Sustainable Tourism in the European Union: the indicators

April 2002

"Towards a regular European indicator-based reporting on Tourism and Environment"

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Main EU trends at a glance

policy issue	indicator	assessment
modal split in tourism transport	travel by transport modes	☹
reflecting environmental costs in tourism prices	household expenditure for tourism and recreation	☹
carrying capacity of destinations	tourism intensity	☹
reducing energy use	energy use	☹
reducing impacts on environment	eco-labelling	😐

Size and shape of the Tourism sector - EU

- Soon the first industry/service activity in EU:
  - Generating 5,5% GDP (12% with indirect effects)
  - 6% employment,
  - 30% in external trade

- Current annual average growth in tourism and travel is 6.9%

- 2 million businesses (98% SMEs)

- Currently 9 million jobs - Expected to grow by 3 million jobs extra in 2010

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And:

- Leisure: for instance, within the next 20 years, EU retired population will increase by 17 millions with longer life expectancy, better health and increased revenues

- EU tourist arrivals: +50% by 2010 (doubling of air traffic)

→The bottom line of EU strategy is to enhance tourism's potential for growth and employment (target: annual growth rate of 1,5%), i.e. to promote more tourism

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Current EU Policy background

→ Responsibility now with Industry Council
→ Main reference: Council conclusions on Tourism and Employment of 21 June 1999
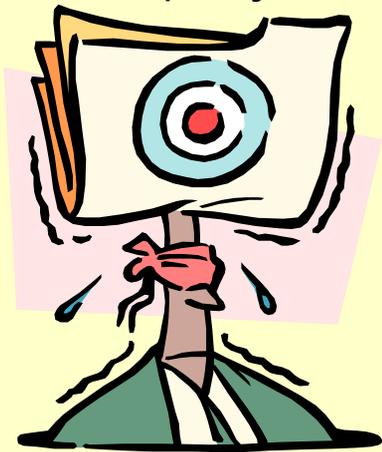
Overall objectives:
- Recognizing the role of tourism in economy: the need to improve its competitiveness within balanced and sustainable development
- Maximizing contribution to growth and employment
- Encouraging rapid response of the sector to increase and structural changes in tourism demand
- Integration of needs of tourism sector into other Community policies

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Priority areas 2000-2001:

Five working groups set up with Members States:

- Facilitating the exchange and dissemination of information
- Improving professional training
- Improving the quality of tourist industry products
- Promoting environmental protection and sustainable development in tourism
- Managing the impacts of new technologies in tourism sector

Means:

- EU Advisory Committee: overall guidance on significant MS initiatives
- AD-hoc consultation of the tourism industry and NGOs

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EU working group on sustainable tourism

→ Objectives:
- Fix a workable definition of "sustainability" and identification of actors concerned
- Appraise existing relevant strategies and measures at national, regional and local level
- Assessment of contribution of Community policies and programmes

→ Expected output by September 2001:
- Agenda 21 for Tourism in Europe
- Workable recommendations, i.e. definition of concrete actions by MS and Commission, including cost/benefit estimates
- Role of information

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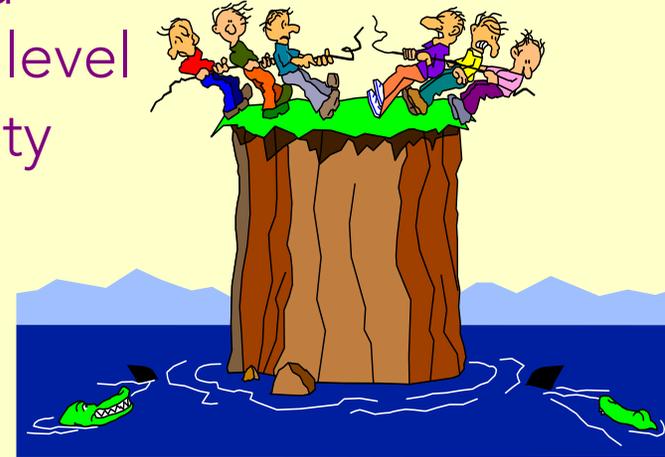
Towards a sustainable EU strategy for tourism in 2002 ?

Following the conclusions in the Communication
"*Working together for the future of European tourism*",
November 2001:

→ Objectives:
- Improving quality, competitiveness and sustainability in European tourism and its enterprises, and at looking after tourist's interests
- Enhance cooperation on and the consistency of tourism policies among the stakeholders in tourism

→ Keys activities highlighted by 2002:
- Elaborating on and implementing the EU Agenda 21
- Defining and disseminating assessment methods and tools (quality indicators and benchmarking)

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Indicators: situation at present (overall at EU level)

- Not capable of systematically and reliably measuring and monitoring either negative or positive impacts on environment

  → Mainly designed to measure economic performance (re: EU Methodology for Tourism statistics)

- Absence of reliable 'response' indicators, i.e. to benchmark the sector performance in environmental management

→ Mainly ad-hoc and inadequate (for instance, water consumption)

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- Missing link: effective measurement of tourism volume, impact and response at the regional/local destination level

  → Need to articulate surveys at NUTS V level and local Agenda 21 programmes

- Huge fragmentation of the actors potentially responsible for measurement and production of indicators

  → Need to rely, as first step, on the 300 large trading businesses and relevant selection of destination (local authorities)

Above all, no agreed European framework for developing an indicator-based reporting system
→ This has to be the priority: need to test proposals

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Tourism 'volume' grows...

☺ The number of tourist arrivals in Europe increased steadily during the 1980s and increased by 18% between 1993 and 1998. International arrivals in Europe are expected to increase by about 3 % per year between 1995 and 2020.

International inbound tourism, million

Central Europe
Nordic
Southern Europe

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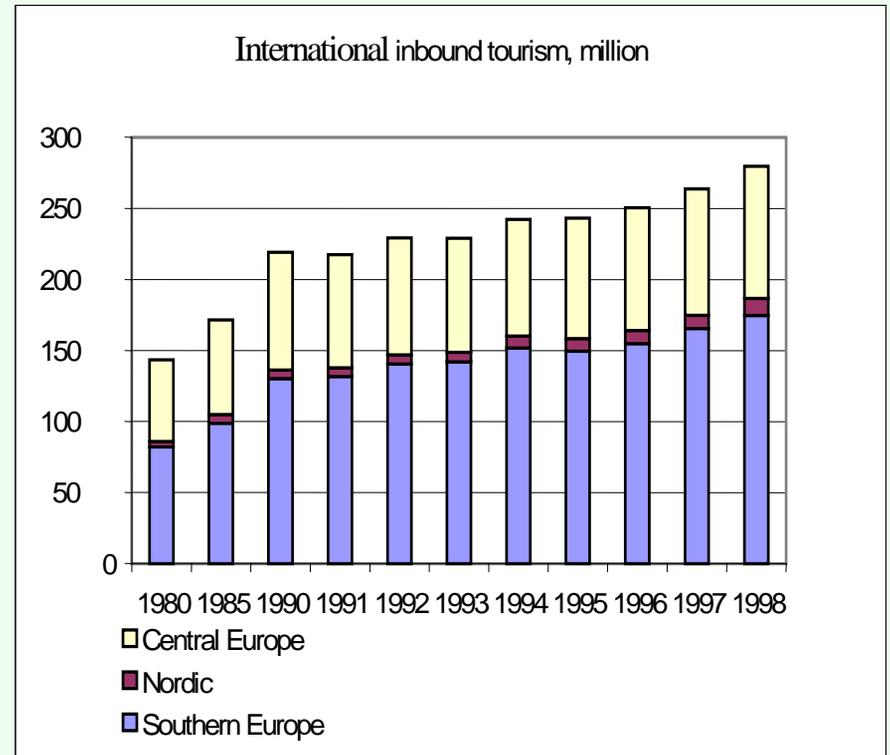
… and increases the intensity

☹ Tourism intensity in terms of number of beds per international arrivals in the EU15 countries increased by 3 % between 1994 and 1997, leading in some areas to overloading the accommodation capacities of the destinations.

Bed places and international arrivals, EU15, 1997,

index1994=100

112
110
108
106
104
102
100
98
96
94

1994 1995 1996 1997

—◆— Bed-places

—■— Int.arrivals

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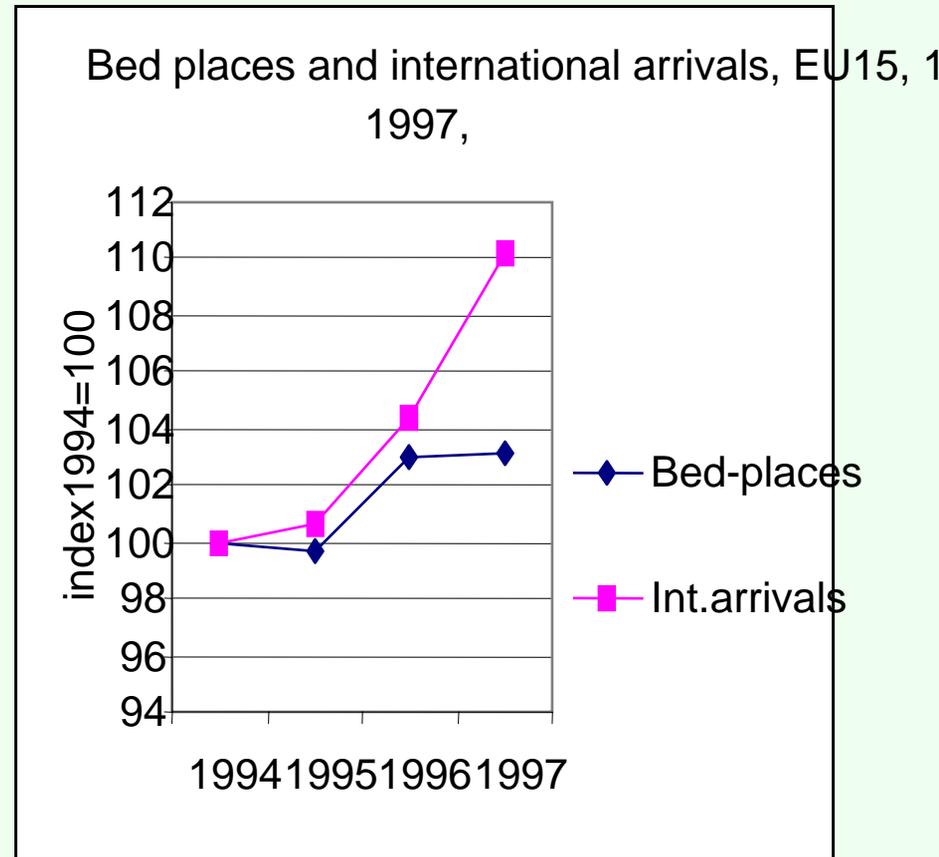
Tourism expenditure and travel patterns

😐 Household expenditure on tourism in Europe increased by 16 % between 1990 and 1997. Tourism prices are continually decreasing, resulting in deals more attractive to the customer.

☹ The average EU citizen travels 0.8 times per year for tourism purposes, travelling a distance of around 900 km away from home. Most tourists in Europe (61 %) travel by road.

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Few striking findings, based on ad-hoc regional/national studies:

Energy and Transport

- 90% of energy use is taken up by access to and return from destination

- Holiday tourism accounts for 70% of air transport (passenger/km)
  → Flight tourism accounts for 10% of total consumption of liquid fuel per year

- Tourism accounts for 50% of transport energy use
  → In France 5–7 % of greenhouse gas emissions are due to tourism (domestic tourist travel by car)

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- Means of transport for trips to destinations:
    - 61% on road,
    - 21% by air,
    - 15% by train

- Growth in air transport is attributable to short-haul flights of less than 800 km (40% of all flights)

- Large-scale tourist attractions with more than 5 million visitors per year generate specially high volumes of traffic which have repercussions on surrounding areas within distances of several hundred of km

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Accommodations and resources

☺ Of all nights spent by tourists (both residents and non-residents) 58 % are spent in hotels.

☹ The number of second homes has increased dramatically since the beginning of the 1990s. In France second homes represent 73 % of the total number of establishments in 2000 and more than 4 % of the land used for new buildings between 1982 and 1998 was for second homes.

Nights in tourism establishments

ind ex 199 4= 100

- nights in hotels
- nights in campsites

1994 1995 1996 1997 1998

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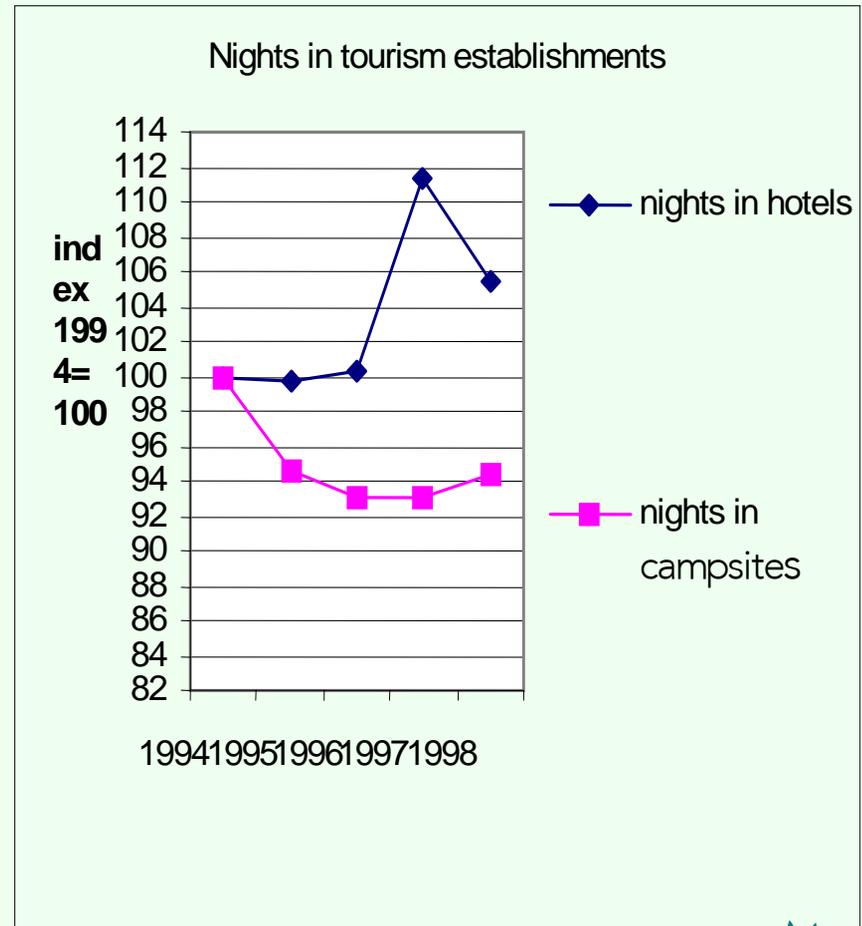
Effects on resources

- Secondary homes takes up (per person basis):
  - 40 times land area requirements of a flat,
  - 160 times of an 80 beds- hotel.

$\rightarrow$ For 150 million tourist at Mediterranean coast, this means:

120 000 km^2 occupancy by secondary home compared to 50 km^2 for 80 bed-hotels

- Water consumption: example of Mallorca:

- Rural population:	140 l/day
- Urban population:	250 l/day
- Average tourist:	440 l/day
- Luxury tourist:	880 l/day

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Coastal zones: resources at risk

- Increased urbanisation in EU coastal zones (1/3 of Europe's population) partly as a result of <u>tourism development</u>

- 85% of European coastal ecosystems at moderate to high risk

Inhabitants per KM^2

- > 500
- $200 - 500$
- $100 - 200$
- $50 - 100$
- $25 - 50$
- $5 - 25$
- Less than 5

- Urban fabric
- Ind., Comm., Trans.
- Agric.
- Forests and semi-natural
- Wetlands
- Lagoons, estuaries
- Not classified

North Sea

Atlantic

Baltic Sea Coast

West Med.

East Med.

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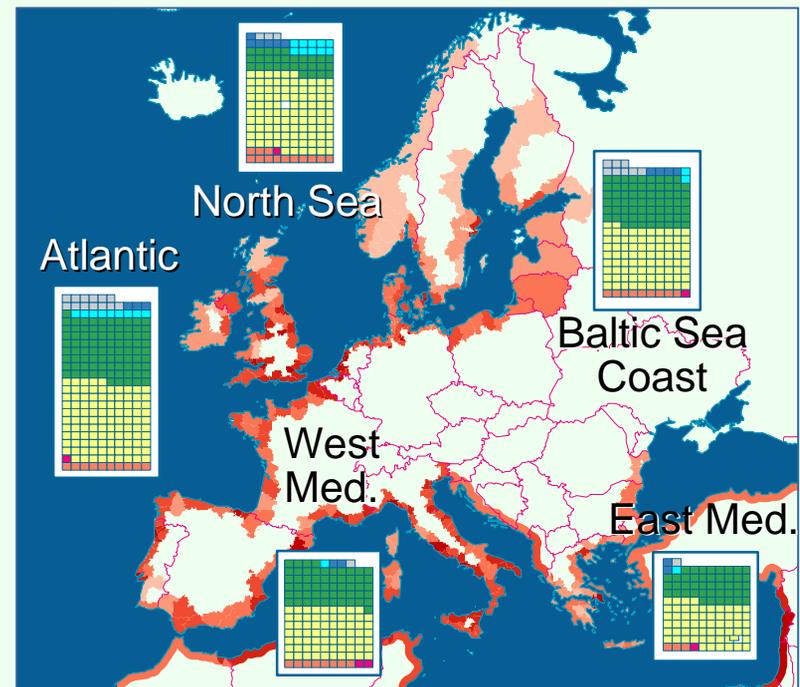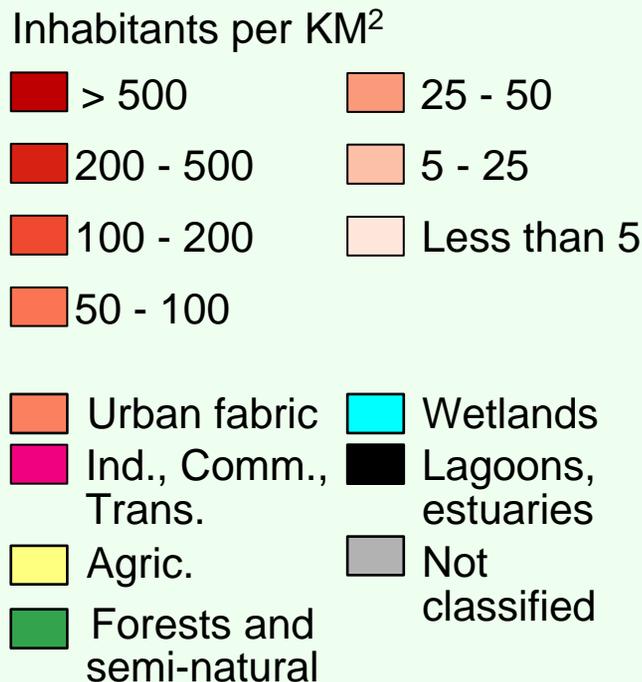
Coastal and marine zones
Tourism in Mediteranean area

- Mediterranean is leading tourist destination world-wide:
  - 30% of international tourist arrivals
  - 1/3 of receipts from international tourism

- From 135 million tourists in 1990 to 353 million in 2025

- Tourism contributes about 7 % of pollution in the Mediterranean.

- How to cope with this increase, given that 25 000 km of the 47 000 km of Mediterranean coast have already been developed?

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Land cover 1985
Tourism pressure 1981-91
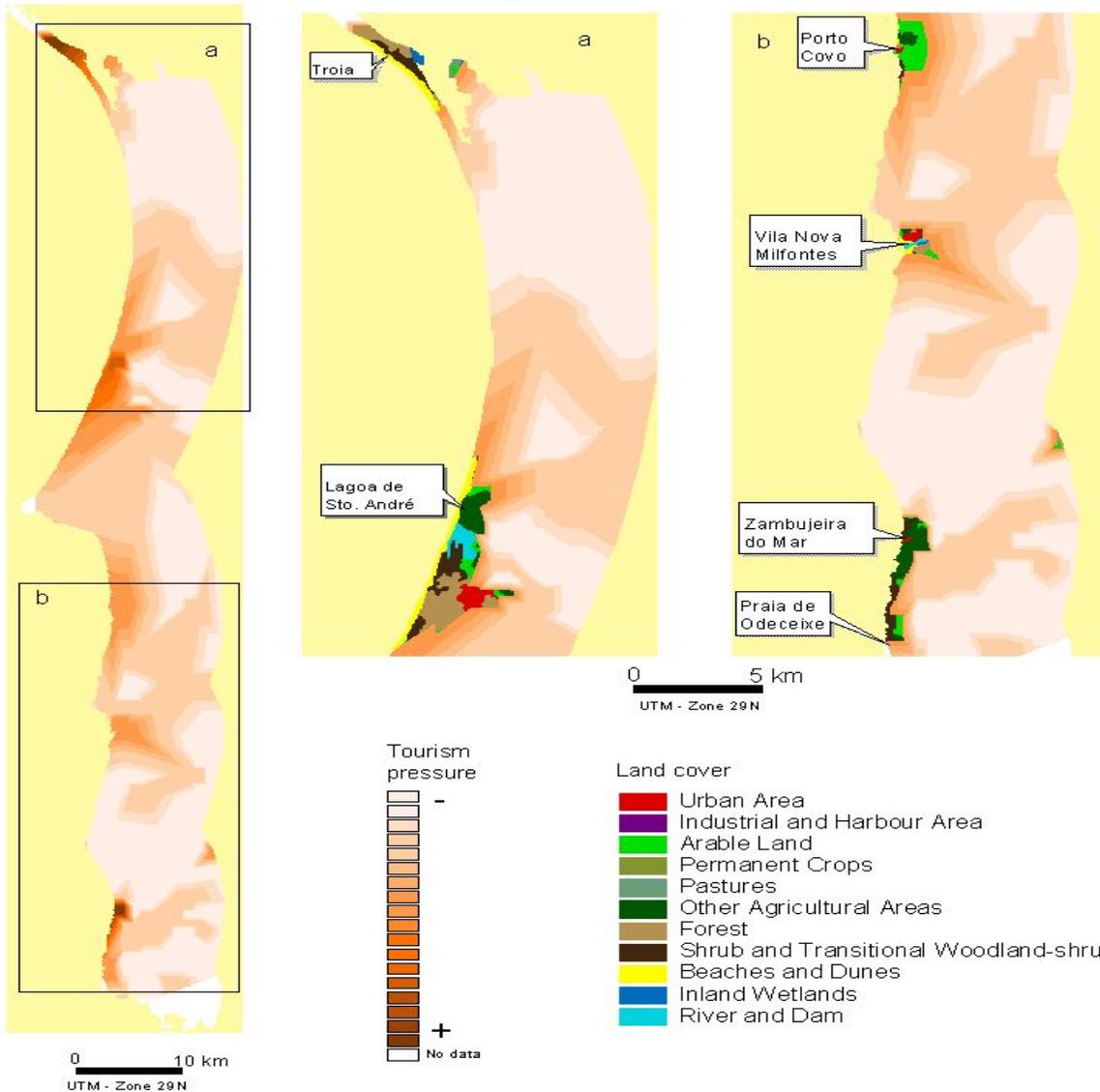
Preliminary results
Assessing changes in
tourism pressure
in the coastal Alentejo
region

Source: JRC/SAI ARIS unit together with the Centro de
Investigação da Universidade Atlântica (CIUATLA)

Joint Research Centre - Space Applications Institute
Agriculture and Regional Information Systems Unit

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Land Cover/Land Use inventory of the Andalusian coastal zones

Source: Data from Universidad de Sevilla and Consejerìa de Medio Ambiante, Sevilla (Spain)

Land cover 1990

50 km

Surfaces modified since 1975

- Discontinuous urban fabric
- Industrial or commercial units
- Construction sites
- Golf course

LU/LC changes in Andalusia between 1975 and 1990

Changes = 18 % of total surfaces

16 new Golf Courses

15 500 ha of Greenhouses created

16 600 ha of Urban areas built

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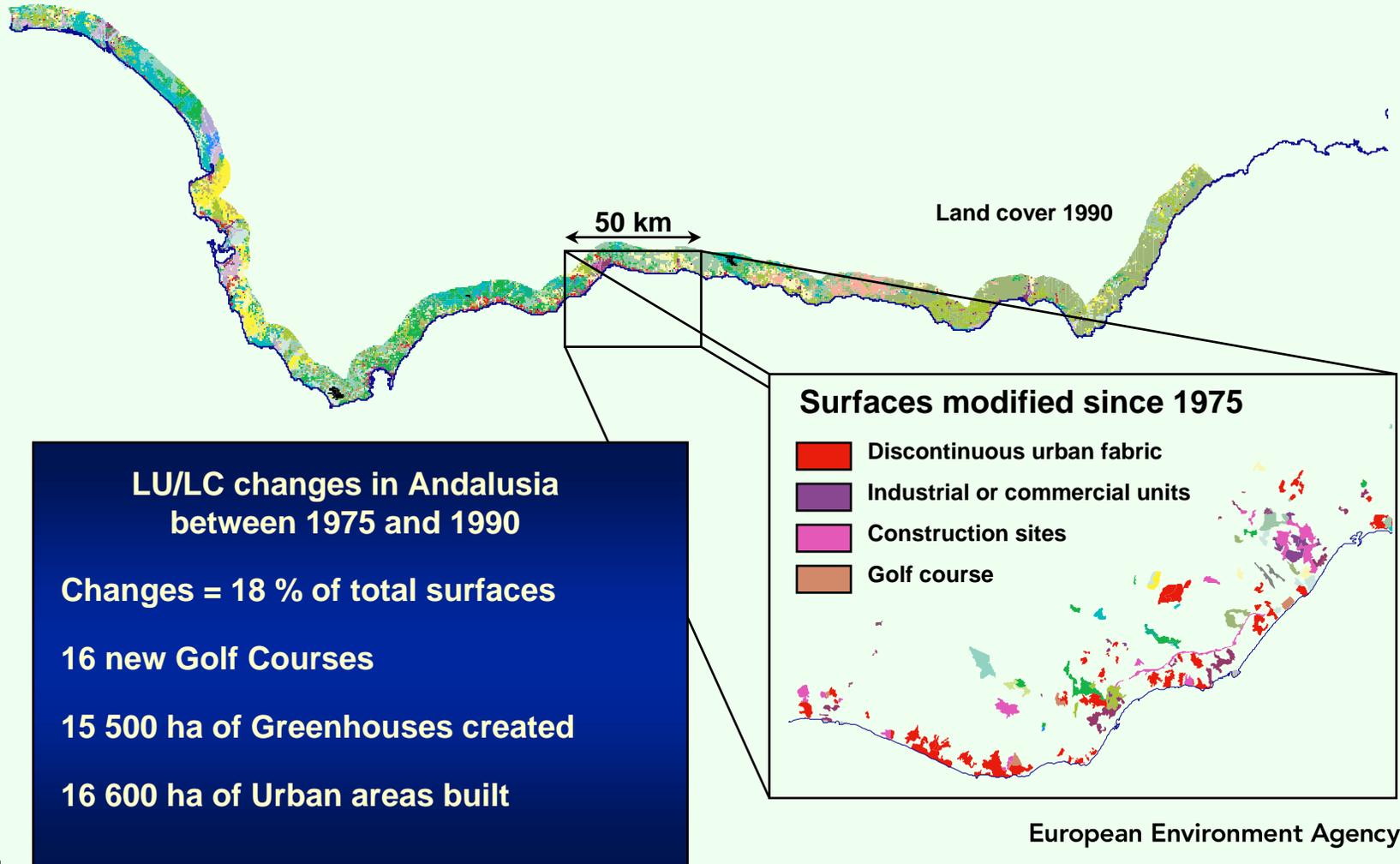
From Facts to Action

We see: Improve quality of services, respectful of the environment

Policy line: supply-driven management (ad-hoc policies, e.g. labelling, better infrastructures)

☺ There has been a significant increase since 1990 in the use of eco-labelling at the national and sub-regional level but national case studies show marginal implementation (less than 1% in Austria)

Current Ecolabels for Accommodation in Europe, by target groups, 1987-2000

Legend
Local
National
Regional
European
International

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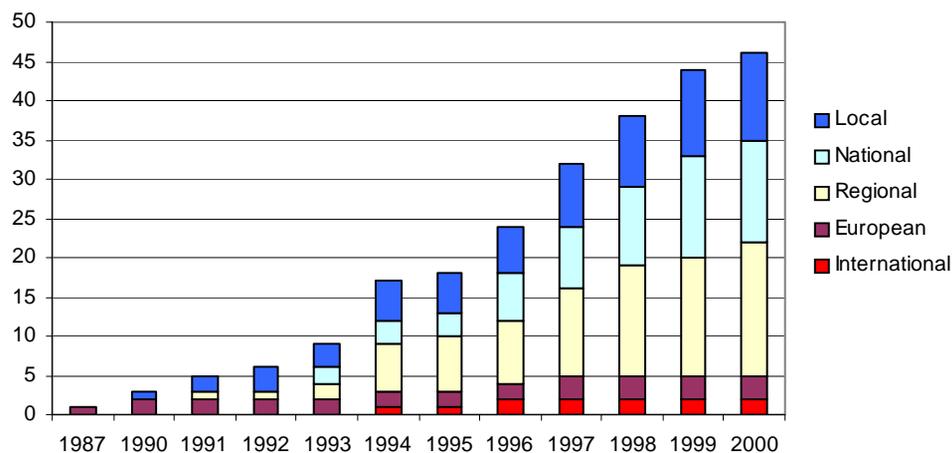
BUT we need:

To cope with the growing volume/intensity of tourism

Policy line: demand-driven
management (integrated policies,
e.g. mobility, access
and carrying capacities)

Target:

- Integrated transport and tourism policy
- Spatial planning as an integrated tool to manage tourism mobility/access and preservation of local resources

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Tourism travel growing drastically

--> There should be a strategic approach on how to address this issue in relation to EU transport policies.
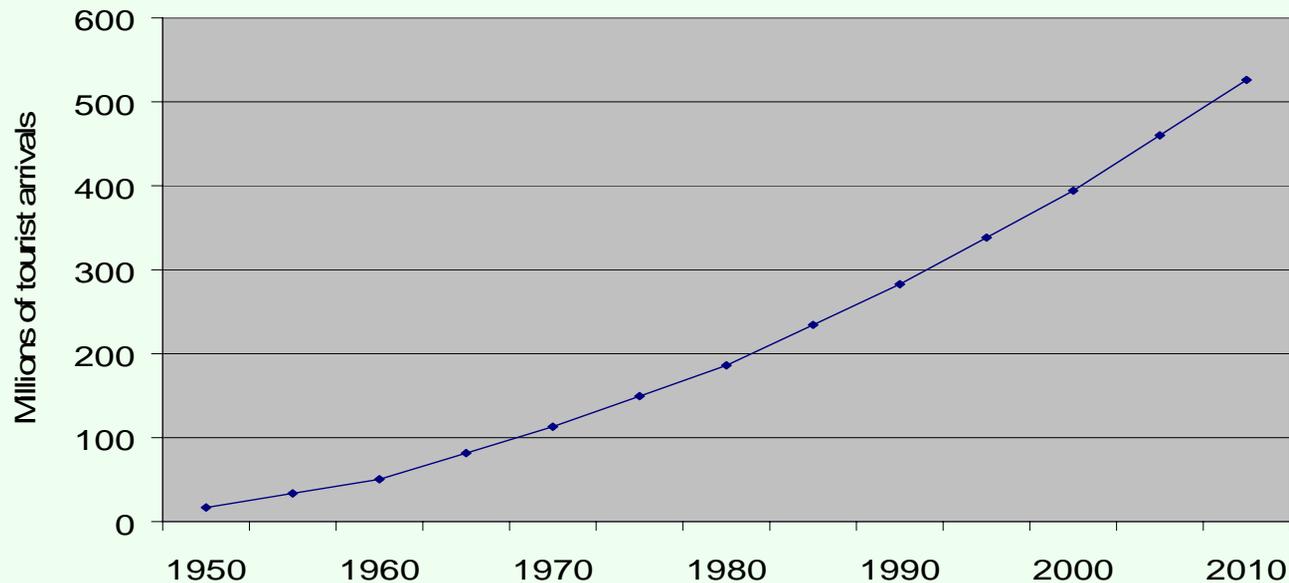
The challenge: evolving patterns and scale of consumption and production

- Transport is constantly increasing and is a core activity of the tourism sector
- The number of inbound tourist visitors grew faster than total passenger transport

1980 =100

number of cars

passenger-km

population

Passenger transport

million tourists

Tourist arrivals

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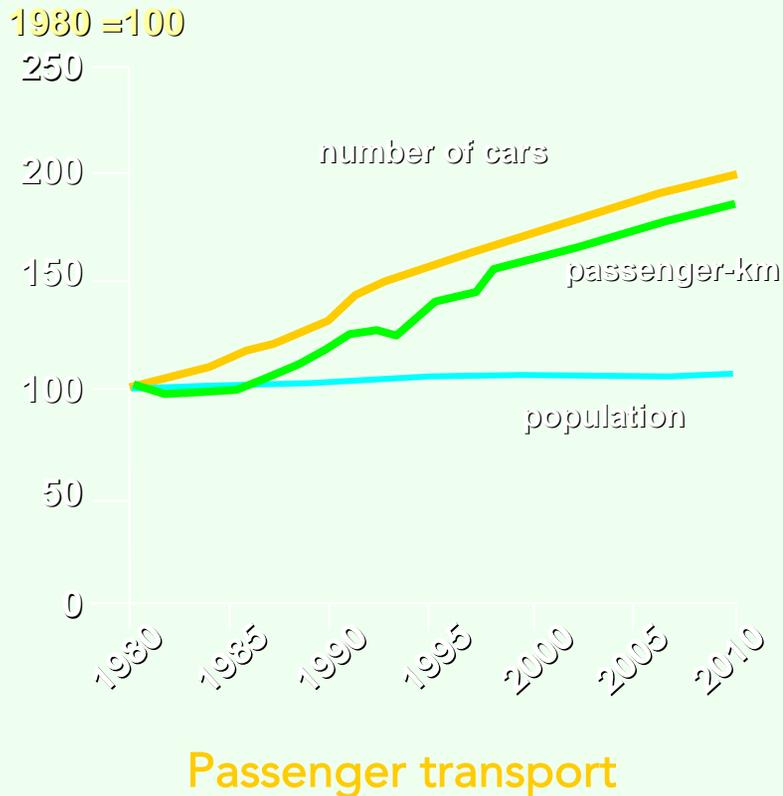
☹ 1990-1998: every day about 10 football pitches were taken for motorway construction in the EU.

Partitioning of land by transport infrastructure

Size of non-fragmented land parcels
- 0 - 1 Km^2
- 1 - 10
- 10 - 100
- 100 - 1000
- >1000
- Other areas
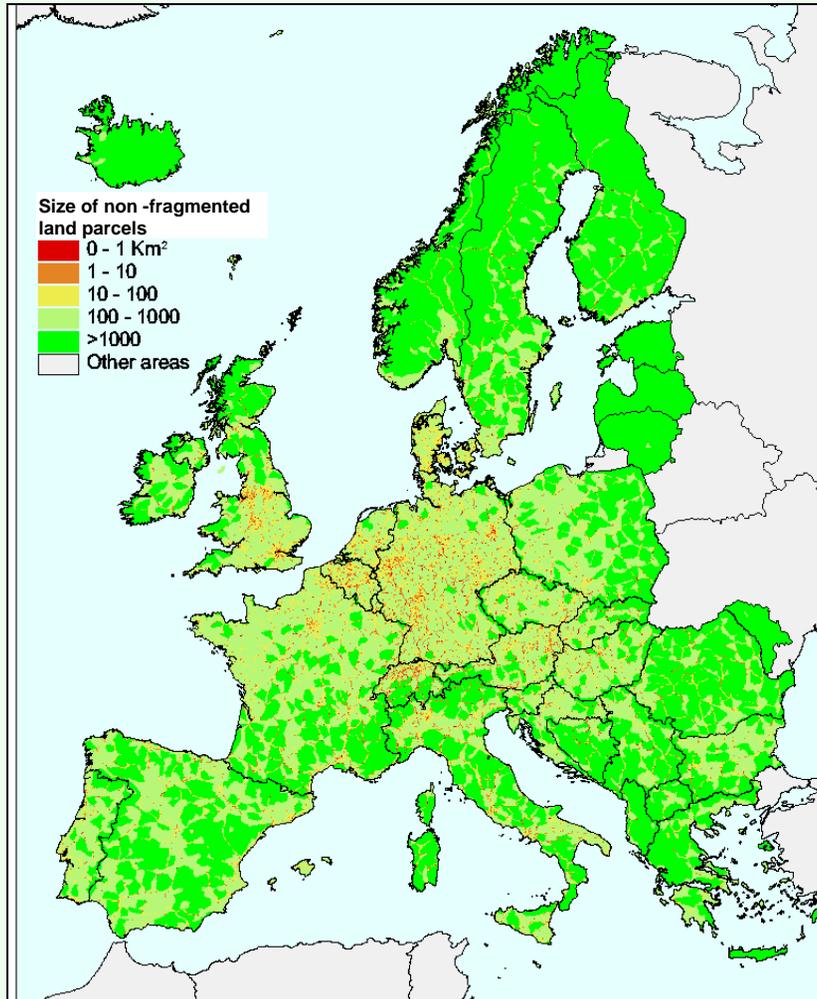
Average size of non-fragmented land parcels

Belgium
Luxembourg
Germany
Denmark
Netherlands
Austria
United Kingdom
Italy
Portugal
France
Ireland
Spain
Greece
Sweden
Finland

0   100   200   300   400   500   600
km2

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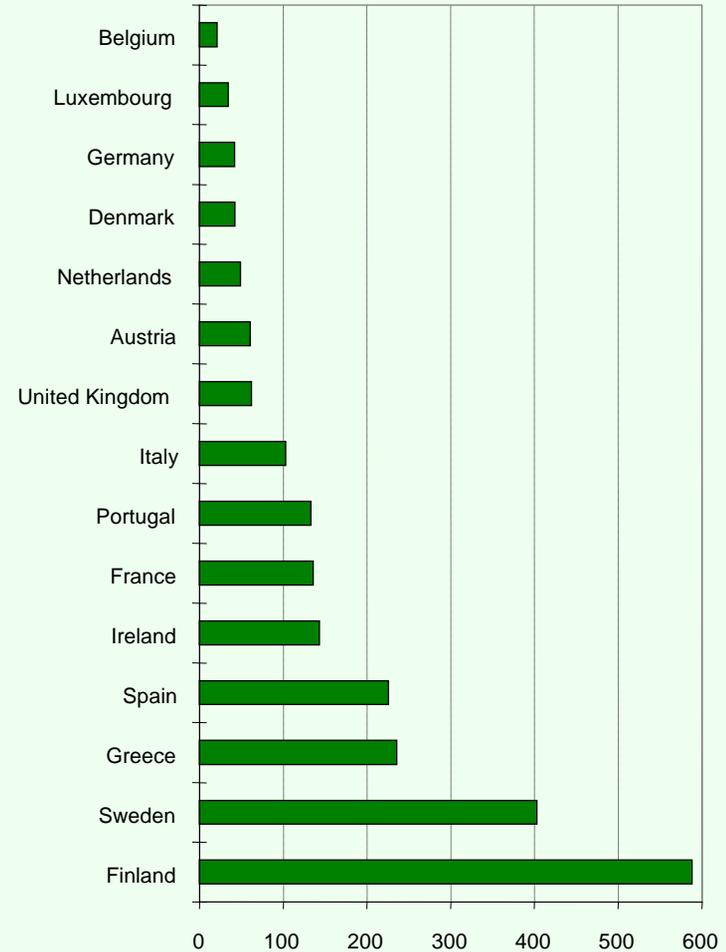
Objective: fair and efficient pricing in Transport

External costs per tonne-km, EU 17, 1995
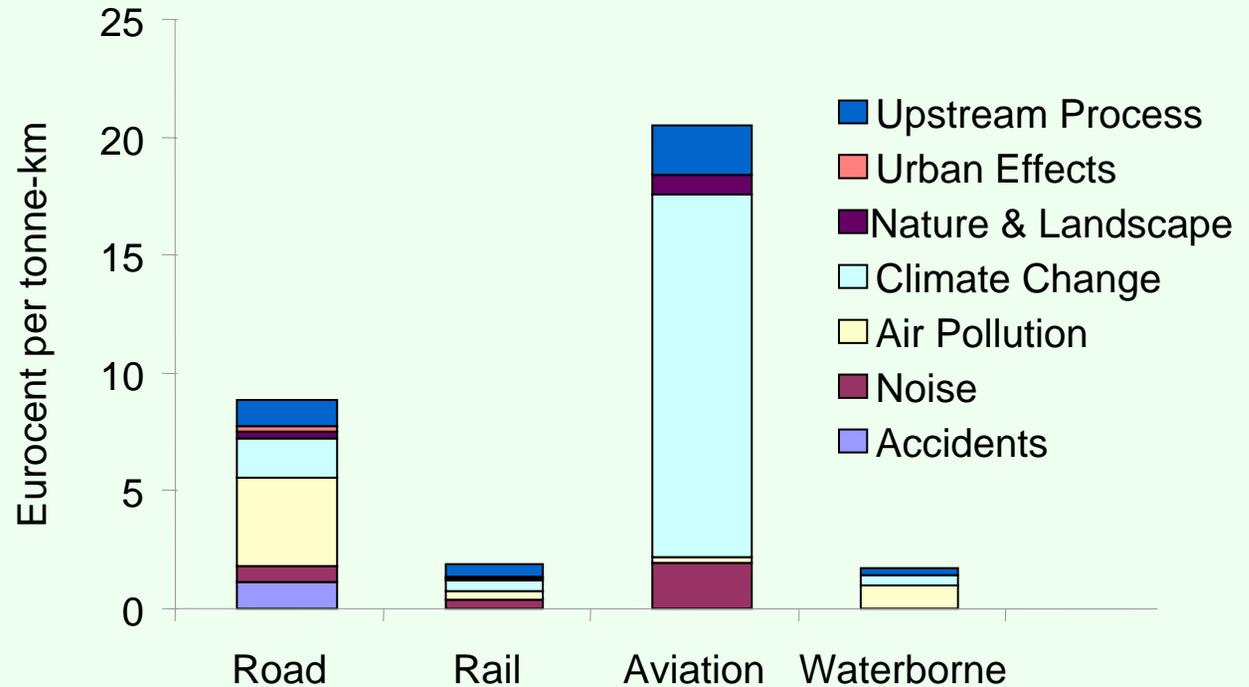
Source: INFRAS/IWW, 2000

Transport externalities: ± 8% of GDP

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Objective: Stabilisation of modal split by 2010 at '98 levels

Modal shares in tonne-km

	1980	1998	2010 projected
Oil pipelines			
Inland waterways			
Rail	15 %	8 %	7 %
Short sea shipping	41 %	42 %	40 %
Road	33 %	43 %	47 %

2010 target

Source: Eurostat, 2001, European Commission, 2001
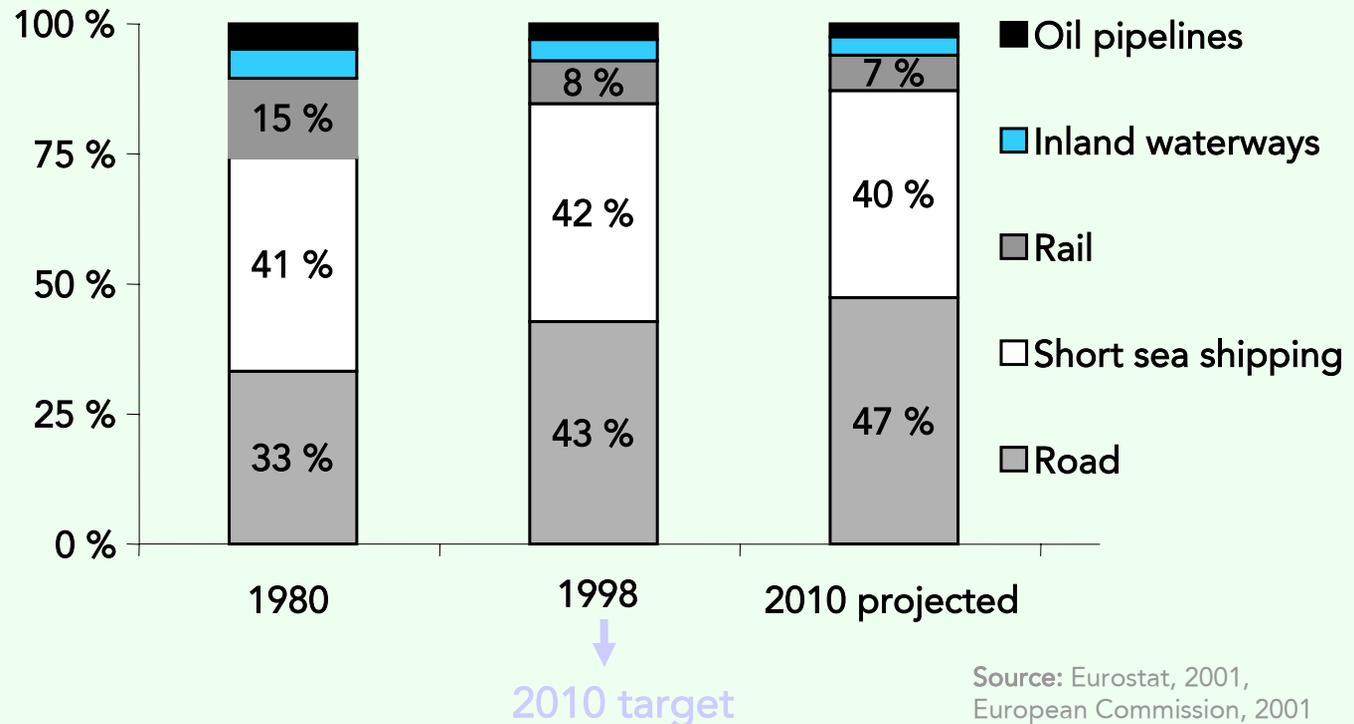
Shift towards road and aviation continues

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Objective: Improving transport eco-efficiency

Trends in transport and its environmental pressures, EU 15

Index (1990=100)

- Freight transport
- Land take by motorways
- Passenger transport
- Energy consumption
- Emissions of greenhouse gases
- Emissions of acidifying substances
- Emissions of tropospheric ozone precursors
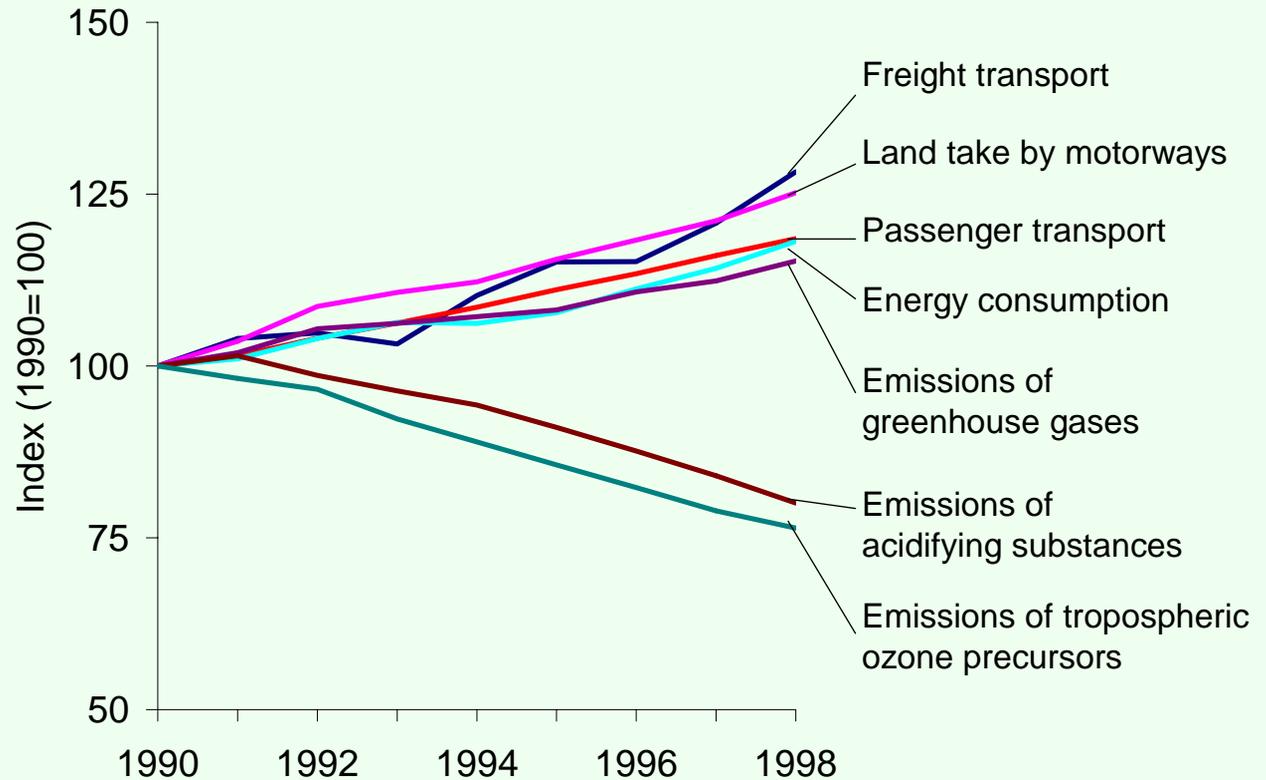
Sources: Eurostat, 2001; EEA, 2001

Transport CO_2 emissions increased by 15 % between 1990 and 1998

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Tourism/environment Integration at EU level

To do better…. "integration of environment in other policies is necessary" (6th Environmental Action Programme and Cardiff European Council)

How to do it?

- Economic integration, e.g., use of economic instruments
- Management integration, e.g., environmental management schemes
- Institutional integration, e.g., co-operation between administrations

How to measure progress?

- Development of size and shape of the sectors
- Development of the environmental burden of the sectors
- Development in eco-efficiency
- Use of typical (economic, management and institutional) integration tools

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Tourism/Environment Integration
Key tools

You can only:

- manage what you measure **(indicators)**
- respond and be rewarded/penalised for those things for which you can be held accountable (**benchmarking**), and
- achieve what has been agreed (**targets**).

Critics may say that indicators and targets are a far too simplistic response to complex issues.

in reality they are the top of an iceberg of information and more important: they seem to work!

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The policy cycle

Benchmarking

policy preparation

policy formulation

policy evaluation

policy execution

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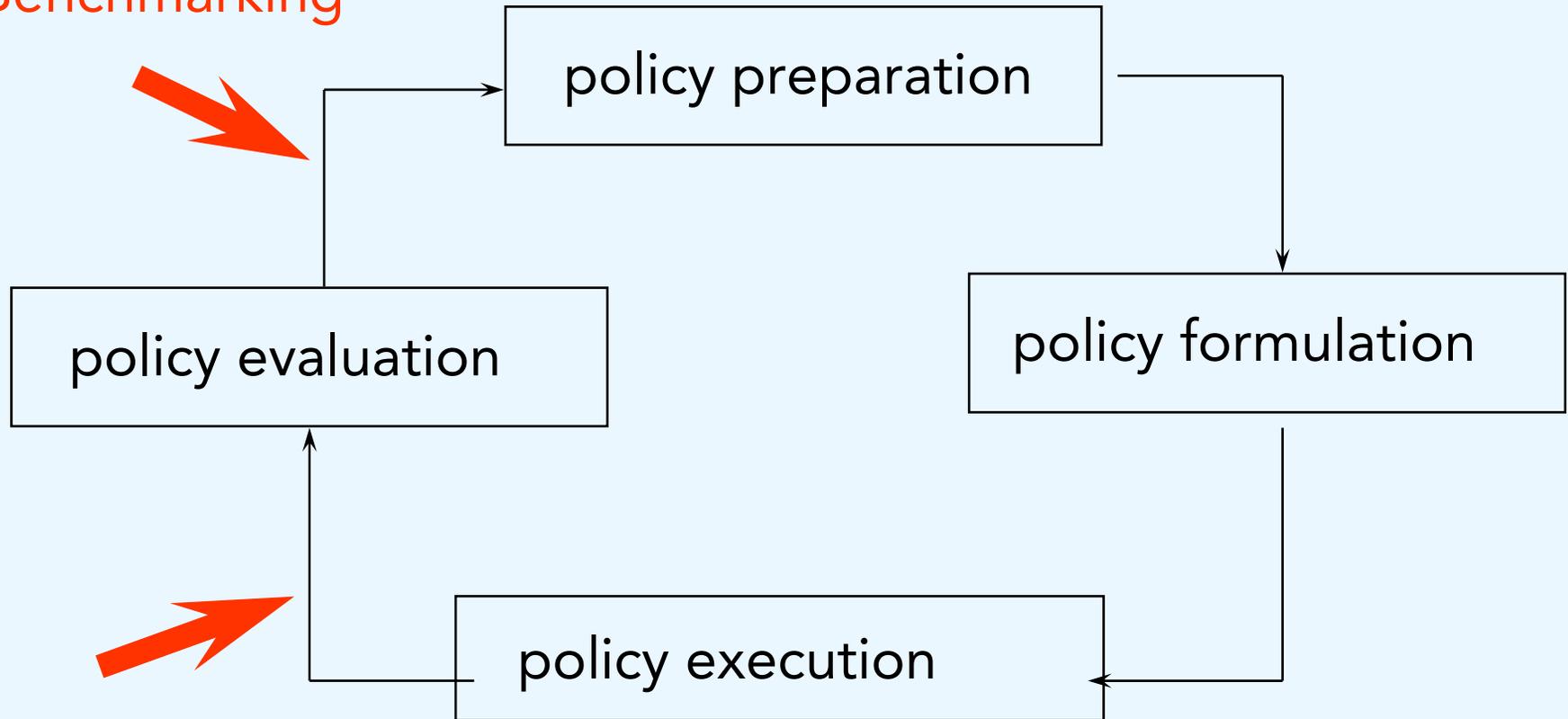
The 'three corridors model' to follow progress in sustainable development

Strategy for Sustainable Development
(Gothenburg Summit June 2001 to RIO+10 June 2002)

Structural Indicators

Lisbon agenda (socio-economic policies)

Headline indicators

Sectoral integration ind.

Sectoral strategies

Headline indicators

Issues indicators

6th Environmental action plan (and specific thematic plans)

Headline indicators
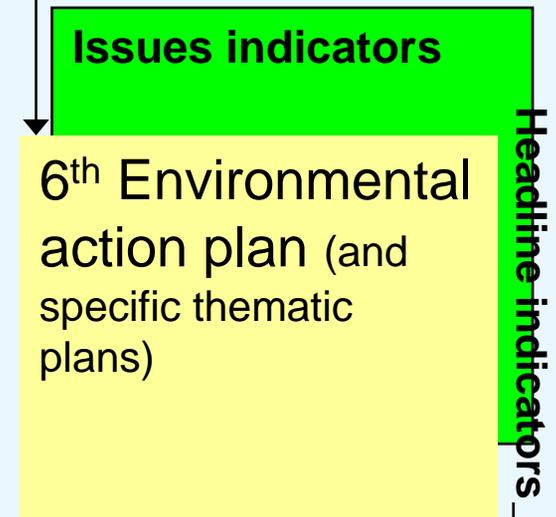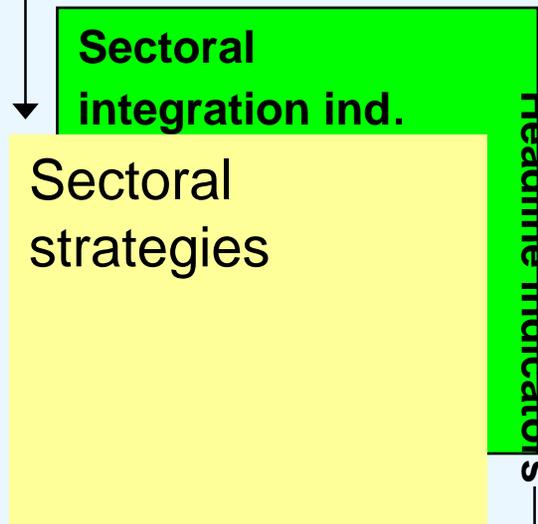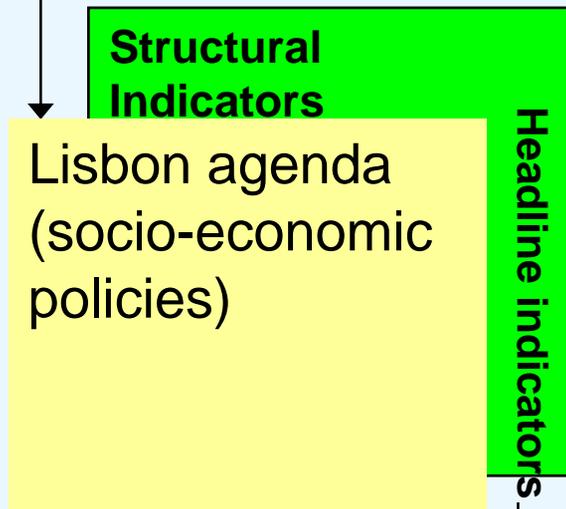
Sectoral reporting

Environmental issues reporting

Integrated Monitoring and reporting

Synthesis report with an annex of 35 Indicators

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What can we read from, e.g. 6th Environment action plan

The five priority avenues:

1. *Improve implementation (enforcement, transparency)*
2. *Integration (Cardiff Initiative)*
3. *Coping with market (Instruments - Business - Consumers)*
4. *Empowering citizens (Information - Indicators - Maps)*
5. *Greening land use planning (EIA - SIA; Integral planning)*

G \   \Slides   \djb\6th Environmental Action Programme (6EAP)

3

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Some open questions in the implementation of the whole system

Regarding the sectoral integration pillar:

- Will all the sectoral-economic policies dare to agree on a package of (consistent) indicators?

- Will the sectors allow for external/independent assessment of progress and benchmarking?

- Will the sectors dare to fix/accept targets on time (for different indicators)? Either on the strategies or in related follow-up plans?

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Some open questions in the implementation of the whole system (2)

Regarding the environmental issues/6EAP pillar?

- Will the 6th EAP during the coming discussions develop into the reference frame for the environmental sustainability pillar? And will it become stronger on targets and indicators to measure progress?

**And, finally, regarding EC proposal on a sustainability strategy**

Will the strategy set the model and the process for establishing the three pillars of sustainable development (social – economic – environment)?

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Reporting on sectors and the environment

Central product in EEA family of indicator reports/ reporting mechanisms...

Climate change

Transport & Environment

Environmental signals

TOURISM?

Agriculture
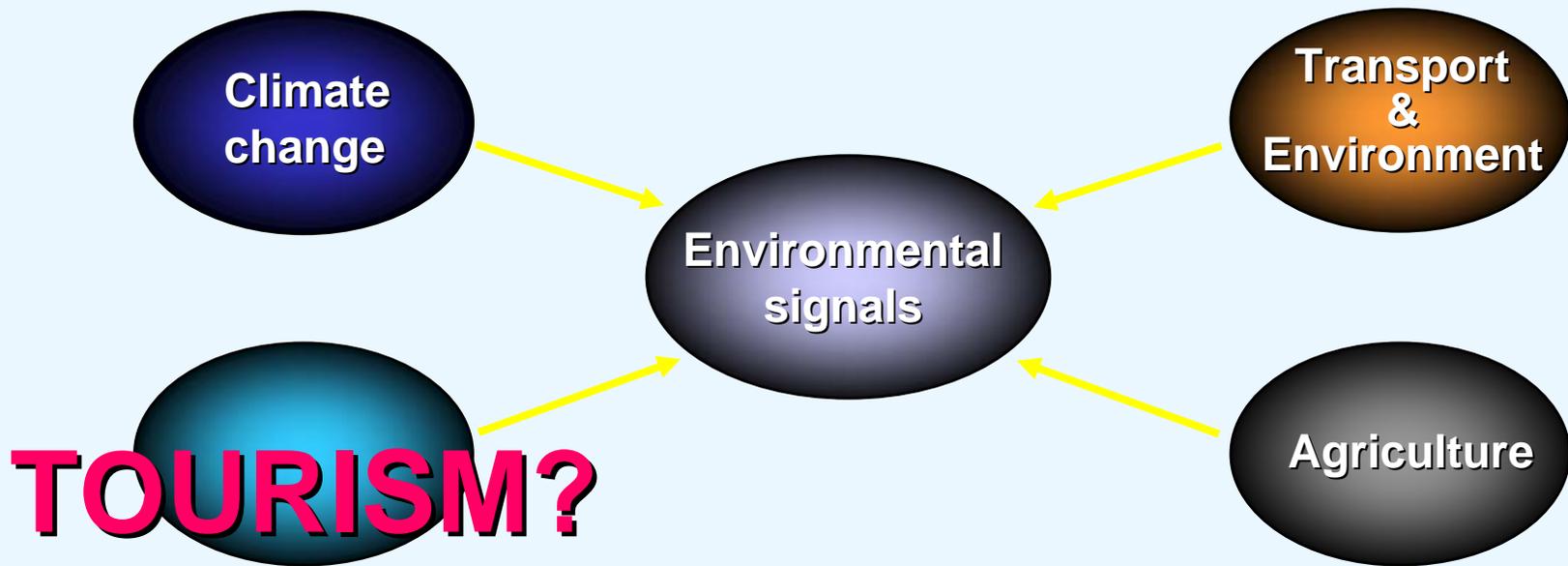
…..contains the main indicators of the sector - environment reporting mechanisms

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Developments in eco-efficiency
Sectors have made varying degrees of progress

1990 = 100

industry

- index of production
- energy consumption
- carbon dioxide
- nitrogen oxides
- sulphur dioxide

1990 = 100

agriculture

- gross value added
- methane emissions
- total pesticide use
- total fertiliser use

1990 = 100

energy

- methane
- gross value added
- electricity supply
- non-methane VOCs
- nitrous oxide
- carbon dioxide
- nitrogen oxides
- sulphur dioxide

1990 = 100

transport

- tonne km
- passenger km
- energy
- carbon dioxide
- nitrogen oxides
- non-methane VOCs

The objective is to apply this type of analysis to tourism

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From BAI to BNI

BAI **: best available information**

EEA's starting point in reporting: exploiting the wealth of information in Europe.
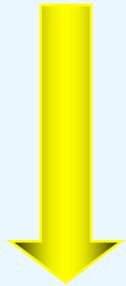
BNI **: best needed information**

Indicator-based reporting is a tool to limit the amount of information collected: we need to draw practical consequences now!

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Some proposals to know better, and hence to manage better

- Tourist travel patterns
  - Monthly distribution of overnight stays
  - Tourism intensity /density
- Construction of second homes
- Occupancy by accommodation type
- Household expenditure on tourism
- Price of tour packages
- Emissions of greenhouse gases
- Energy, water use by tourism
- Waste generation

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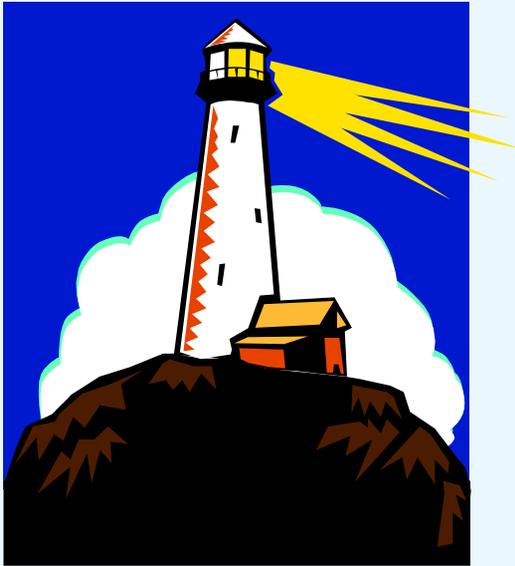
- Tourist concentration in protected areas

- Environmental carrying capacity of selected tourist destinations

- Land take by tourism

- Local water shortages in coastal tourist areas

- Local economic returns from tourism
- Local authorities implementing Agenda 21 in tourist areas
- Penetration of tourism eco-labels
- Revenues from tourism taxes
- Seasonality management
- Goal and target setting

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The EEA method to elaborate indicators

1. Identify some relevant policies questions

2. Define the indicators answering to these questions

3. Build the indicators with available data

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PROCESSES for elaborating indicators:
five concrete steps

1. **Generic question** (size and shape of the sector, environmental burden of the sector, eco-efficiency, use of economic, management and institutional integration tools)

2. **Policy question** (close to source policy document)

3. **Indicator title** (to get immediate impression of the content)

4. **Indicator definition** (should includes the substances details, time coverage and geographical breakdown)

5. **Data collection** (sources)

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Example (1): Tourism intensity

1. Generic question (efficiency):

   Are we getting better at matching the tourism demand to the need to preserve resource ?

2. Policy question:

   How is tourism concentrated in space?

3. Indicator title:

   Tourism intensity

4. Indicator description:

   Number of total bed-places / km^2 (NUTS 3), European level, year 2001

5. Data source: Eurostat

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Example (2): Modes of transport used by tourists

1. Generic question (efficiency):

   Are we getting better at matching the tourism demand to the need to preserve resource ?

2. Policy question:

   Are we using more environment-friendly modes of transports for tourism?

3. Indicator title:

   Modes of transport used by tourists

4. Indicator description:

   Number of international tourism arrivals by modes of transports at borders, by country, European level, 2000

   Sub-indicator: Changes in use of modes of transport for domestic tourism in selected countries

5. Data sources: Eurostat, national statistics

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Example (3): Energy use by tourism

1. Generic question (environmental burden of tourism):

    What are the environmental impacts of tourism?

2. Policy question:

    What is the tourism's contribution to energy consumption?

3. Indicator title:

    Energy use by tourism

4. Indicator description:

    Energy use of transports of passengers excluding commuting and shopping purposes;1996, EU countries

5. Data sources: EEA, Eurostat

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