

CHALLENGES FOR THE EIA IN POST-INDUSTRIAL LOMBARDY

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1. THE LOMBARDIAN SCENARIO: A REFERENCE FRAMEWORK

Among the 20 Italian regions, Lombardy is the fourth largest (about 23,000 km²) and the most populated (about 10 M inhabitants). Traditional farming activities have been paralleled by industrial development starting around 1850 and, more vigorously, since the '50s. Later, the region - and especially the area of its capital, Milan - started to experience the abandonment of many industrial sites and, more recently, brownfield redevelopment (Laffi et al., 2009; see Tab. 1, Fig. 1).

Among the projects of redevelopment being put forth, a *leitmotiv* is the settlement of advanced tertiary services (Research & Development, healthcare, technological transfer) replacing traditional industrial activities. In detail, some of the redeveloped brownfields host waste recovery facilities and green, second-generation industrial productions, at places inspired by industrial symbiosis criteria, all contributing to a “greener” economic scenario. The role of the Public Authorities (PA) in this spontaneous trend, dictated by market laws, is addressing it towards Circular Economy/Resource Efficiency (CE/RE) goals.

2. POLICY ISSUES

For most of the new infrastructures (highways, railways, airports; hydropower plants; energy lifelines) and residential/commercial settlements being projected, the mandatory Environmental Impact Assessment (EIA) procedure can bring added value in terms of quality of the projects, spatial siting, environmental sustainability and social acceptance. The amount of brownfields represents an opportunity to apply new ideas of land management and urban development, as well as to enhance new production activities without soil consumption. These positive effects are magnified whenever, in such areas, green economy enterprises root. Public institutions can foster the development of such ongoing dynamics using policy tools, such as the Environmental Equipped Industrial Areas (EEIA)¹, or territorial marketing incentives (Panzini, 2015).

3. COPING WITH IMPACTS

Even the most sustainable project exerts some impact on the natural baseline and, therefore, has to deal with in-depth analysis and evaluation. In Lombardy the social effects of such impacts are magnified by several factors:

- 1) an average population density of about 435 inhabitants/km² (but much higher in the Po Plain urban areas, where most of the population is concentrated);
- 2) the remarkable value of agricultural land, especially in the southern part of the region, determined by exceptional geological factors (absence of glacial erasure of soil profiles, low permeability of the subsoil causing widespread water upwelling). This, paralleled by intensive agricultural techniques, places Lombardy as one of the most productive agricultural regions in Europe;

¹ "In Italy a national law introduced, in 1998, the concept of EEIA's: industrial areas with environmental high quality standards and innovative services for enterprises. EEIA innovations should be collective spaces and plants, cluster management, simplifications and incentives for enterprises" (CARTESIO, 2014).

3) the increased living standards since the '50s, that shifted upwards the expectations of most citizens in terms of quality of life and personal health (perceived as well-being rather than a mere lack of illness);

<i>Id</i>	<i>Society</i>	<i>Production</i>	<i>Town</i>	<i>Area</i>	<i>Surface (ha)</i>	<i>Use after redevelopment</i>	<i>EIA procedure</i>	<i>Redevlopment stage</i>
1	ALFA ROMEO	Automobiles	Arese	Milan	153,56	Commercial, research, tertiary, parking lots	No EIA for dismantling activities; screening on commercial activities	Advanced (most new facilities completed or near completion)
2	ACCIAIERIE FERRERIE LOMBARDE FALCK	Steel	Sesto San Giovanni		129,68	Healthcare & research, residential, commercial, services	Full EIA procedure after approval of remediation project	Underway (projects approved, remediation ongoing)
3	SNIA VISCOSA	Chemicals	Varedo		48,30	Flood control reservoir	EIA screening	Preliminary (projecting)
4	EXPO MILANO 2015	Agriculture, Expo centre	Milan, Rho		105,00	University & research, services	Full EIA procedure	Preliminary (projecting)

Tab. 1 - In the Milan Metropolitan Area, five brownfields range in surface from 0.5 to 1.5 km²: four of them, located at the northern outskirts of the city, are described in the table and mapped in Fig. 1. For all of them, redevelopment projects at variable degree of accomplishment are under way, with different foreseen destinations, subjected to different EIA procedures. Id numbers 1-4 as in Fig. 1.

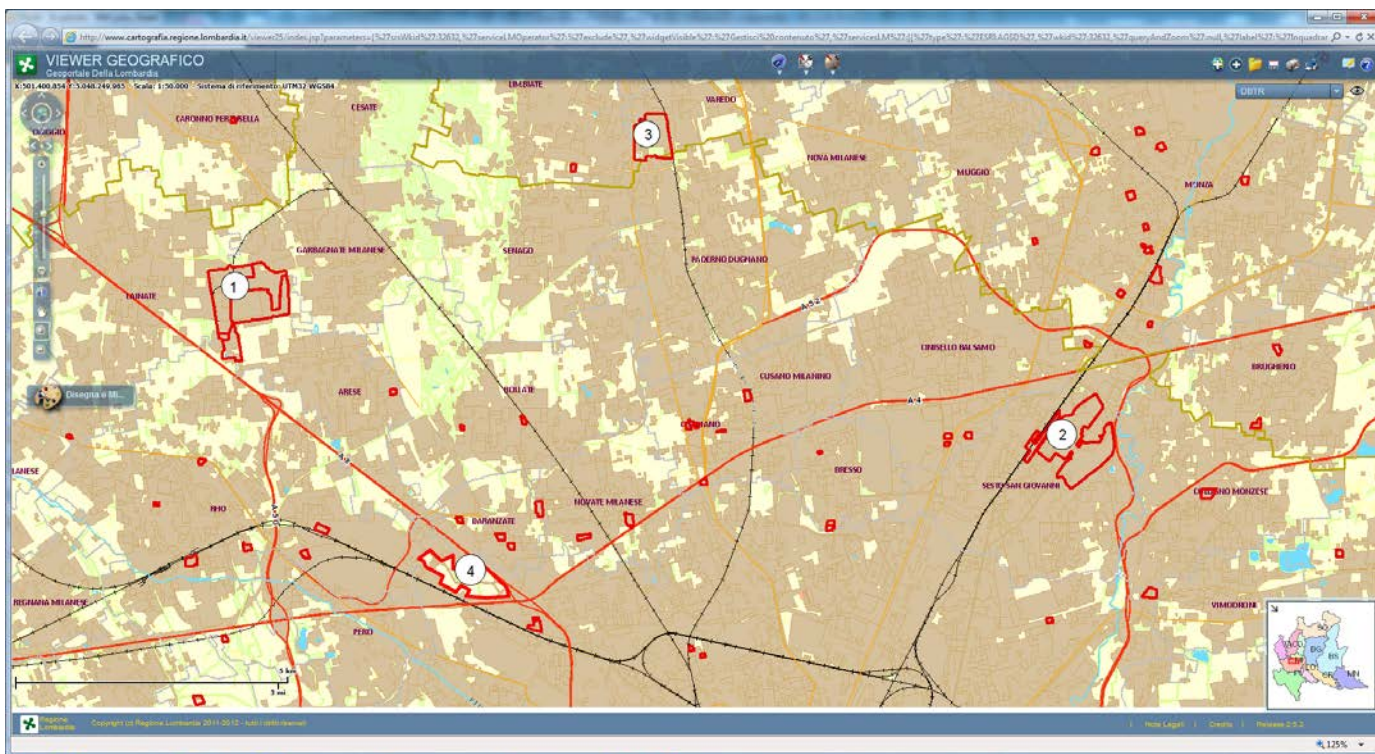


Fig. 1 - Web map of North Milan. Thick contours bound existing brownfields: the four largest are numbered 1-4 as in Tab. 1.

- 4) the increased population's sensitivities due to heavy environmental pressures (strong industrial development, dense infrastructure networks...);
- 5) the importance of residual natural sites, their key role in ecological sustainability.

Therefore, social conflict arises almost whenever new facilities or infrastructures are submitted to the PA for the permitting process. The existing rules, inspired by the EU regulation, are not adequate to prevent social conflict and to address social participation, or even "public reflection" (Sen, 1998), towards better, and consensually approved, projects. Therefore, the Regional Government is committed in exploring new regulatory tools (inspired by the French *débat public*: Lewanski, 1998; Voinaut, 2016) aimed at a more efficient management of environmental conflict among Public Authorities, citizens and enterprises, and in matching economic development and preservation of the environment, health and safety through simplification of bureaucratic permitting procedures, as in the case of determining whether the project shall be made subject to an assessment (a checklist approach on projects trespassing the thresholds set by the Italian Ministry for the Environment has recently been approved by the European Commission: see chapter 4), and a more rigorous approach to scientific issues (see chapter 5).

4. SETTING THE THRESHOLDS

A major issue in EIA procedures is the definition of quantitative thresholds; only the projects dimensionally exceeding those thresholds are subjected to EIA. The criteria adopted to define such thresholds comply with the Italian transposition of the EIA Directive (Annex V to the II Part of the "Environmental Code") and with the guidelines approved by Minister's Decree 52/2015 (see References). The thresholds are assigned to ten distinct project categories, established on one side as a compromise between the 13 project macrocategories of Annex II to the EIA Directive (as transposed in the eight project macrocategories of Annex IV to the II Part of the "Environmental Code"), on the other referring mostly to the main national economic-productive sectors. The Italian thresholds display a high degree of alignment to those of most Member States. For each of the 10 project categories, the appropriateness of the criteria as in Annex III of the EIA Directive to establish screening thresholds were plotted in a specific matrix project/criterion. Distinct fields of the matrix display how the appliance of such criteria before and after the approval of the guidelines has determined a further reduction of the thresholds already fixed for the screening. In sensitive areas (e.g., protected natural sites) the thresholds are reduced up to 50%.

The Cumulative Impact concept (CIc) resolves merely in a determination whether the project shall be made subject to EIA: nonetheless, this is an important factor to be considered when setting EIA thresholds. According to the Italian Ministry for the Environment, the CIc does not include existing projects; such works contribute to define the environmental baseline and its potentially critical conditions. Therefore the CIc is restricted to the new projects whose impacts could sum to those exerted by other projects of the same kind that are being put forth in nearby areas (to be considered within a 1 km-buffer). In case all those projects are processed within a SEA, the CIc does not apply, namely because the SEA is held as the tool through which the environmental pressures exerted on a definite territory, in a policy framework established by plans or programs, can be assessed at the most integrated level.

5. DEEPENING THE KNOWLEDGE

The need to cope more rigorously with some environmental components, to deal with in EIA, is being met through thematic guidelines, such as those recently issued on the Biodiversity (in progress at the time of

releasing the present manuscript) and Public Health components (Regione Lombardia, 2016). Such guidelines are intended to support both the enterprises in submitting standardized/more complete Environmental Studies, and the Public Authorities in evaluating them.

The new European Directive on EIA (2014/52) sets biodiversity as a component to be evaluated directly in EIA studies. The Biodiversity Component has received considerable attention due to the accelerating rate of biodiversity loss recorded all over Europe. Also the EU 2020 Biodiversity Strategy provides a package of actions needed to halt the loss of biodiversity and the degradation of ecosystem services by 2020 and to restore them, in so far as feasible. EIA is required to take into account carefully biodiversity, also because EIA is perceived as the best tool to cope with environment issues at an early stage, when alternatives are still open and project changes are easier.

The average quality of EI studies on biodiversity is highly variable. Expressing clearly the expectations of the Public Authority may help the proponent to avoid unnecessary analyses and the related expenses. The tool gives the proponent a clear picture of the requirements and the opportunity to evaluate, early in the permitting process, the impacts that the project can exert on biodiversity: choosing full EIA instead of screening if the expected impacts are significant, is a way to save time and money. The tool also supports the PA in the evaluation process, inasmuch both the methods of evaluation and the mitigation/compensation requests are homogenized. In perspective, similar technical regulations are being drawn up concerning climate change resilience, or specific project categories (e.g., hydropower plants); both themes intersect, in a broader sense, the issues of reduction of CO₂ emissions and the adaption (infrastructural, social, psychological) to global warming, in which the concern of the Regional Government meets specific commitments (nrg4SD, 2015).

6. RESOURCE EFFICIENCY (RE)/CIRCULAR ECONOMY (CE)

In the European economic scenario, a RE approach is a kind of step beyond the post-industrial scenario produced by the application of the business-as-usual approach. The engagement in developing the environmental goals of RE/CE is an engagement in favoring a new economic development and competitiveness based on quality.

RE/CE in EIA have neither a legislative support nor a formal, tested and recognized path of accomplishment as yet. Dealing with this issue depends on the political will to follow good voluntary practices. The stepping stones of this action are the measures presented by the EU action plan (COM(2015) 614 of Dec 2nd, 2015). These measures do not provide a direct support (economic, legislative, etc.) to EIA, but, none the less, they are recognized as the key points to be considered in the evaluation.

7. SHARING INFORMATION

The use of dedicated software that help collect, analyze and share data, greatly helps in managing the procedures and spreading the information needed to promote awareness and consensus.

The activity of the Regional Government on EIA recognizes the importance, addressed to by the Aarhus Convention, to sharing and spreading environmental data related to EIA procedures.

The units responsible for impact assessment (EIA and SEA) manage continuously upgrading web tools, that support the assessment procedures and collect contributions among the stakeholders: SILVIA for EIA (<http://www.cartografia.regione.lombardia.it/silvia/>) and SIVAS for SEA (<http://www.cartografia.regione.lombardia.it/sivas/>).

lombardia.it/sivas/).

A side benefit of these tools is the dematerialization of the procedures, through electronic communication (e-mail, uploads), and of the paper archives.

8. CONCLUSIONS (A WISHLIST RATHER THAN A WORKING SCHEDULE)

Perspectives for the improvement of EIA procedures based on the acquired experience include:

- 1) more inclusive screening (which implies threshold removal), coupled with a simpler screening based on a checklist approach;
- 2) better integration of SEA and EIA, to enhance e.g., urgent public utility works (remediations, flood & landslide prevention...) or CE/RE activities;
- 3) anticipation of the EA to the earliest stages of project building, before projecting costs get too high and mutual engagement of the stakeholders gets too deep;
- 4) more effective participation of the public since the screening phase, also referring to «parallel participation arenas» managed through specific information systems (IS);
- 5) more «scientific» approach to definite environmental components and work categories.

The concurrent effect of expected deeper insight in the procedure and higher procedure numbers to be managed demands specific IS (e.g. virtual conference, screening tools) to lighten the administrative burden and to reduce the margin for discretion in the decision.

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