BRUSSELS 08.10.2008 - OPEN DAYS Workshop on CO2 assessment





a Decision Support System for Regional Sustainable Development

Paolo Cagnoli - Arpa Emilia-Romagna



What is NAMEA?

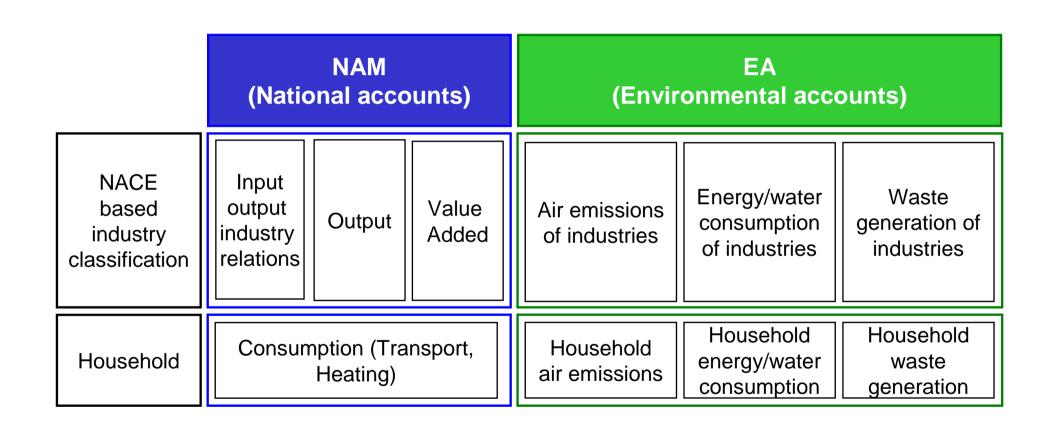


NAMEA is a National Accounting Matrix including Environmental Accounts

- derived by Leontief (1970) and developed by Statistics Netherlands (CBS) in the 1990s
- recognised of top priority by EC;
 Communication COM (94) 670, standardised
 by Eurostat "NAMEA for air emissions –
 Compilation Guide"
- developed at regional level (RAMEA; 2004)
- three main aims: monitoring, benchmarking, forecasting, in terms of environmental & economic performances

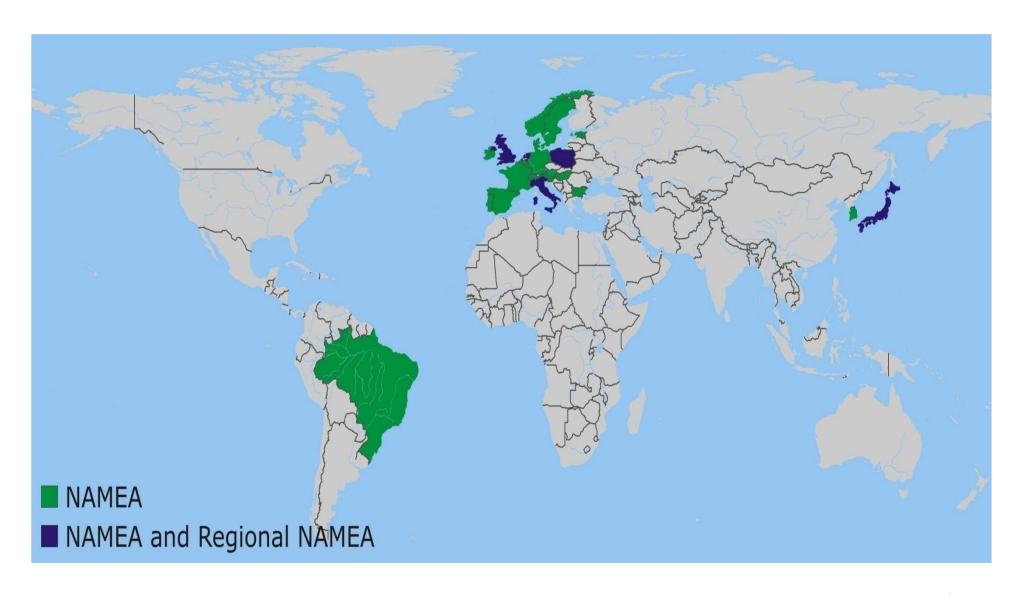
NAMEA simplified scheme





Where we can find NAMEA applications?

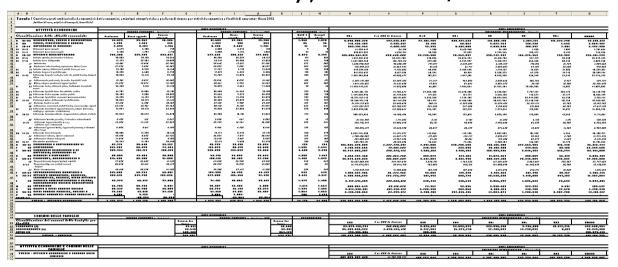




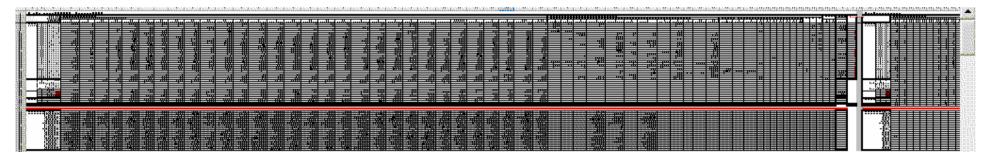
Examples of NAMEA



NAMEA 2002 of Italy, without I/O matrix



Regional nAMEA (REMEA) 2005 of Emilia-Romagna, with I/O matrix



What is RAMEA?



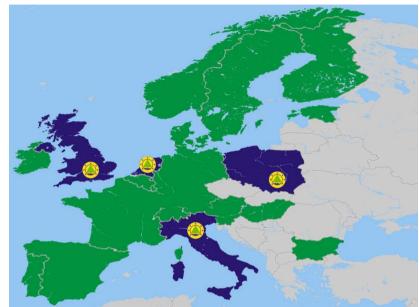
RAMEA is a regional development of NAMEA:

Interreg IIIC GROW project; 4 regions:

- Emilia-Romagna (IT)
- Malopolska (PL)
- Noord-Brabant (NL)
- South-East England (UK)

Pillars:

- coherency with NAMEA tools
- official statistics data
- internationally standardized systems





Simplified RAMEA in Emilia-Romagna (e.g. 2000, values in %)



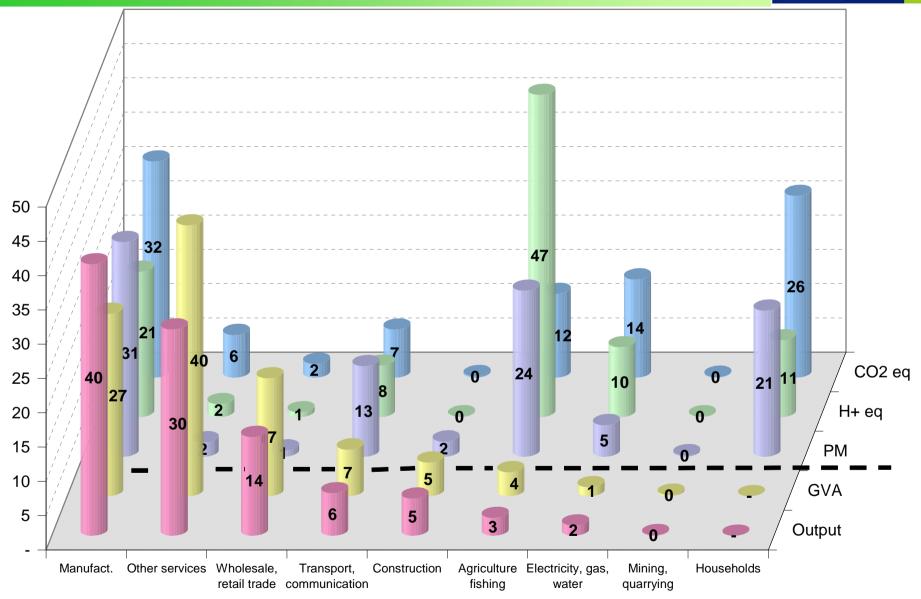
- 3 years: 1995, **2000**, 2003
- 33 economic sectors (30 industries + 3 households)
- Output, GVA, Final Consumption, Employment
- 21 air emissions (GHG, Acidification, Local Air quality)

Input/Output tables ___

		RAM			EA				
		Economic aggregates			GHG	Acidif.	Local air quality		
NACE (COICOP)	Sectors	Output	GVA	Final Cons.	CO2 eq	H+ eq	PM	NMVOC	СО
A, B	Agriculture and fishing	2.6	3.5	-	12.2	47.0	24.2	4.6	9.8
С	Mining and quarrying	0.1	0.2	-	0.1	0.1	0.2	0.2	0.0
D	Manufacturing activities	39.6	26.6	-	31.5	21.2	31.3	30.7	2.4
E	Electricity, gas and water supply	1.5	1.3	-	14.3	10.2	4.6	3.2	0.5
F	Construction	5.4	4.9	-	0.2	0.1	2.2	3.9	0.1
G, H	Wholesale and retail trade	14.4	17.2	-	2.0	0.7	0.9	1.7	0.5
1	Transport and communication	6.2	6.8	-	7.0	7.5	13.2	6.9	5.6
J-Q	Other services	30.1	39.5	-	6.2	1.9	2.1	1.3	2.1
07	Private traffic	-	-	3.4	12.3	9.1	13.3	34.1	70.3
04	Heating, cooking, air cond	-	-	2.1	14.1	2.1	8.0	1.9	8.0
-	Other consumptions	-	-	94.6	0.1	0.0	-	11.4	0.7
	Economic activities	100.0	100.0	-	73.5	88.8	78.7	52.6	21.0
	Households	-	-	100.0	26.5	11.2	21.3	47.4	79.0
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Key sectors and "hot spots"





Eco-efficiency indexes



Intensity of emissions of GHG:

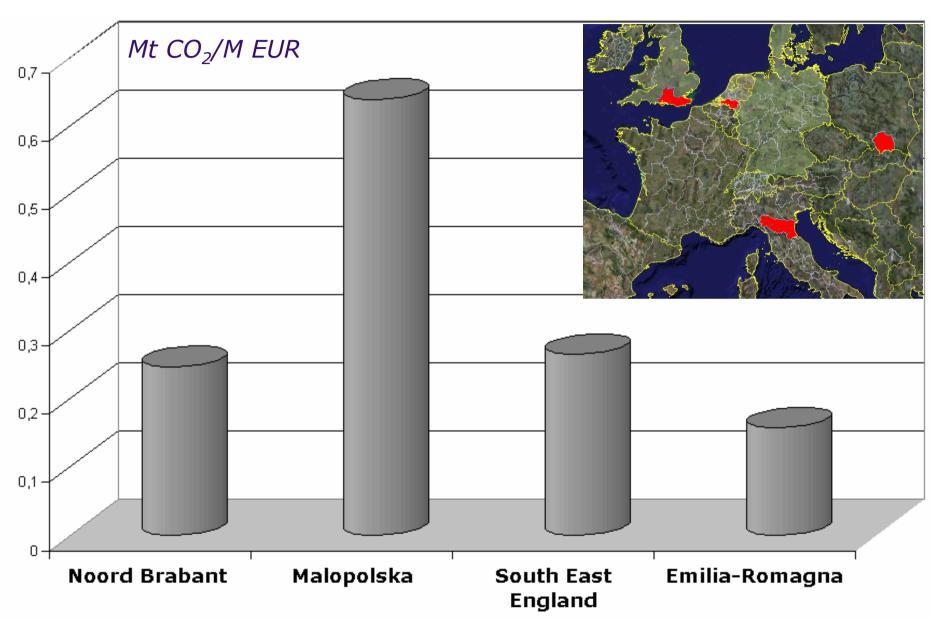
X = Emissions / Value Added

X = Emissions / Output

[Mt CO2eq. / M EUR]

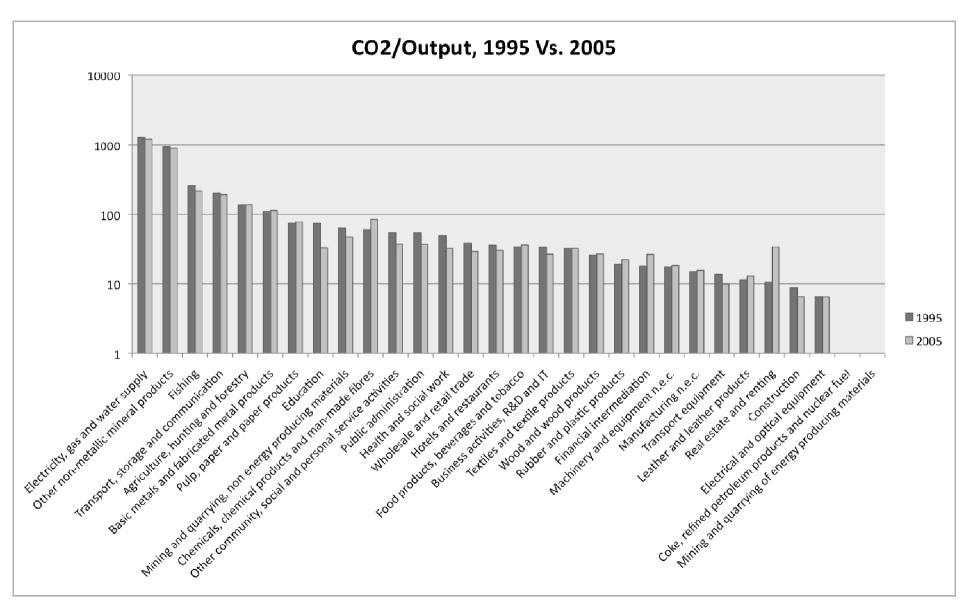
RAMEA to benchmark GHG intensity of emission (2003)





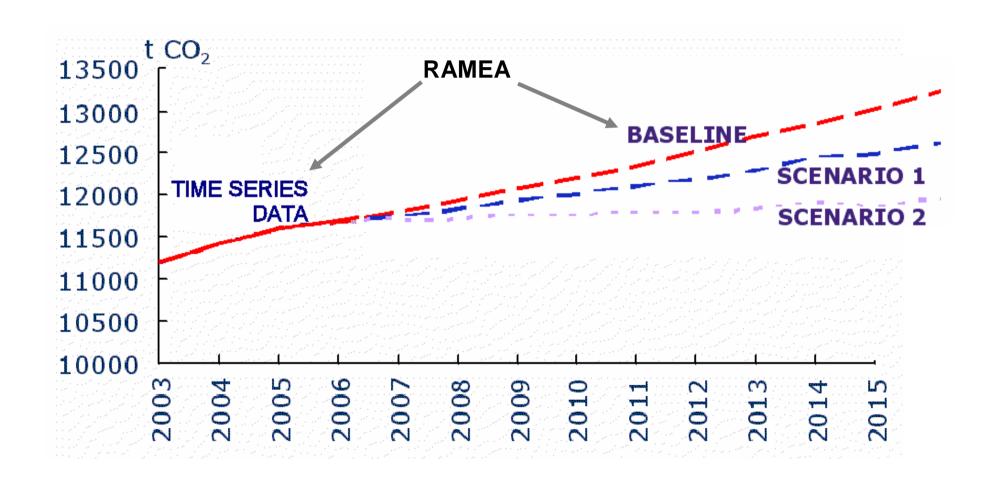
CO₂/Output in Emilia-Romagna





RAMEA to estimate baseline scenarios of action plans (households CO₂ emissions in South East England)





RAMEA opportunities for the future



Use existing RAMEA for environmental assessment:

- Regional state of the "sustainable-development" reports
- Strategic Environmental Assessment of Plans and Programmes
- Allocation of European Structural Funds
- Awareness of strengths and weaknesses of regions

Complete RAMEA with new themes:

- water consumption, waste & wastewater production, etc.
- environmental pressure indices (i.e. Ecological-footprint)
- exploring the potential for adding social themes

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