



eEnviPer White Paper #1

The Case for E-Government Tools for Environmental Permits

September 2012

Professor Alkiviadis Bais
Aristotle University of Thessaloniki

1 Executive Summary

[Information technology] doesn't get socially interesting until it gets technologically boring.
- Clay Shirky, *Here comes everybody* (2008)

Countries around the world, and in Europe in particular, have taken on the challenge to revitalize their public administrations and to make them more proactive, efficient, transparent and service oriented. Information and Communication Technology (ICT) tools are becoming one of the foundations of 21st century society.

In Europe, e-government tools and services are rapidly evolving in line with the provisions of the Digital Agenda for Europe. However, the European Commission admits that “e-Environment services, as a category of e-government services, are either still under-developed, or fragmented”.

As already learnt from existing software solutions, environmental permits processes require a set of modules for a comprehensive e-government approach. In the ideal case, these modules integrate existing data sources and thus do not contribute to a further fragmentation of the public IT landscape. The standard modules include: Knowledge Management, Geographic Information System, Workflow Management and Participation System.

The EU-funded project eEnviPer proposes a new software solution to fulfil this need. eEnviPer offers an e-government tool for basic environmental permits services to be offered to citizens as e-services. eEnviPer relies on and benefits from innovative technical approaches, such as clouds of public services and service-oriented architecture (SOA) to build open, flexible and collaborative e-government services while at the same time lowering ICT costs. The system also offers the possibility for public administrations to easily deploy new services and existing procedures as shared services. The resulting software system will be available in early 2014 after intensive field tests in Serbia, Croatia, Italy, Greece and Turkey.

2 Efficient public administration through information technology

At the end of the first decade of the 21st century, we're at a historical turning point in the development of e-government. With the maturation of the technical solutions for information exchange, security and collaboration, governments worldwide have an enormous opportunity to invest both in the availability of infrastructure for the electronic provision of public services and the accompanying policy measures.

Launching the 2011-2015 e-government Action Plan [1] for Europe, Digital Agenda Commissioner Neelie Kroes described its aim to "help public authorities to use ICT to offer better services at lower cost, while making life easier and better for citizens and businesses". The plan reflects the need for e-government services to move away from 'silo' government approaches towards a more integrated and collaborative approach in the service of good governance and single points of contact for citizens and businesses.

At the same time, governments are facing increasing demands to reduce overspending while citizens, enterprises and communities continue to insist on top performance and efficiency, proper accountability and public trust. Countries around the world have taken on the challenge to revitalize their public administrations and to make them more proactive, efficient, transparent and service oriented.

To accomplish this transformation, governments are introducing innovations in their organizational structures, practices, capacities, and in the ways they mobilize, deploy and utilize the human capital and information, technological and financial resources necessary for service delivery to citizens. Because the real benefit of e-government lies not in the use of technology *per se*, but in its application to processes of transformation and the new role of government in enhancing public sector delivery, the appropriate use of information technology plays a crucial role in advancing the goals of the private sector.

By bringing ease and transparency to previously complex and obscure processes, e-government can rebuild trust in public services. With one in three Europeans using the internet for bank transactions, citizens increasingly demand similar levels of ease when dealing with administration. At the same time, public servants can save time by providing direct access to information to citizens and reduce cost by consolidating disparate information systems and workflows.

With such a clear case for e-government, the obstacles for adoption become surmountable. Good project management of the deployment process together with a clear definition of objectives and boundaries help to keep the costs within budget. Clear management commitments and a consistent vision for the role of e-government can help to overcome organizational inertia and resistance. Finally, citizens will be happy to adopt e-government systems if they are communicated well and meet their expectations [2].

3 E-Government tools for environmental permits

Thanks to government endorsements and technological progress, e-government tools and services are rapidly evolving in the European territory in line with the provisions of the Digital Agenda for Europe. However, the European Commission admits that “e-Environment services, as a category of e-government services, are either still under-developed, or fragmented”. While there is a coordinated effort for the development and use of a Shared Environmental Information System (SEIS) - a collaborative initiative of the European Commission and the European Environment Agency (EEA) - to establish together with the Member States an integrated and shared EU-wide environmental information system, environmental management and planning remains mostly paper-based.

The idea of “e-environmental permits” was first discussed in the 1990s [3], stressing the importance of IT security, subjective decision-making and negotiation and public participation in the process. Since then, a few notable e-government tools have been deployed in selected countries. However, for most of Europe, this development is still in its infancy.

Below, we present a few selected existing solutions of e-government tools for environmental permits before providing an outline of future needs and developments.

3.1 Wales Environmental Agency

The Wales Environmental Agency maintains a web-based service for environmental permits. This executive non-departmental public body is responsible to the Secretary of State for Environment, Food and Rural Affairs and an Assembly Sponsored Public Body responsible to the National Assembly for Wales.

The e-government services offered to the stakeholders include electronic applications for new, changed, transferred or given up environmental licences, without incorporating any Knowledge Management System or e-Participatory procedures.

<http://www.environment-agency.gov.uk/>

3.2 Hong Kong Environmental Protection Department

The Environmental Protection Department of the Government of Hong Kong operates the Environmental Protection Interactive Center (EPIC). EPIC provides a full-train service under a secured transaction platform for the public to apply for licences and permits and settle licence fees through the Internet.

EPIC also enables the public to request specific environmental data in an interactive way, however without any participatory procedures during the licensing step.

<http://www.epd.gov.hk>

3.3 Florida Department of Environmental Protection

The Florida Environmental Resource Permitting (ERP) programme regulates almost all changes to the landscape that affect surface water flows.

The ERP programme is implemented jointly by the Department of Environmental Protection and the five water management districts. This solution, however, has the characteristics of a Knowledge Management System of documents and literature needed for the environmental licensing procedure rather than a service tool with e-application and e-participation operations.

<http://www.dep.state.fl.us/>

4 Future needs for e-government tools in environmental permitting

As seen in the software solutions described above, environmental permits processes require a set of modules for a comprehensive e-government approach. In the ideal case, these modules integrate existing data sources and thus do not contribute to a further fragmentation of the public IT landscape. Standard modules include:

- **Knowledge Management.** Public officials, environmental experts and (to a certain degree) citizens and enterprises need access to relevant legislation and case law, existing permits and previously compiled environmental impact assessments.
- **Geographic Information System.** Environmental permits are linked to a particular place and its particular regulatory restrictions, related land use plans and ecosystems. Geographic information systems allow users to easily view applicable information for the permit process in hand.
- **Workflow Management.** Throughout its lifespan, an environmental permit application goes through defined stages, involving various experts and decision-makers. Workflow management software helps to move the process along and alert participants to outstanding tasks.
- **Participation System.** Public participation is at the core of each environmental permits process. A public portal can invite citizens to provide their knowledge and concerns to an on-going consultation process from the comfort of their living room.

Examination of existing e-government tools for environmental permits has shown a definite need for a system that integrates relevant processes and services already provided by public authorities and agencies. The system would then enable them to model and deploy services as a cloud of e-government services that support environmental permitting procedures to citizens and businesses [4].

5 eEnviPer - e-government tools for environmental permits

In 2012, a consortium of 12 local and regional authorities and small businesses received a grant from the European Commission's ICT Policy Support Programme to demonstrate the feasibility for such a system. The resulting software system (eEnviPer - <http://eenviper.eu>) offers an e-government tool for basic environmental permits services to be offered to citizens as e-services. The system also offers the possibility for public administrations to easily deploy new services and existing procedures as shared services.

eEnviPer relies on and benefits from innovative technical approaches, such as clouds of public services and service-oriented architecture (SOA), to build open, flexible and collaborative eGovernment services while at the same time lowering ICT costs.

The system will enable public authorities to model and deploy services as a cloud of e-government services that support environmental licensing procedures to citizens and businesses for everyone to:

- Receive environmental information that is held by public authorities ("access to environmental information"); and
- Participate in environmental decision-making ("public participation in environmental decision-making").

eEnviPer's sub-systems (participatory Web 2.0 platforms, Geographical Information Systems (GIS) and Knowledge Management Systems (KMS)) will encourage public consultation in environmental issues and increase transparency. Its features will include:

- **Multichannel use**
Creation of a single unified experience to access environment-related permits procedures through multiple devices (PC, tablet or smartphone), by using a common and familiar interface, always updated thanks to the cloud computing architecture used.
- **Personalized services**
Tailored e-services according to users' roles and their level of involvement in the environmental licensing procedure.
- **Integration of complimentary existing systems**
Digital services for permitting authorities at different levels (local, regional and central), enterprises, consulting services providers (i.e., environmental engineers) and civil society (either individual citizens or special interest groups such as NGOs).

6 Conclusions

E-Government is at a historical turning point, and governments worldwide (and in Europe in particular) are called to step up their game. They have a chance to use the introduction of online tools not just for their own cost reduction and efficiency gains, but also to increase transparency and participation in the governance process.

To date, the use of e-government tools for environmental protection in particular is lagging behind the field, despite its much-vaunted promise to reduce the environmental impact of economic activities.

Examining current e-government tools for environmental permits, there is a clear need for a better use of ICT tools for the simplification of environmental permitting procedures to overcome bureaucratic burdens, perform the required tasks within the limited available resources (human and infrastructures), and ensure transparency in the permitting process.

An integration of the different function of the environmental permits process with existing IT infrastructure - and with each other - can provide leverage for the benefits of cloud computing, web 2.0 applications and available public sector information, resulting in a reduction in bureaucratic burden and an increase in engagement.

The EU-funded project eEnviPer proposes a new software solution in this field. It will be available in early 2014 after intensive field tests in Serbia, Croatia, Italy, Greece and Turkey.

7 Sources

- [1] European Commission *A Digital Agenda for Europe: Communication from the Commission*, Accessed (26/08/2010).
- [2] European Commission *Study of the measurement of eGovernment user satisfaction and impact* (2008). Available at:
http://www.epractice.eu/files/EU%20UserSat_Final%20Report.pdf
- [3] Joyce M. Martin and Michael J. Kelly, *Electronic Environmental Permitting: Panacea or Pandora's Box?*, 23 B.C. Envtl. Aff. L. Rev. 547 (1996), Available at:
<http://lawdigitalcommons.bc.edu/ealr/vol23/iss3/3>
- [4] P. Wauters, K. Declercq, S. van der Peijl, P. Davies, *Study on cloud and service oriented architectures for eGovernment* (2011). Available at:
http://ec.europa.eu/information_society/activities/egovernment/docs/studies/egovsoastudy-smart2010-0074finalreport.pdf