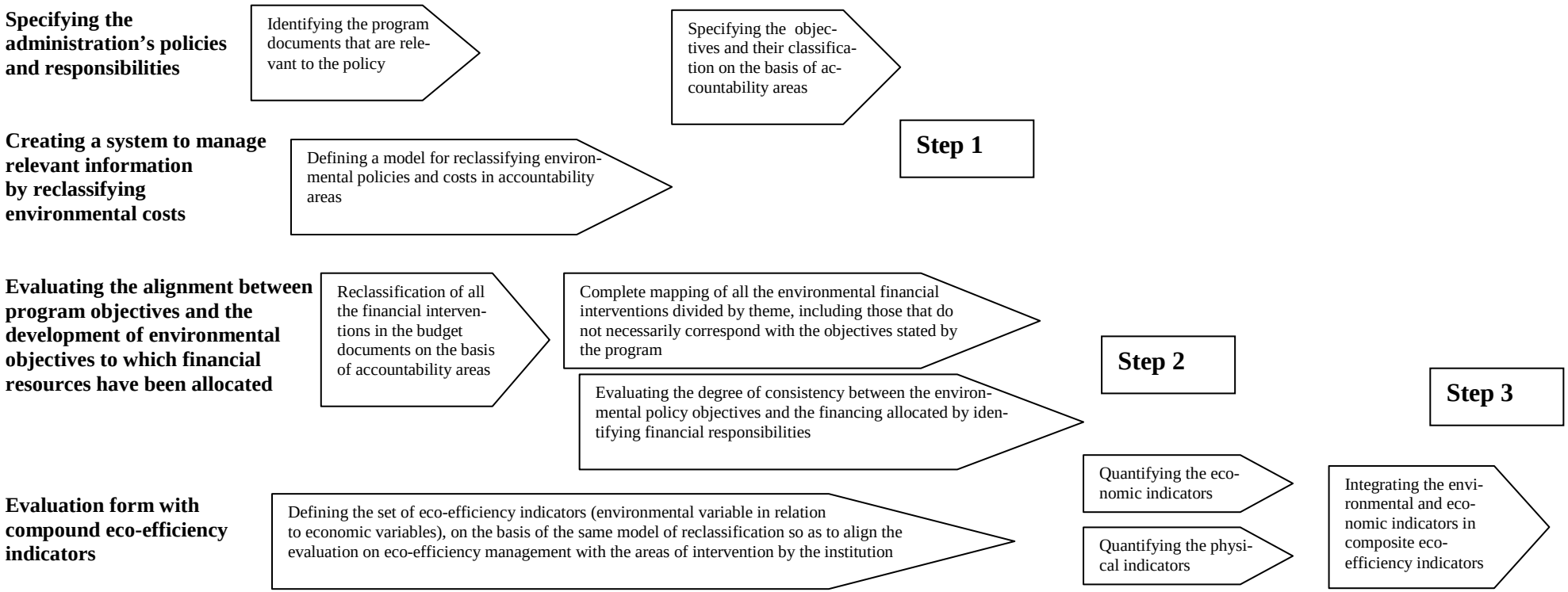
- the efficiency of the local institution's environmental policy programming activities;
- the efficiency of financial management processes.

Physical performance may be measured and calculated by creating an impact indicator (see tables 2 and 3).

The measurement of that indicator can have critical issues tied to the availability of data bases, which are absolutely necessary for their establishment. At the end of the process, the integrated performance evaluation is reached through a process of rating/scoring.

This consists of a combination of the previous results. It must be specified that in the case where one is able to complete steps 1 and 2 due to availability of information, an intermediate level may be used (defined as step 1.5) in which "effort indicators" or "expected impact indicators" can be identified.

Chart 2 – Phases of the process for formulating the environmental report



Step1: **Reclassifying the environmental costs contained in the financial statements**
Step2: **Evaluating the alignment between environmental policy objectives and financial allocations**
Step3: **Integrating the environmental and economic indicators in composite eco-efficiency indicators**

4 – A pilot project of environmental reporting in the Lazio Region

In the formulation and creation of environmental reports in the public administration important actors are currently missing: the regional authorities. The regions of Veneto, Lombardia and Lazio have already begun local initiatives for accountability and social reporting. Lazio in particular has launched an ambitious and interesting project to introduce integrated accountability tools, now being implemented to varying degrees. Until now, accountability initiatives of this kind have included the presentation of a first social report relating to the 2007 fiscal year and the launch of awareness work groups on the theme of gender budgeting through events and training. Environmental reporting is currently considered at an initial design phase with respect to systems of physical environmental accounting and programming documents for environmental sustainability that have already been implemented (DOSAPE ─ Document for environmental sustainability of economic planning – *Documento di sostenibilità ambientale della Programmazione Economica*).

Table 2 – Efficiency indicators

TYPE OF INDICATOR	PURPOSE	EXAMPLE
Pressure agent removed / Financial resources	Indicates intervention productivity in terms of reducing environmental pressures	Waste incinerated/Investment
Pressure agent removed / Physical dimension of the intervention	Indicates intervention productivity in terms of reducing environmental pressures	Tons of waste treated/Surface area occupied Surface area reduction Eroded coast/meters of barrier
Pressure agent removed / Pressure agent generated	Indicates intervention productivity in terms of reducing environmental pressures per unit of pressure agent generated that impacts a different environmental theme	Increase in length of eroded coast tons of waste treated/tons of biogas produced
Environmental improvement achieved / Financial resources	Indicates investment productivity in terms of improvement in associated environmental quality	Reduction N levels/Investment Decrease in frequency of disruptive hydro-geological occurrences/Investment

Table 3 – Effectiveness indicators

TYPE OF INDICATOR	PURPOSE	EXAMPLE
Removal achieved / removal objective	Indicates the intervention's effectiveness in achieving the established removal objectives	Tons of waste incinerated/tons of waste to incinerate
Costs sustained / cost objective	Indicates the intervention's effectiveness in achieving the established cost objectives	Intervention costs/cost allocation for the intervention
Physical dimension / objective	Indicates the intervention's effectiveness in reaching completion in physical terms according to what is established in the objectives	Surface area repaired/Surface area to repair Length of waterways with embankments/Length of waterways requiring embankments

Due to the lack of institutional framework regarding accountability and social reporting, the Lazio Region should try to align with EC standards to be able to have an environmental reporting system that states the direct or indirect impact of the environmental strategies adopted.

Identifying which environmental policies have been created, defined and set down as formal program documents by the public administration is the starting point for launching the process of pilot implementation of environmental reporting.

For the purpose of this study, the Lazio Region's environmental policy strategies and program outlines were identified for the 2007 fiscal year.

The strategic outlines were identified with regards to the Lazio Region's long-term objectives for 2007/2009.

These objectives were supposed to be carried out with a series of operational programs and actions that would be defined yearly.

The strategic objectives identified include:

– improving the integrated regional water system;
– preserving the natural heritage (protected areas and forests);
– improving environmental quality (air, water and territory) and sustainable development;
– defending the territory;
– saving energy.

The short term results that the region should achieve can be traced back to the decision to improve and increase the environmental regulatory framework, defining planning systems for the sector and optimizing financial management tools. One of the main objectives is to introduce sustainability and eco-compatibility criteria in diffused regional policy (not just environmental ones, but economic-social and infrastructural ones as well) including Agenda 21 programs. Identification of the impact indicators began directly in the strategic intervention areas.

After having identified the strategic macro- objectives, the impact indicators were associated with the environmental programs, interventions and specific program actions dictated by the administration, according to chart 3.

Chart 3 – Environmental policies in Lazio Region: the strategic goals

Strategic objective	***Specific objective***
"Improving the integrated regional water system"	- *Managing hydro-geological and hydraulic risks*
"Preserving the natural heritage"	- *Management of parks and natural forests* - *Nature conservation* - *Forest conservation* - *Environmental monitoring*
"Improving environment quality and sustainable development"	- *Regional inventory listing sources of green house gasses* - *Kyoto help desk* - *Fighting atmospheric pollutants and climate altering gasses* - *CO2 absorption* - *Green Public Procurement (GPP)* - *Certification tools*
"Defending the territory"	- *Developing territorial surveillance*
"Saving energy"	- *Developing renewable energy resources* - *Developing energy saving policies* - *Developing policies to reduce emissions* - *Developing policies for safety and differentiation of energy sources*

The process of environmental reporting starts by identifying the specific nature of the investments made according to an examination of where the resources were allocated. In this sense, financial resources allocated in the regional budget for strategic macro-objectives and interventions were reclassified.

The environmental report is intended to highlight the environmental costs in relation to the strategic areas/objectives that have been identified. The difficulty in this phase is connected with tracking the allocated resources back to the program objectives. Though it was fairly easy to trace the allocated resources or strategic macro-objectives that had been budgeted, reaching a clear relationship between the resources and the specific interventions was not so simple.

When identifying accounting costs, functional reclassification of costs or budget analysis is the proposed technique. All of the financial expenditures for the 2007 final statement sheet are analyzed to identify the costs deriving from interventions related to the regional environmental policy. A cost analysis is carried out on each strategic objective in an attempt to distinguish roles, responsibilities and payments; the process is described in chart 4. A list of indicators is presented in appendix A.

Chart 4 – The identification of costs and the creation of indicators

STRATEGIC OBJECTIVE	SPECIFIC OBJECTIVE	ALLOCATION	RESPONSIBILITY/ PAYMENT	VAR. SUMS PAID	SUGGESTED INDICATOR
Improving the integrate regional water system					
Preserving the natural heritage					
Improving environment quality and sustainable development					
Defending the territory					
Saving energy					

5 – Conclusions

The considerations emerging from the evaluation of the process and results of the pilot application of an environmental reporting process in the Lazio Region lead to the conclusion that the model proposed by APAT can be applied both to municipal and provincial as well as regional public administrations.

This experimental procedure applied in the Lazio Region, which is connected to the system of indicators for evaluating performance and based on a preliminary mapping of the stakeholders and on a later identification of the objectives, implementation strategies and action programs, may serve as a reference model or a benchmark for other experiences to be developed in the regions, local administrations and regional agencies.

The results of this pilot project can form the basis for further research that can be useful not only to describe the evolution of standards and their practical application, but also to reflect on applying environmental accounting and reporting to public institutions. They can offer important indications for two groups of stakeholders. The first group consists of public management researchers who are studying the theme of accountability and social reporting and the development of innovative forms of social responsibility. The second group includes professionals, managers and directors working within the administrations and public agencies.

The relationship between environmental reports, advanced forms of social responsibility and sustainability reports represents an important and qualifying area of research in the field of corporate social responsibility.

A challenge for public management researchers would be to connect the reflections on business-government relationships to these themes.

As is well known, this theme continues to increase in importance in national and international research networks for management and business administration due to the direct impact it has on development (and success) conditions, on the strategies of corporate governance and on the performance of the companies themselves. It could be asked what oppor-

tunities there are for the decision makers (politicians and technical-administrative personnel) and for the directors and internal managers in the public administration in reference to these new tools of accountability.

An important answer might be found in the support offered to the implementation and the enhancement of the strategic and managerial control process on one side, and to the introduction of new tools of policy evaluation, like public review, for instance, on the other.

The process of experimenting with environmental reporting in the Lazio Region may also lead to the introduction of sustainability reports in that same administration in the future, which is an extremely relevant issue that involves both the public and the private sector.

Public institutions and private firms show similarities and differences in the processes of the introduction and implementation of social, environmental and sustainability reports.

The elements of convergence will enable an interesting cross-fertilization between the two sectors.

Common issues are the integration between the different typologies of data, the structure of the documents and the focus on impacts, while significant peculiarities are related to the different external pressures from key stakeholders and the relationship between social/environmental reporting and strategic planning, which distinguishes public organizations.

In any case, the success of initiatives of this type in public sectors depends on certain critical variables which need to be considered.

First, with regard to time-consuming projects requiring a link with internal information processes and systems as well as the active involvement of the personnel, it is appropriate to make a cost-benefit analysis, which allows us to carry out an evaluation of the advantages in implementing the initiative itself.

Furthermore, it must be stressed that effectiveness in implementing any public accountability tool is guaranteed by the introduction of a cultural change, which includes:

- activation of a continuous learning process within the organization;
- integration with strategic and managerial control systems in order to create synergies in the information processes inside and outside the regional government;
- introduction of other accountability tools, like social reports, on the one hand, and policy evaluation and public review tools on the other;
- benchmarking with other public administrations

Attention to these aspects on the part of stakeholders within the regional administrative structure, on the one hand, and the need to conduct further research and experimentation in specific standards for the regions involving the scientific community, on the other hand, undoubtedly constitute critical variables in the success of the accountability and environmental reporting processes in regional public administrations.

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Appendix

Strategic objective	Indicators
"Improving the integrated regional water system"	-Length of water lines -Inhabitants served by water lines -Total water consumed for civil use -Average consumption of drinking water per person for all uses -Surface water used to produce drinking water -Quality of water for distribution -Leaks in drinking water distribution lines -Average sale price of drinking water -Number of inhabitants/users with sewer main hook-up -Length of the sewer -Number of depurators for civil use -Number of days the depurators function -Increase in the population served by the depuration facilities and sewers that were financed -Number of inhabitants (people served by the depuration and sewer systems that were financed)
"Preserving the natural heritage"	-Number of natural protected areas established/year -Greenery surface area/Number of inhabitants -Trails and paths for walking and biking -Forest surface area consumed by fire/total forest area -% of regional surface area dedicated to nature areas/number of inhabitants -Number of policies for landscape conservation/number of interventions -Number of allocations to adopt technologies that respect the environment/number of total allocations -Waste water treated and reused/total waste water treated -Number of multi-year park development plans - % of increase in surface areas subject to forest management -Monitoring endangered species -Availability of nature areas for inhabitants -Surface area occupied by protected areas -Square meters of public parks -Urban waste subject to differentiated collection/total urban waste -Deforestation area/total forest area -Number of inhabitants reached by initiatives for historic or cultural itineraries organized in protected nature areas -Number of itineraries identified -% surface area subject to forest management -% protected areas (protected areas which have structural type projects) -% of planned surface area increase (increase in the surface area subject to forest management) -% community interest habitat (SIC - Sites of Community Importance and ZPS - Special Protected Areas) which are subject to intervention. -Financing allocated for accepted requests
"Improving environment quality and sustainable development"	-% atmospheric emissions from differentiated urban waste collected/total urban waste -Number of mobile pollution detection centers activated -Number of recharging poles for electric vehicles -Industrial waste sent to dedicated treatment and disposal facilities/total of industrial waste produced -Number of registered vehicles fed by fuels with lower environmental impact (LPG, methane, electric) -Number of days of traffic block -% of public transit with low emissions -Acoustic emissions -% areas improved/ total areas -Survey of the sources of water pollution -Acquiring available data and surveys -Number of inhabitants that use the information, training and educational programs for environmental sustainability -Level of climate altering gasses in the regional territory -CO2 Emissions -% of compliant power units (improving the regional air quality network) -% of the regional territory that is zoned (promoting acoustic classification of the municipal territory) -Number of inhabitants (people that use the programs for environmental education)

"Defending the territory"	-Km of coastline considered unfit for swimming/Km total Km of coast -Areas with danger of seismic or hydro-geological occurrences -Number of natural disaster episodes -Areas at risk that are subject to improvement projects/total areas at risk -Coastal areas subject to erosion (total and % of erosion) -% of improved areas/total areas at risk - Areas with danger of seismic or hydro-geological occurrences
"Saving Energy"	-Number of projects/number of initiatives undertaken -Reduction in CO2 emissions -% of energy produced by renewable resources -% of energy produced by waste -Number of interventions which may be considered for energy and material savings -Type of heating in the homes -Reduction in CO2 emissions -% of reduction in family energy consumption -% of reduction (reduction of family energy consumption)