

Towards Improved Public Information on Industrial Emissions in Italy: Concepts and Specific Issues Associated to the Italian Experience in IPPC Permit Licensing

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Abstract—The present paper summarizes the analysis of the request for consultation of information and data on industrial emissions made publicly available on the web site of the Ministry of Environment, Land and Sea on integrated pollution prevention and control from large industrial installations, the so called “AIA Portal”.

As a matter of fact, a huge amount of information on national industrial plants is already available on internet, although it is usually proposed as textual documentation or images.

Thus, it is not possible to access all the relevant information through interoperability systems and also to retrieval relevant information for decision making purposes as well as rising of awareness on environmental issue.

Moreover, since in Italy the number of institutional and private subjects involved in the management of the public information on industrial emissions is substantial, the access to the information is provided on internet web sites according to different criteria; thus, at present it is not structurally homogeneous and comparable.

To overcome the mentioned difficulties in the case of the Coordinating Committee for the implementation of the Agreement for the industrial area in Taranto and Statte, operating before the IPPC permit granting procedures of the relevant installation located in the area, a big effort was devoted to elaborate and to validate data and information on characterization of soil, ground water aquifer and coastal sea at disposal of different subjects to derive a global perspective for decision making purposes. Thus, the present paper also focuses on main outcomes matured during such experience.

Keywords—Public information, emissions into atmosphere, IPPC permits, territorial information systems.

I. INTRODUCTION

EMISSIONS from industrial installations are regulated under several international Conventions and Directives in order to provide a high level of protection for human health and the environment. In particular Directive 2010/75/UE (IED) on industrial emissions [1] is aimed to achieve the integrated pollution prevention and control from large industrial installations. Hence, IED Directive establishes that IPPC permits should be based on Best Available Techniques

(BAT) to reach an adequate level of environmental protection and should set up all the necessary measures including operating conditions, emission limit values for relevant polluting substances and monitoring requirements.

As a matter of fact, according to the IED Directive, a general improvement on the entire environmental performance of the industrial installations is achieved by taking into account the fate, transport and transformation of pollutants in the various environmental matrices. Thus, by taking into account emissions to water, air, soil as well as energy efficiency, waste production, recovering and recycling, restoration of the site upon definitive cessation of activities, IED Directive certainly contributes to the protection of the environment as a whole.

Moreover, in IED Directive transparency of the decision-making process is also ensured by enabling the public to be utterly informed regarding all relevant issues during the IPPC permits release procedure and to express their opinion and concerns also according to the UN/ECE Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to justice in Environmental Matters, (UN/ECE Aarhus Convention) [2].

On this purpose, according to the Decree 3rd April 2006, n. 152 as amended by successive acts [3], that inter alia transposes IED Directive into the national legislation, each Competent Authorities shall make available to the concerned public all relevant information related to the granting of a IPPC permit for new installations or any successive substantial changes, including for instance permit conditions, results of self-monitoring as well as reports on inspections carried out and eventual following acts.

Moreover, such a Decree also establishes that such timely information shall be ensured by Competent Authorities by means of their own web-sites. Thus, in the near future it is expected that the enforcement of the public information on the specific issue of the industrial emissions and more in general on the various environmental matter would produce a consequent benefic effect on the state of the environment due to the improved participation of citizen to the decisional process and the increase of their awareness.

II. ENVIRONMENTAL PROBLEM TARGETED

The present section focuses on the specific provisions

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related to public information on industrial installations whose IPPC permits are granted at national level according to article 24 of IED.

As a matter of fact, in Italy the competence for the IPPC permit licensing of installations is attributed to the Ministry of the Environment, Land and Sea (Ministry) for installation with relevance from the national point of view as well as to local authorities, i.e. either Regions or Provinces; thus, in Italy there are about 80 competent authorities as a whole.

All the relevant information related to IPPC permits of installations of national relevance, namely large combustion plants, chemical plants, refineries and industries for the production of iron and steel, are published on the Ministry web site, on the so-called "AIA Portal". Moreover, it should be noted that in the same web site the majority of the IPPC permits released by local competent authorities are made available too.

However, as stated above, also local Competent Authorities have been organizing their own web sites on granting IPPC permits and related documents for public consultation purposes.

As a result, a huge amount of information is already available at national and local level, although it is usually proposed as textual documentation or images; thus it is not allowed access to all relevant information through interoperability systems. As a matter of fact, at present it would be interesting to perform the retrieval of relevant information that for instance could convert the text unsuitable for processing into table format for further analysis aimed to adequately support the decision-making processes and rising of awareness on environmental issue.

In such a context, the IED is aimed at improving "Information and Governance" aspects, by integrating all relevant information available during the IPPC permit granting procedures according to the INSPIRE and SEIS specifications of Directive 2007/2/EC establishing an Infrastructure for Spatial Information in the European Community (INSPIRE) [4], which allows to increase the accountability and transparency of the reasons on which the decision on IPPC permit releasing is based.

Consequently, in such a case in the IPPC permit granting procedures it would be further ensured also the harmonization with other requirements related to the governance, coming from relevant piece of legislation such as Directive 2008/50/EC on ambient air quality and cleaner air for Europe [5]; Directive 2000/60/EC establishing a framework for the Community action in the field of water policy [6]; Directive 2014/52/EU on Environmental Impact Assessment [7].

III. ITALIAN EXPERIENCE ON PUBLIC INFORMATION IN RELATION TO IPPC LICENSING FOR INSTALLATIONS OF NATIONAL RELEVANCE

The description of the information and data made publicly available on the mentioned AIA Portal [8] and during the IPPC permit granting procedures is reported in the following.

As a matter of fact, in this respect it is also worth emphasizing that in the last years the Italian National Research

Council – Institute on Atmospheric Pollution has been providing technical assistance to the Ministry in relation to the IPPC permits release as well as participating to the management of the mentioned Ministerial web-site in relation to IPPC granting procedures.

In particular, on the IPPC web site there are currently available for consultation

- documentation related to the IPPC permit releasing procedures and to any substantial changes or updates;
- opinion and concerns provided by the interested public during the IPPC permit releasing procedures;
- analysis of the best available techniques applicable to the installation (BAT);
- results deriving from self-monitoring performed by the operators as well as those held by the competent Authorities for control;
- indication of monitoring methods adopted in accordance with CEN, ISO, other international standards (EPA) or national standards;
- reports on environmental inspections foreseen in the IPPC permits as well as extraordinary inspections for specific purposes;
- relevant information on the measures taken by the operator upon definitive cessation of activities.

However, although at central level a big effort is devoted to coordinate and harmonize requirements in the IPPC permits granted nationally, there are big differences in relation to the management of the public information due to the high number of actors involved in such a process. Thus, the information made available to the interested public by means of the institutional internet web sites is not structurally homogeneous and comparable.

Thus, in the future it is recommended that more efforts and resources are dedicated to individuate best practices in relation to public information by assembling information in an easily understandable format also for public without technical expertise.

Furthermore, since the integration of the IPPC permits to other measures, plans and programs adopted nationally should be ensured, as stated above, it is critical that relevant information on IPPC are also available at fingertips of the Competent Authorities, such as for instance those indicated as following:

- Majors where installation are located for sanitary protection;
- Regions or Provinces since they are responsible for air quality plans and programmes;
- Ministry of Environment, Regions or Provinces while performing procedures related to the environmental impact assessment;
- Ministry of Environment, Regions or Provinces, Municipalities and Regional Technical Committee of National Fire Brigades in relation to safety and prevention of major accident hazards.

IV. INCREASING REQUEST FOR IMPROVED ENVIRONMENTAL DATA

A statistical analysis of the request for the access to the AIA Portal in the reference period 2008 - 2013 is described in Figs. 1 and 2. In particular, it should be noted that, although the number of documents uploaded on the AIA Portal is now decreasing compared to the year 2008, the requests for downloading are almost stable. This can be considered as a sound indicator of the increasing interest of the citizen.

As a matter of fact, the analysis carried out by the European Commission on the attitudes of the European citizens towards the environment (Eurobarometer) confirms such trend, since it found out that almost all Europeans affirm that protecting the environment is considered personally important and that everyone can play a role in protecting the environment mostly by sorting waste, reducing their own energy consumption and using public transport [9].

Moreover, it should be noted that each visitor of the AIA Portal check it at least for about 5 minutes, by opening 9 pages of the AIA Portal itself. Every year the percentage of new visits is in the order of the 45 – 50%, thus an increasing number of visitors is recorded by means of the statistical analysis carried out by the tool “Google analytics” [10], [11].

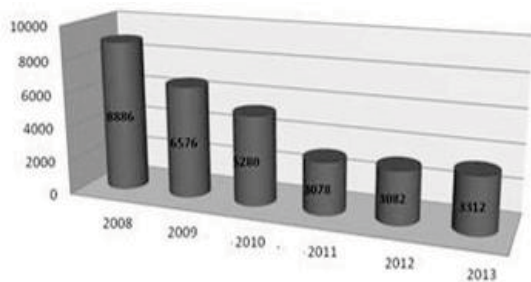


Fig. 1 Number of document uploaded on the Ministry of the Environment, Land and Sea web site in the reference years 2008 – 2013 [Data analysis by means of Google analytics tool]

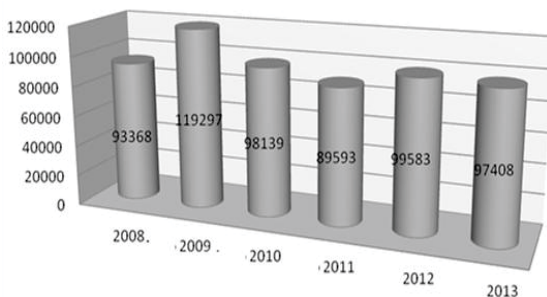


Fig. 2 Number of request for downloading to the Ministry of the Environment, Land and Sea web site in the reference years 2008 – 2013 (Data analysis by means of Google analytics tool)

Most of the information are elaborated by experts for the purposes of other experts, thus such kind of information is produced for highly specialized public and actually not for raising public awareness. As a matter of fact, a strong request for documental accesses arrives from areas, such as Rome and

Milan, where the IPPC permit releasing procedures is conducted. However, many requests also match with areas where there is an intense debate on the IPPC permit.

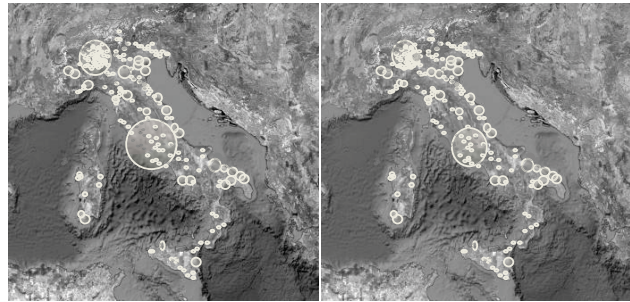


Fig. 3 Areas of provenience of requests for access to the Ministry of the Environment, Land and Sea web site in the reference years 2012 – 2013 (Data analysis by means of Google analytics tool)

Moreover, the request for access in mobility by means of smartphone and tablets, is recently strongly increasing if compared to the request from desktop computers; thus, in the near future through internet and dedicated apps, citizens would be informed in almost near real time on the state of the environment where they live.

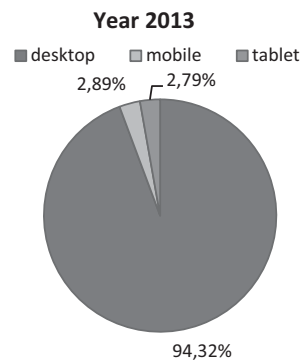


Fig. 4 Devices (desktop/laptop, tablet, smartphone) requesting for access to the Ministry of the Environment, Land and Sea web site in the reference year 2013 (Data analysis by means of Google analytics tool)

Finally, it should be noted that also companies, such as insurance, touristic, sport and wellness industry, marketing companies could benefit from the availability of environmental information for market purposes. As a matter of fact, the availability of such data and information is expected that might trigger new market opportunity and consequently boost economic growth in EU.

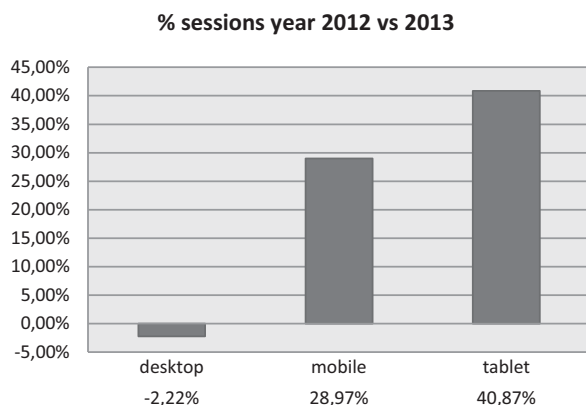


Fig. 5 Percentage of sessions with different devices (desktop/laptop, tablet, smartphone) in 2012 vs 2013 (Data analysis by means of Google analytics tool)

In this regard, it is worth observing that a significant amount of request for access in the AIA Portal are in the area where are IPPC permits granted by local authorities. In our opinion, it is feasible that such requests are arriving from companies performing sector studies that prefer to consult the comprehensive data ware-house of the AIA Portal instead of consulting each single web site set up by local authorities that actually grants the IPPC permits and originally owns all the related information on the IPPC procedures.

V. EXPLORING CRITICAL ISSUES AND DIFFICULTIES IN MANAGING DATA AND INFORMATION

In the following main evidences are reported from the technical analysis and assessment performed for the purposes of Coordinating Committee for the implementation of the Agreement on the industrial area in Taranto and Statte, signed on the 11th April 2008, operating before the IPPC permit granting procedures of the relevant installation located in the area.

In such a framework an extensive collection and analysis of data and information available in all the different Competent Authorities and companies involved, was carried out to derive a global perspective of the site for a quick political response to the environmental issues evidenced during monitoring.

In particular, information on characterization of soil, superficial and deep ground water aquifers and on coastal sea mostly deriving from land reclamation procedures were collected. Such data were georeferenced and processed in combination by means of geographic information systems (GIS) tools that allows a contemporary interpretation of the results of characterizations together with output of modelling, as those on the effects of industrial emissions into air, on soil and coastal sea, submitted to the Competent Authorities by companies during the IPPC permit release procedure. As a matter of fact, the overlaying of a number of geographically referenced "layers" of information facilitates quantification and synthesis of data in order to orient decisions.

Besides, the extensive and systematic analysis was made

available on the AIA Portal enabling the public to be utterly informed of the state of the environment in the area of Taranto and Statte and to express their opinion and concerns during the IPPC permit release procedure of the installations located in such industrial area.

In particular, in Figs. 6 and 7 outcome of a cartographic representation of the area of Punta Rondinella is shown together with the data related to results of monitoring collected during the 2008 measuring field campaign in coastal sea.



Fig. 6 Cartographic representation of the area of Punta Rondinella [8]



Fig. 7 Results of monitoring in coastal sea measuring field campaign carried out in 2008 [8]

However, during the activity many critical issues and difficulties were faced; in particular

- Available data were numerous, inhomogeneous and in an inadequate format for further analysis, mainly as textual documents, as well as difficult to be compared;
- information were stored by different subjects (public administrations and private companies);
- data collected derived from different monitoring in field carried out according different methods in various years for different purposes;
- most information would require to be further updated.

VI. CONCLUSIONS AND FUTURE STEPS IDENTIFIED

In this paper we revise some specific issues associated to the Italian IPPC licensing framework related to the public information with a view of the implementation of IED Directive.

Since in the IED Directive the request for information and

data made publicly available is strengthened and in the implementation of IED Directive into the national legislation Competent Authorities should organize their own websites or improving them, the availability of environmental data and information would increase. Thus, it would lead to an improved transparency of the whole decision-making process, contributing to the general public awareness on environmental issues related to industrial emissions. However, a harmonization of the practices as well as a special care in adequately informing the public without specific expertise should be devoted.

On this purpose, an effort should be devoted in making the possibility of deriving all the relevant information on national industrial installation through interoperability systems and also to retrieval relevant information for further analysis in order to perform adequate planning and rising of awareness on environmental issue. As a matter of fact, in the long run public information should be assembled in easily understandable format also for public not necessarily with technical expertise.

ACKNOWLEDGMENT

M. C. author is grateful for the support of Monica Favaroni who helped with the study and the preparation of the paper.

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