

Conference on Waste and
Climate Change – London 2008

London Remade ACR+ CIWS

**Decision making tools:
Life Cycle Analysis,
Cost Benefits Analysis and
Social Impact Assessment**

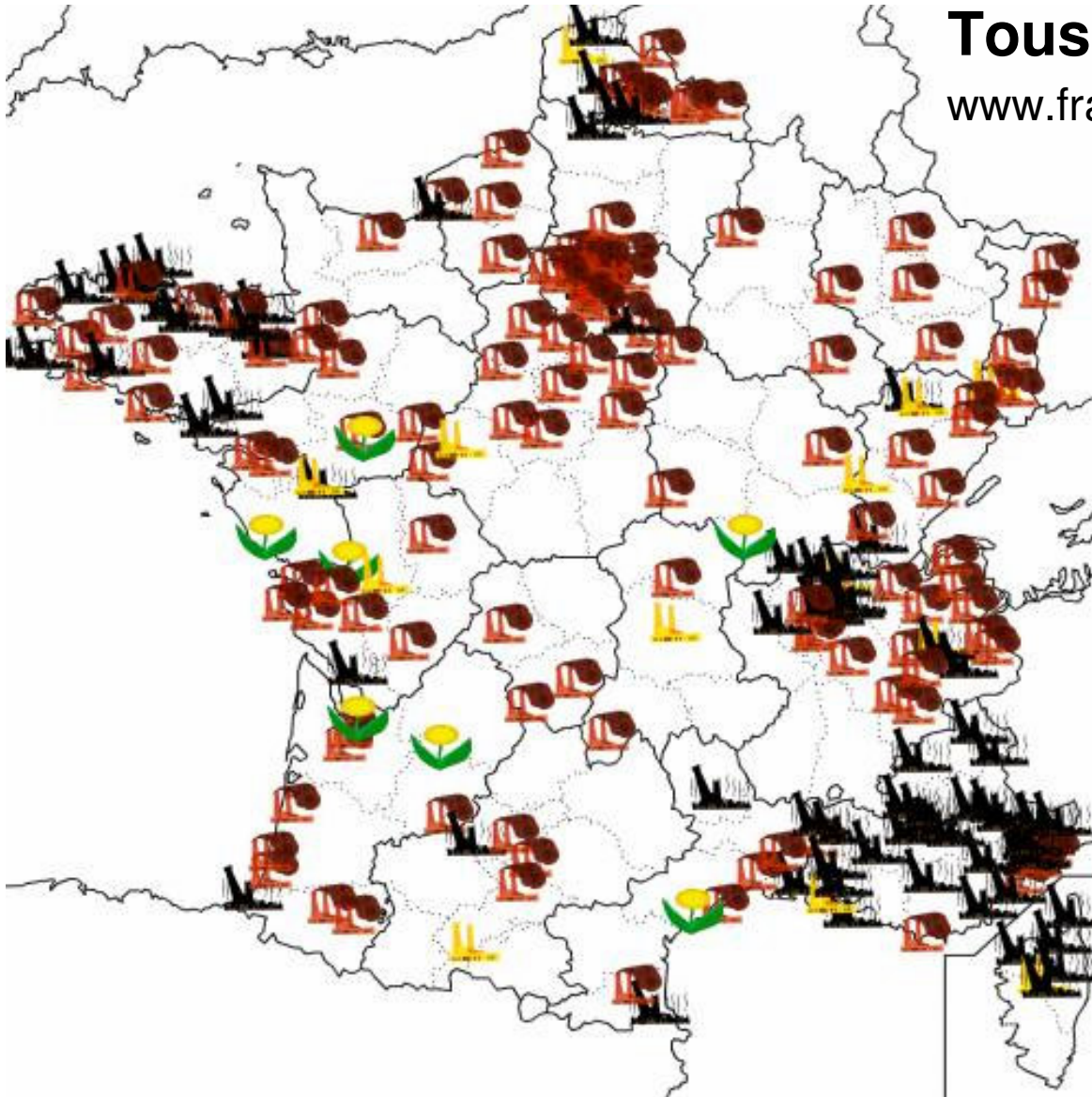
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- 96 waste facilities were contested
(2005 - 2006)
- waste sector represent 60% of
the whole unwanted sites regarding
big developments in Italy
- 56 waste-to-energy plants (+ 15 failed)
- 18 landfills (+ 27 failed)
- 8 new composting plant (+15 failed)
- 4 new pre-treatment (1 RDF)



LA FRANCE DE L'INCINERATION



Tous les incinérateurs

www.france-incineration.org

Arrêtés 80



En projet 14



Actifs 125

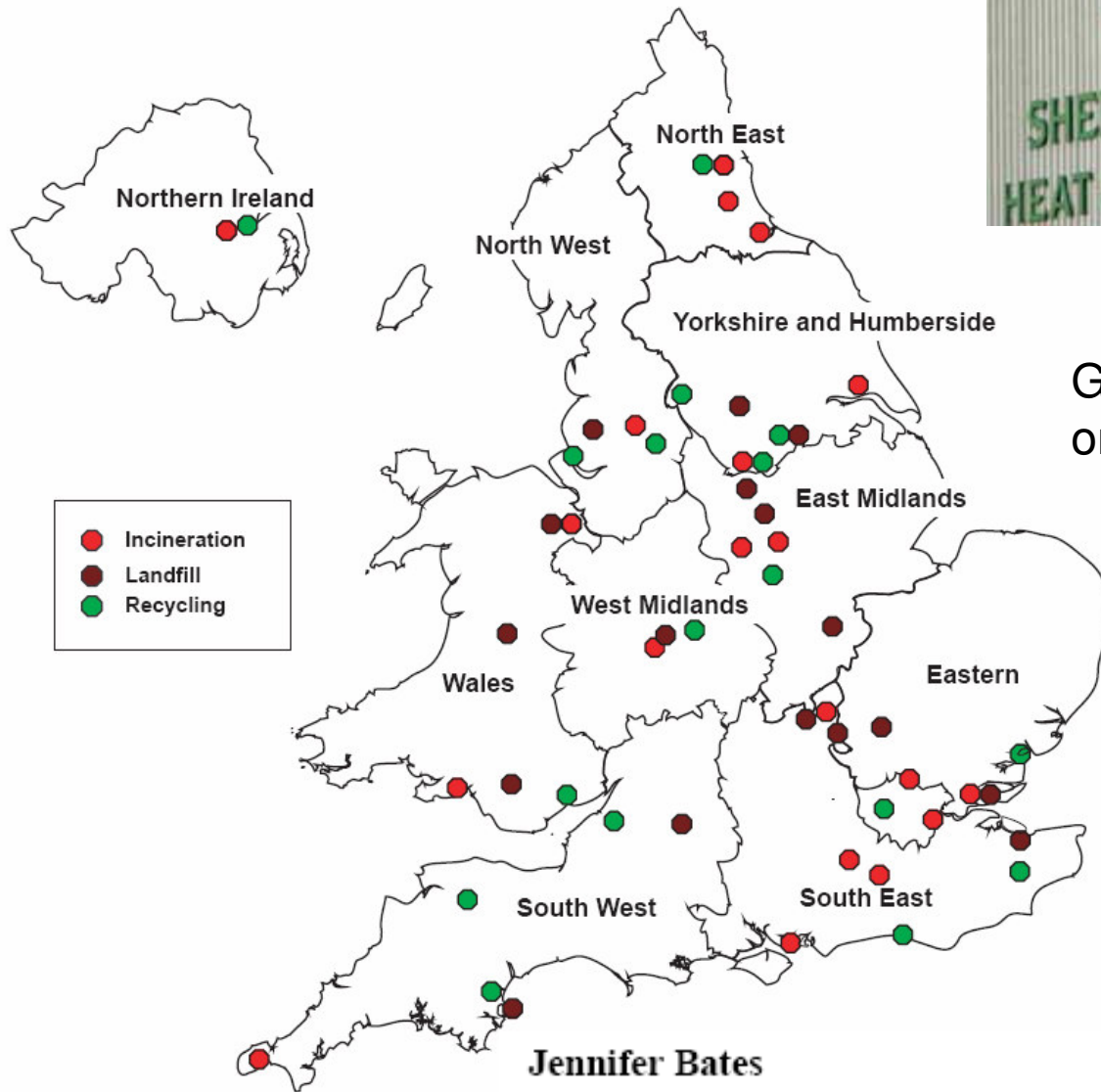


Victoires 7



Map of the local communities

The map below shows the locations of the community groups interviewed for this project and the area of waste management that they have been campaigning on. Please click a coloured dot to view contact details and the interview response from that group.



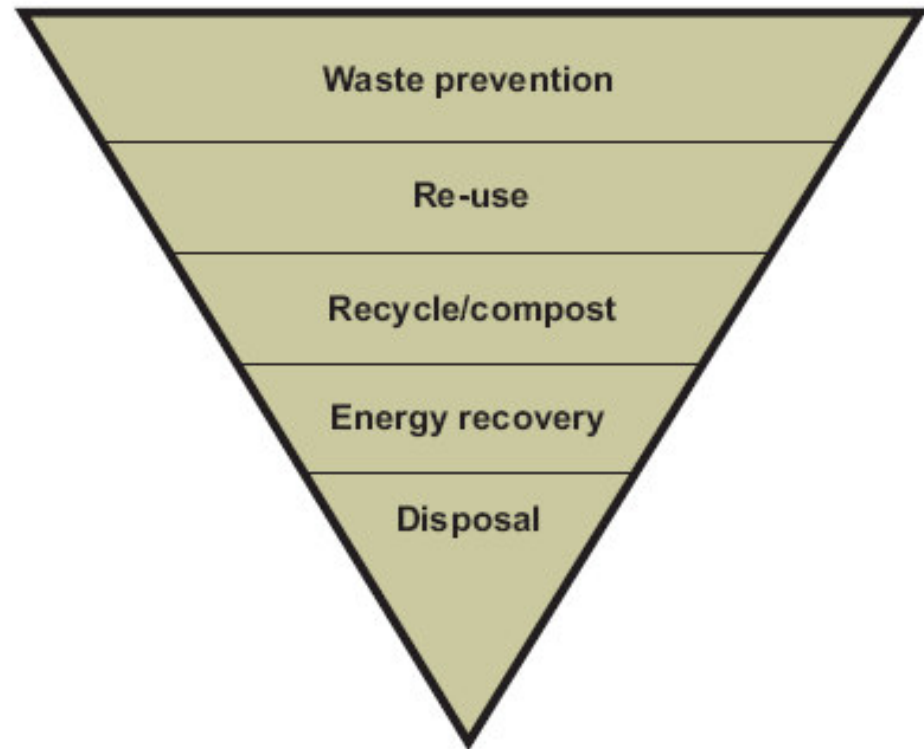
Jennifer Bates
Researcher and Greenwich and Lewisham Friends of the Earth Co-ordinator



Greenpeace's climbers in action on Sheffield incinerator, 2002



The waste hierarchy



The belief on WH is strong, amongst every stakeholders.
But 3 models still persist in Europe: Landfill oriented (Med and Isles);
Burning oriented (DK, CH, S); and Recycling oriented (A, B, NE, NO, Ger)

The conflicts involving people and SHs are not to do with the waste strategy but which step to focus on, in its enforcement or on local troubles.

NIMBY syndrome definitely is not suitable for describing current waste conflicts.



Photo by Eduardo Castaldo www.eduardocastaldo.it

WHICH WAY TO EVALUATE WASTE STRATEGIES and PLANNING?

ECONOMICAL

TOOL: COST BENEFIT ANALYSIS

ECO-TECHNICAL APPROACH

- introduced by WECD in 1987

Accredited by Sustainability Appraisal for SEA in UK

- Accredited by EU 5th framework programme for research in sustainability
- Fairly widespread in the trade env. sector documents and discourse
- Assessment tools available

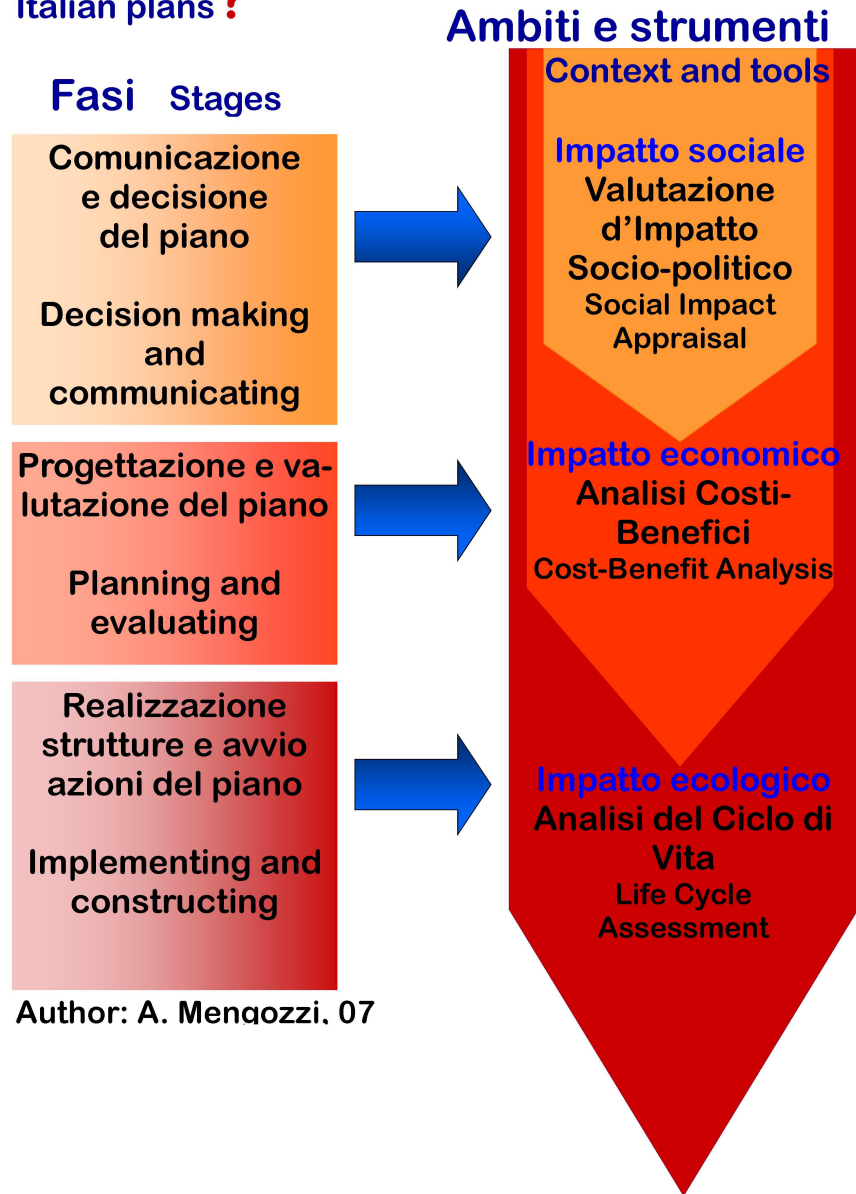
ENVIRONMENTAL

TOOL: LIFE CYCLE ASSESSMENT

SOCIAL

TOOL: SOCIAL IMPACT ASSESSMENT

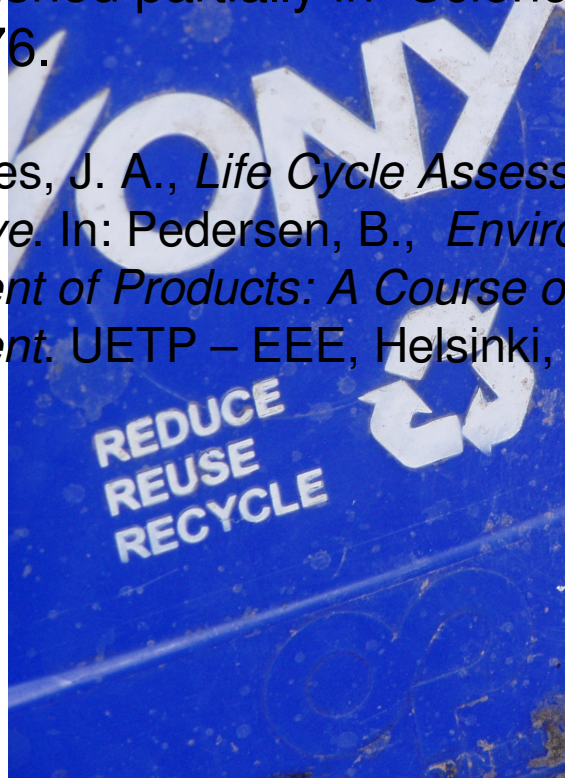
Valutare la sostenibilità dei piani Territoriali - Appraising Sustainability of the Italian plans?



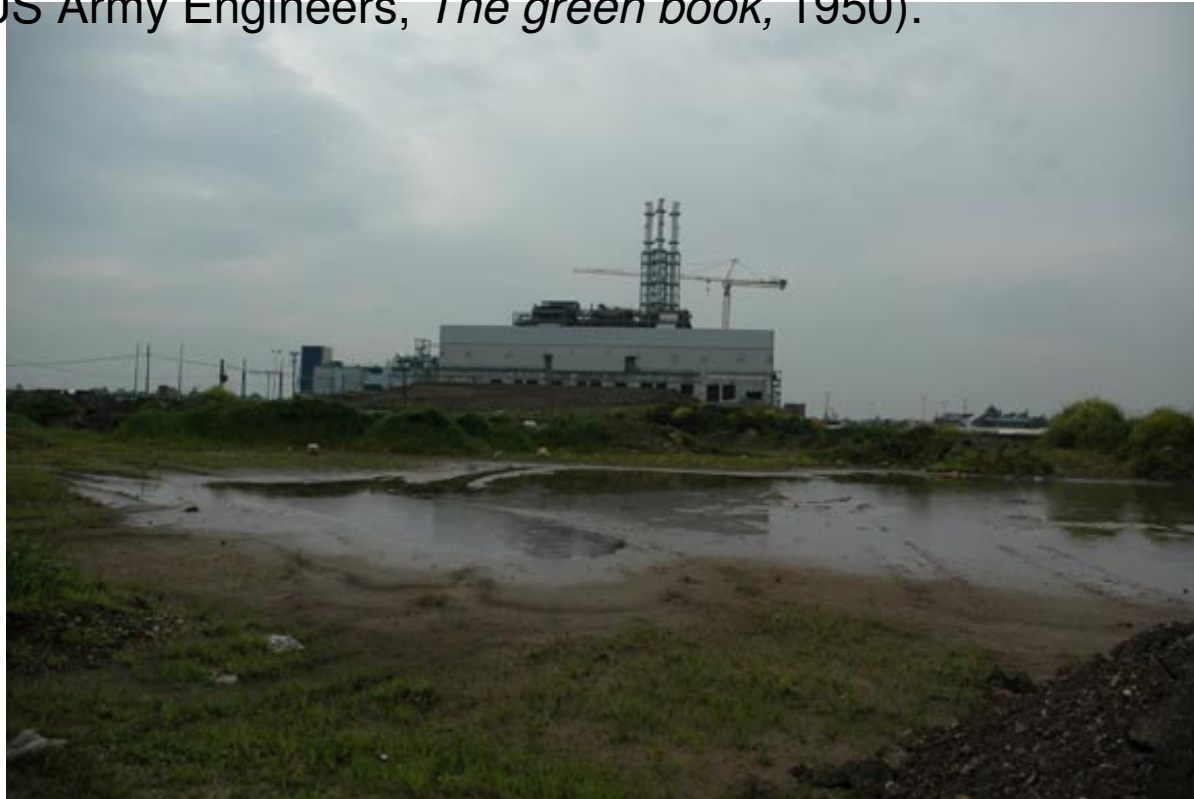
Author: A. Menaozzi. 07

Environmental strand: LCA – In the later sixties the Resource and Environmental Profile Analysis and other American centres, carried out earlier works of Life Cycle Assessment (LCA); in 1969 the first multi-criteria LCA was executed, commissioned by Coca Cola Co. to Harry E. Teastley Jr., it aimed at seeking a new bottle (of plastic or glass) for the beverage and its recovery (one way or return); it was published partially in “Science Magazine”, on April, 1976.

(see, Assies, J. A., *Life Cycle Assessment in a Historical Perspective*. In: Pedersen, B., *Environmental Assessment of Products: A Course on Life Cycle Assessment*. UETP – EEE, Helsinki, 1993).



Economical strand: **CBA** – Cost Benefit Analysis since 1844 has been used (See, Ecole des Ponts et Chaussée, Jules Dupuit. Also, the first CBA handbook is from engineering school; The US Army Corps of Engineers utilized a cost-benefit multi-criteria analysis to assess national water resources control projects, which led to the Flood Control Act, in 1936, and to the first CBA Handbook (US Army Engineers, *The green book*, 1950).



A CBA example

Table 8. Net social cost estimates for landfilling and incineration (euro per tonne)

	Landfilling	Incineration
<i>Gross Environmental costs:</i>		
- Emissions to air	5.84	17.26
- Emissions to water	0.00	0.00
- Chemical waste	2.63	28.69
- Land use	17.88	0.00
Total	26.35	45.95
<i>Environmental cost savings:</i>		
- Energy function	-4.21	-22.55
- Materials function	-0.00	-5.76
<i>Net environmental costs</i>	22.14	17.64
<i>Gross private costs</i>	40.00	103.00
<i>Private cost savings</i>		
- energy function	-4.00	-21.00
- materials function	0.00	-3.00
<i>Net private costs</i>	36.00	79.00
<i>Net social costs</i>	58.14	96.64

SOURCE: DIJKGRAAF AND VOLLEBERGH (2004)

Social strand: SIA - Although previous works existed, in several sociological fields, the first time Social Impact Appraisal was defined was in 1973, during the debate about the Trans-Alaska oil pipeline project.

(see, Burdge, R., J., *A conceptual approach to Social Impact Assessment*, 1995)



An example of a survey on “perception of risk” (A. Mengozzi, 2006)

Interviewee profile	time of living in the area	participatory individual activities	Positions in favour or against new incinerator	positions concerning collecting scheme	actors perceived as threatening	trusted actors	trust concerning current WM and recycling consistency	inclination to waste separation at home
professional, f	40	4/5	strongly against	improve current method	local council, provincia, arpa, hera, comquartiere, wwf, every pol. Party	ausl, clandestino, legambiente	70%	high
teacher, m	58	3/5	positive but other location		local council, provincia, arpa, ausl, hera, comquartiere, pol. Parties	trade unions, clandestino, wwf, legambiente	15%	fairly high
technician, m	45	5/5	strongly in favour			arpa		average
craftsman, m	25	3/5	strongly against	asking for doorstep	local council, provincia, hera	clandestino	25%	high
worker, m	40	5/5	strongly against	improve current method	provincia, hera	clandestino	0%	average
craftsman, m	4	3/5	strongly in favour		loc council, arpa, ausl, hera	provincia	50%	low
clerk, f	7	5/5	strongly against	improve current method	hera	lista viva forli	60%	low

Warning on Eco-technical tools

- Ranking is possible but each geographical context is unique, what is already there is an important factor.
- The eco-tech approach commonly misses one of the 3 pillars, especially the social strand.
- As group/social constructed low transparent operation the appraisal outcomes are influenced by the study setting, assumptions (scopes, system boundaries, time elapsing, data source selection) and result communication.
- Single pillar outcomes cannot be reduced to a single factor or index
- Results from each tool are often in contrast with each (or one) other, trading off the choice.

POTENTIALS MAY COME OUT FROM THEIR INTEGRATION

What possible development for waste governance?

Cultural System

Places - Approach centred on **Citizenship** – Adopting **Direct Democracy Tools** (eg Citizens' Jury, Consensus conference, Deliberative Polls, Scenario Workshops)

PARTICIPATORY GOVERNANCE

- Adapted from Meadowcroft, J. In Lafferty W., 2004
- Introduced and supported by Aarhus Convention 1998 – 2001 > Participatory D
- Reckoned by the Italian Nimby Forum observatory, 2005 (WM Companies)

POLITICAL SYSTEM

Areas - Approach centred on **Local Communities** – Reshaping the territory of politics on specific tasks –

Optimal Management Area

Ecosystem

Flows - Approach centred on **Stakeholders** – Establishing neo-corporative arenas

Eco-technical tools

THANK YOU

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Photography by Eduardo Castaldo www.eduardocastaldo.it