



MANAGING RISK

DNV

Safe Maritime Transport



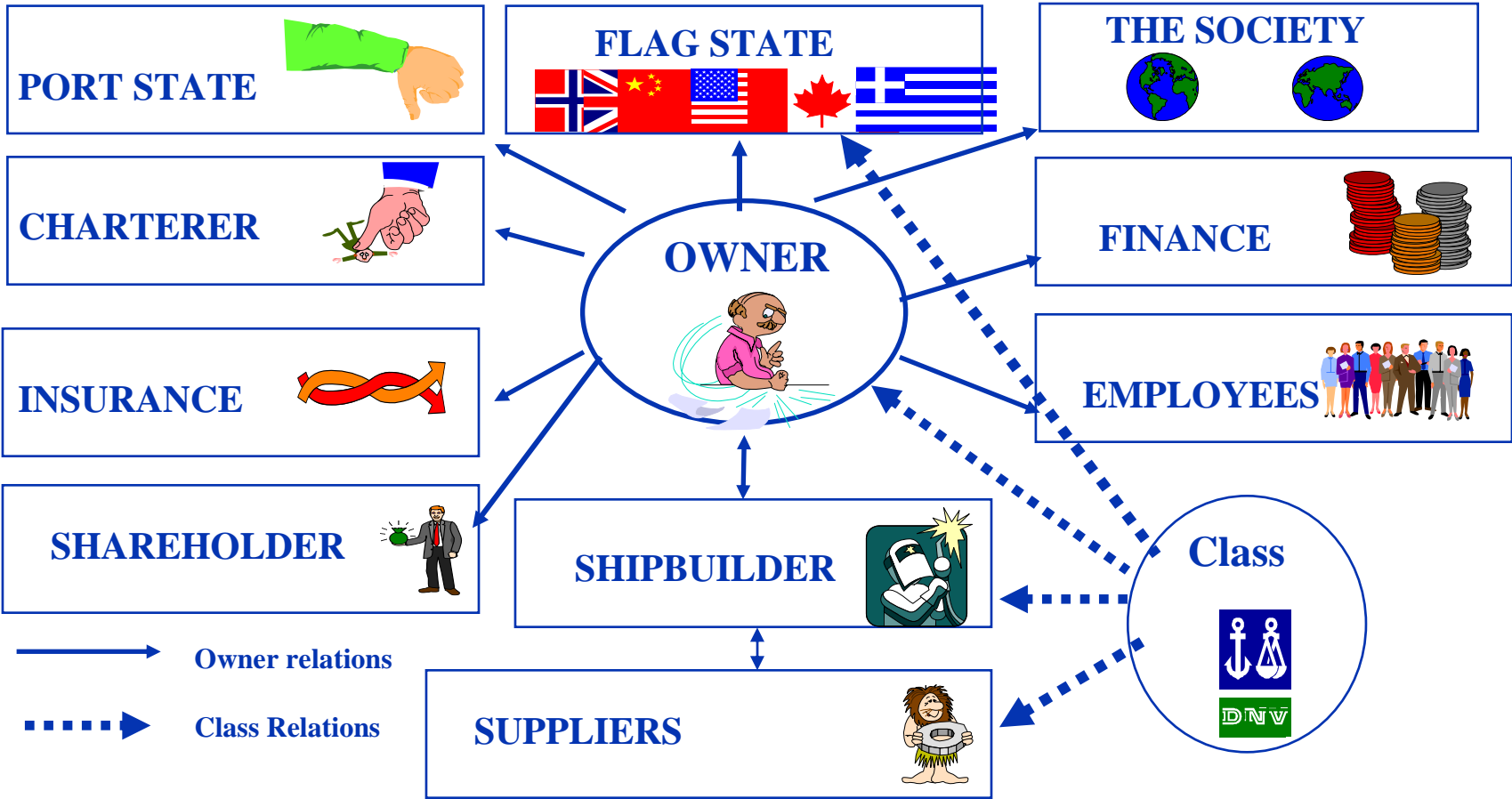
Transport Forum March 27, 2007

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Det Norske Veritas

“One third of the earth is covered by land.
We cover the rest.”

(Mediterranean Shipping Corp.)

The Maritime Actors



Characteristics

- International
- Many stakeholders
- International Regulations for International Trade
- To some extent, self-regulating
- Trend towards common rules (Class societies); Goal Based Standards
- Political move for individual or groups of countries (EU,...) to regulate more in detail
- Some states may have own regulations (California CARB,...)
- Volume of regulations and inspections becoming excessive and may in some cases be counterproductive
- Domestic shipping: Local Regulations only

Ocean Shipping

- 50,000 ships trading internationally, employing 1.5 mill seafarers
- Covers a critical transportation need between –and within – coastal states; carrying 90% of world trade
- Provides safe, secure, efficient transportation with low pollution.
- Some of this can only be covered by seaborne transportation, considering technical and economic issues
- The safety statistics are outstanding, and clearly show an improvement over the past 40 years
- Substantial reduction of pollution cases

History - Disasters trigger new Regulations



Titanic (1912) SOLAS (1929)

Torrey Canyon (1967) MARPOL (1973) / STWC (1978)

Amoco Cadiz (1978) SOLAS / MARPOL 1978 Protocols

Herald of Free Enterprise (1987) ISM / SOLAS Ch. II-1 / FSA

Exxon Valdez (1989) OPA 90 / MARPOL

Scandinavian Star (1990) SOLAS Ch. II-2

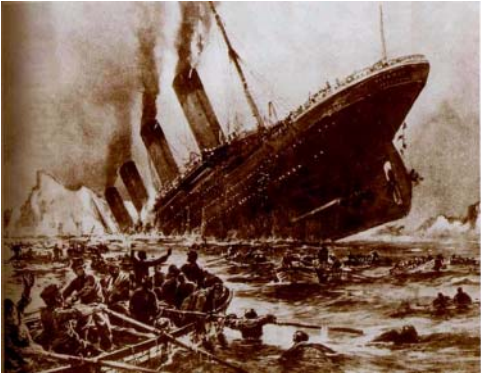
Bulk Carriers lost early 1990 SOLAS Ch. XII (1997)

Estonia (1994) SOLAS Ch. II-1 (1995)

Erika (1999) Erika Pack I/II -> PSC/Class/EMSA

Prestige (2002) Erika Package III>Flag State/Pollution Liability

09.11(2001) ISPS Code



Rules and Regulations

Today, International Shipping is well regulated

- IMO (a UN Organization) through the ship's flag
 - Safety; life saving; fire protection; ..
 - Pollution from Oil/Cargo
 - Ballast water; anti-fouling
 - Emissions
 - Safety Management (the ISM Code)

- Class Societies
 - Structural strength
 - Propulsion, technical aspects
 - Suitability for intended use
 - Often acting on behalf of Flag in safety and pollution certification

- Port State control

The Human Factor



The Problem is not a lack of Rules and Regulation - but Compliance !

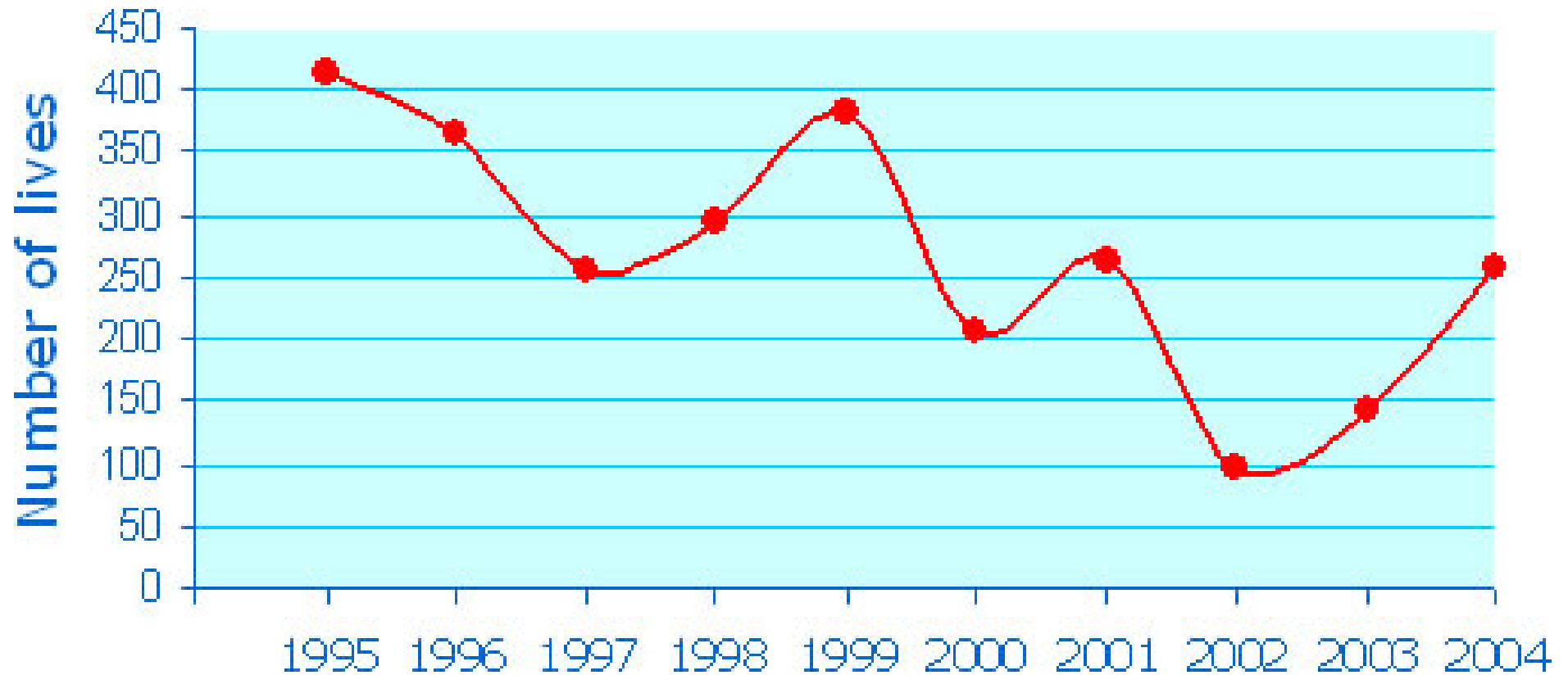
Challenges

- Shipping is not well known or understood among the public – we need to increase transparency, and profile the high quality operations.
- Address aspects hindering transparency, such as pressure from stakeholders to report deficiencies in alternate ways
- The world fleet is increasing rapidly, with more sophisticated ships – training and availability of seafarers is critical
- Get rid of sub-standard operators (and ships) through active self-regulation, chartering, insurance
- Vigorously address specific problem areas, such as the currently largely unregulated domestic ferry market

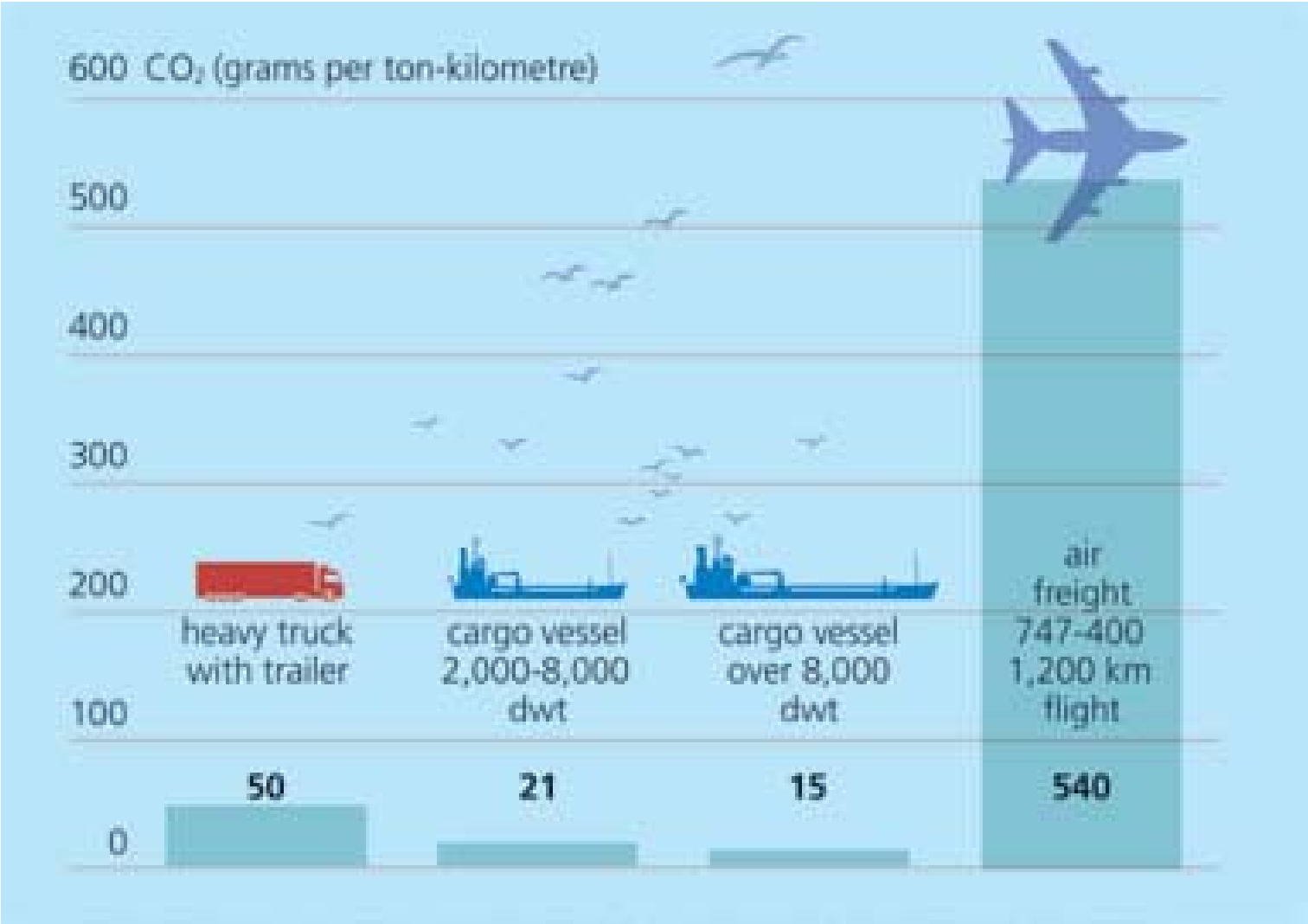
Ferries and other domestic vessels

- Other forms of public transportation are quite well standardized already
- Domestic ferries differ widely, both in technical standard and operation.
- Ports/terminals are not standardized
- Recent ferry disasters are often related to stability: Lack of control of number of passengers
- Number of casualties is high, but not well publicized. Examples:
 - International cargoships: 100-250 per year (2000-2005)
 - Bangladesh ferries: 100-700 per year (2000-2005)
- Work to introduce guidance for domestic ferries is starting, with a White Paper submitted from Interferry to IMO. The aim is to reduce casualties by 90% within 10 years

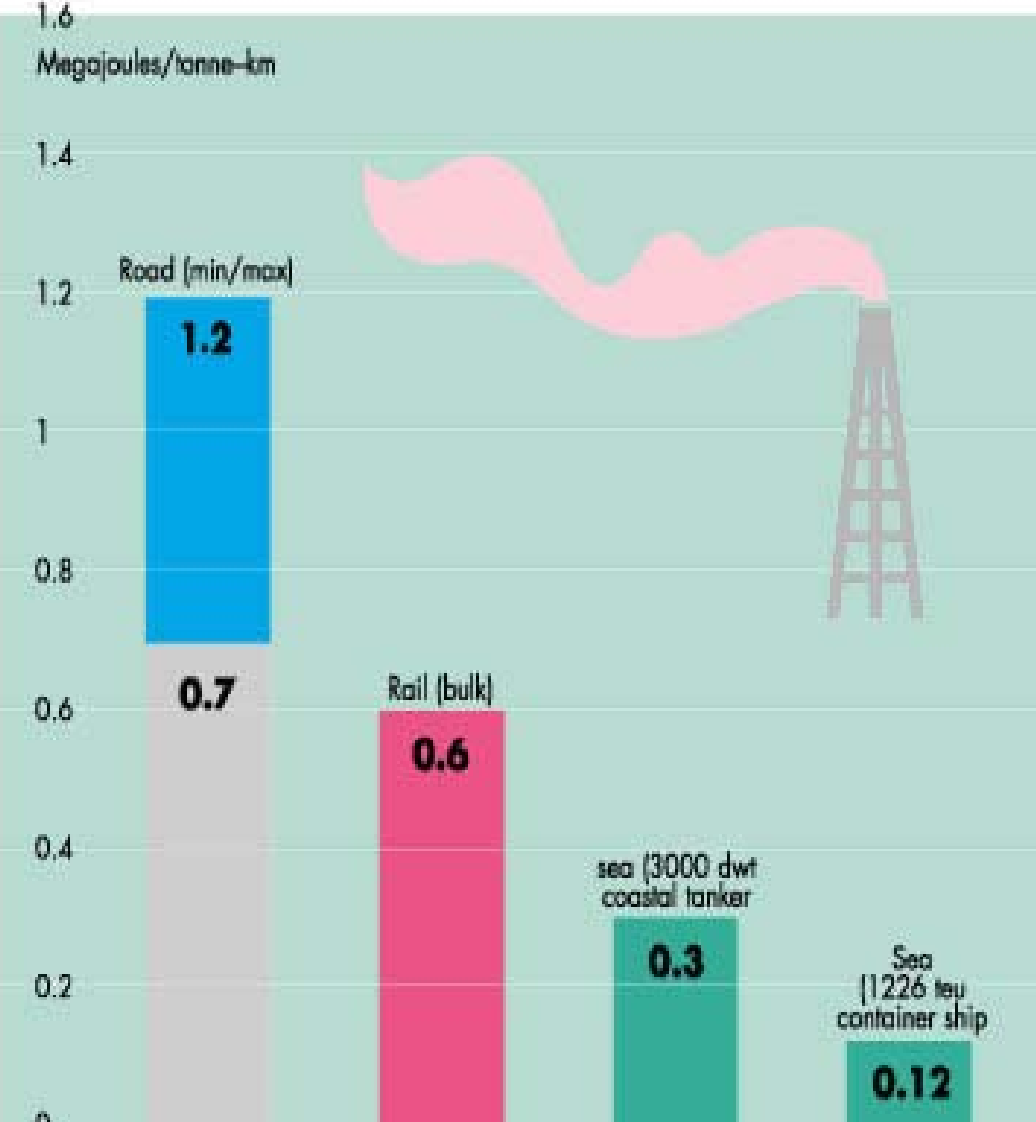
Lives lost International Cargo Ships



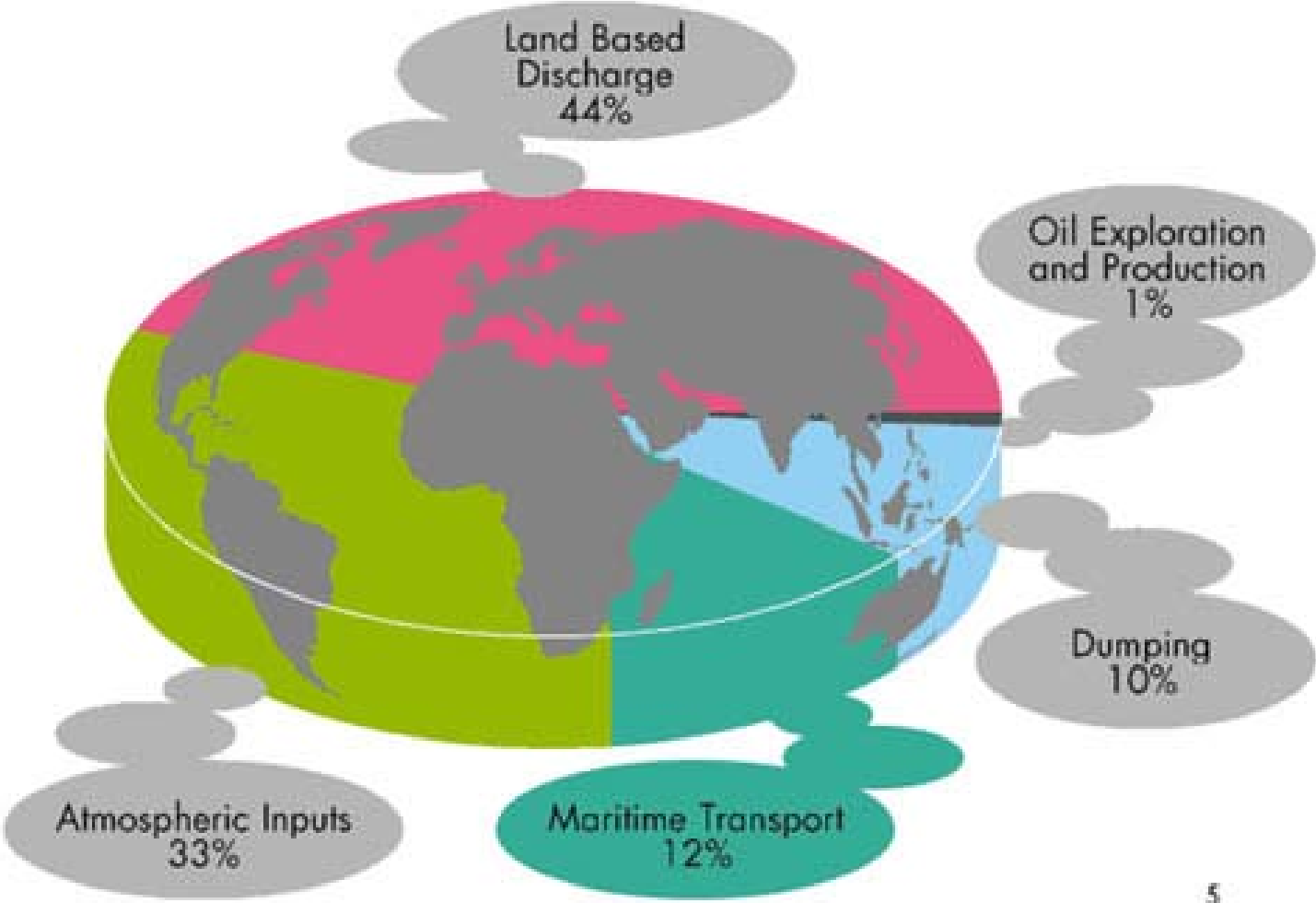
CO2 emissions



Comparative Fuel Consumption



Marine pollution





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