

# Sustainability: Necessity or Luxury?

Uwe Bollwinkel  
Marine Business Manager  
Central and Eastern European Area  
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# The challenge

	In 2010	By 2035:	By 2050:
	Population	Population increase	Population increase
World:	6.9bn	7 to 8.6bn	~9.1bn ?
Asia:	4.2bn	4 to ~5bn	~5.2bn ?
EU:	0.7bn	0.5 to 0.52bn?	~0.7bn ?
	Primary energy usage	Primary energy demand	Primary energy demand
World:	8,700 Mtoe	13,000 to 17,000 Mtoe	???
Asia:	2,600 Mtoe	5,300 to 8,600 Mtoe	???
EU:	1,800 Mtoe	1,600 to 1,700 Mtoe	???

**Where will all the required energy, resources for consumer demands and sufficient quality food for all these people come from?**



# Agenda

- The situation
- What can be done?
- Sustainability and shipping
- Positive signals through sustainability?
- Conclusion

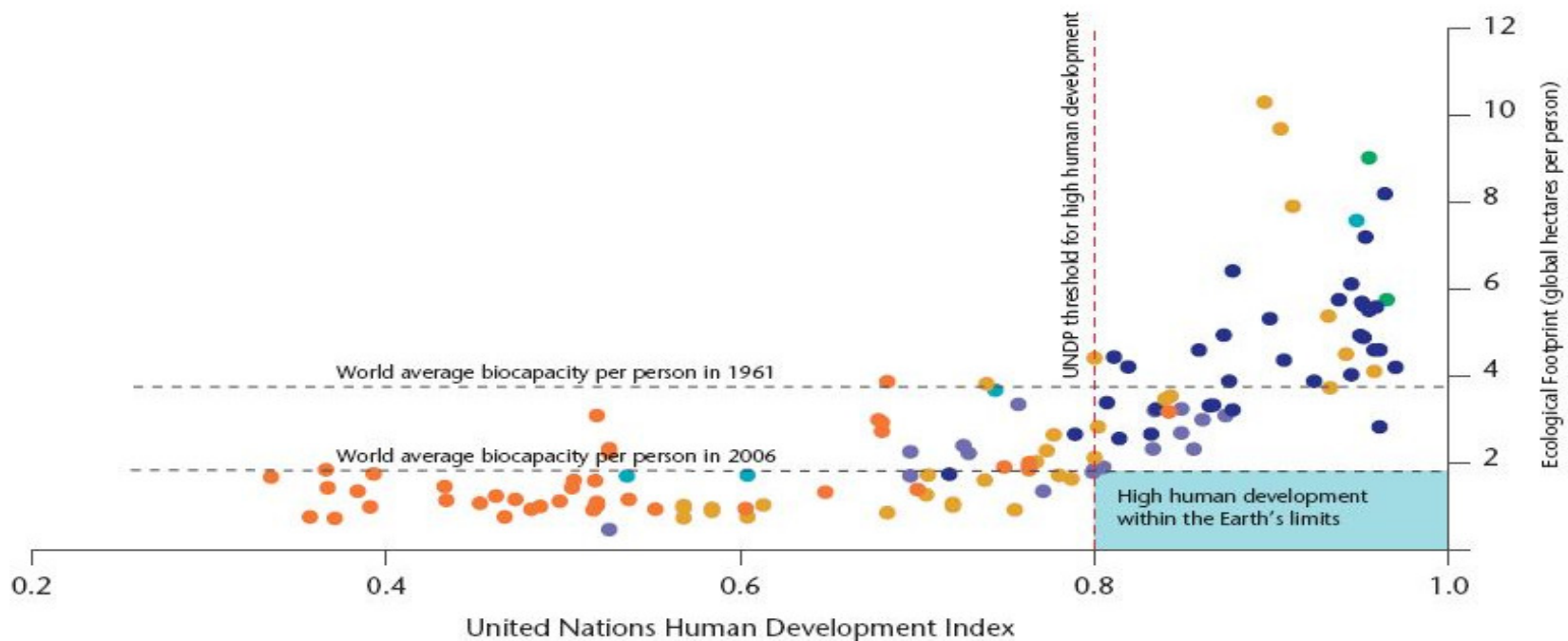


# The situation

Meeting the dual goals of sustainability:

High human development and low ecological impact

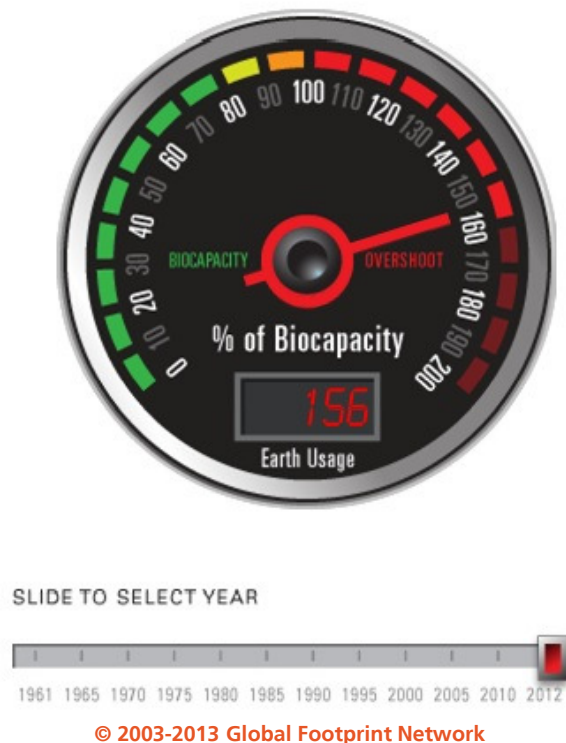
- African countries
- Asian countries
- European countries
- Latin American and Caribbean countries
- North American countries
- Oceanian countries



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# The situation

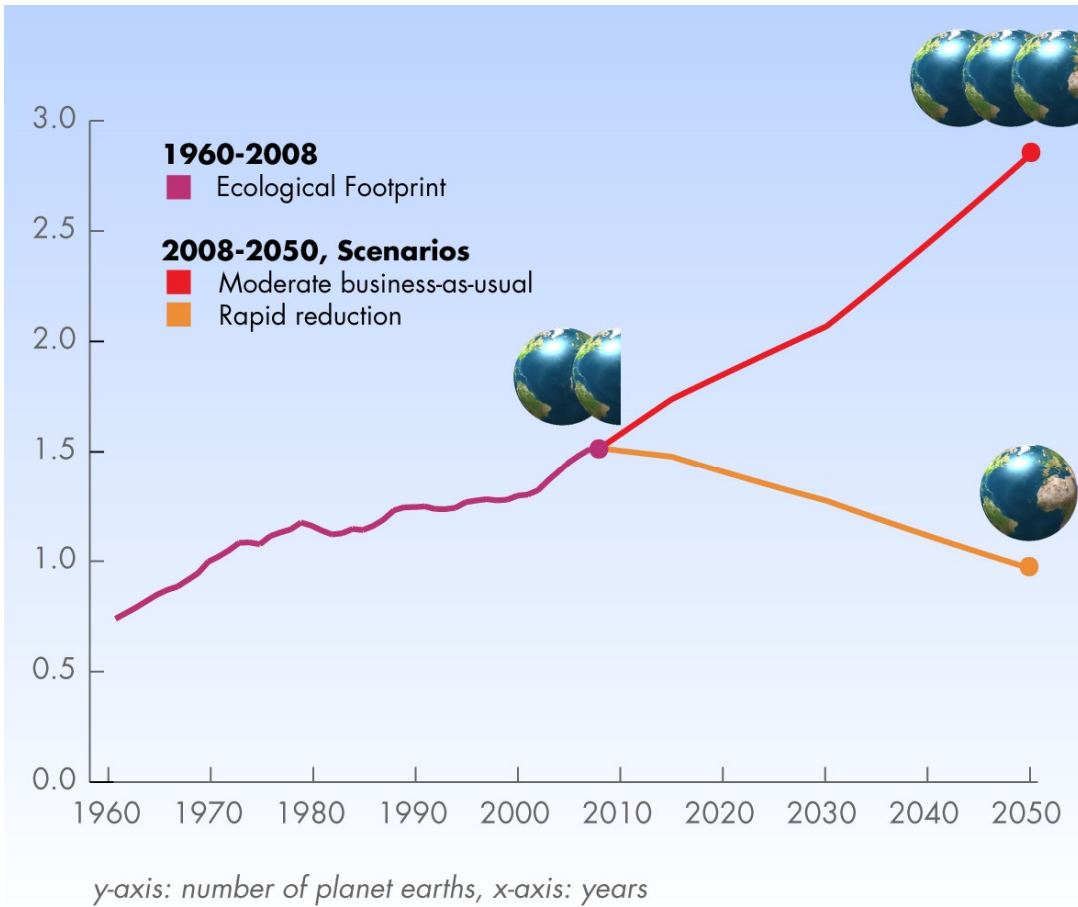
Humanity's Consumption of Resources



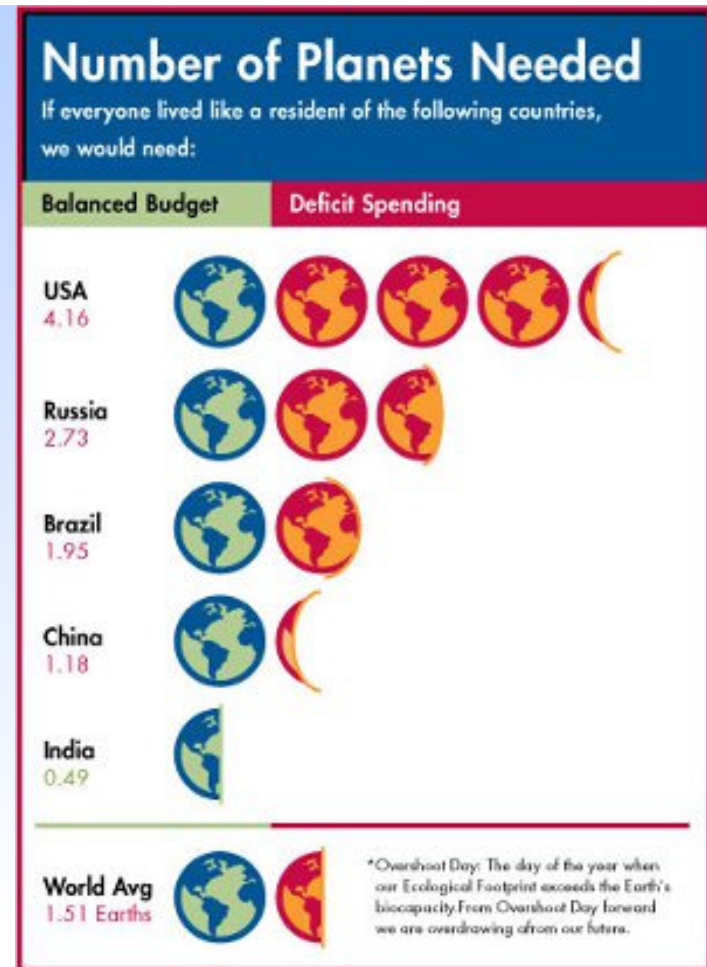
The situation, as of now, is already dramatic: nearly 40 years from now, some 30% more people will be living on this planet. These are good news for business growth because all these people will consume.

The bad news are, that because of limited resources and the climate change the ability of all 9 billion of us to attain or maintain the consumptive lifestyle, we do have today, is limited.

# The situation



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# What can be done?

- We have to think about a pathway to connect the present time with a sustainable future; with all the radical policy and lifestyle changes this would entail.
- All types of ingenuity will be needed over the next 40 years.
- Distinct issues such as water, food and energy cannot be seen independently – the relationships of these issues must be considered in an integrated and holistic way, with all their trade-offs that must be understood and addressed.
- There will be a new agenda for business leaders. Political and business institutions have to shift from thinking of climate change and resource constraints as an environmental problem to an economic one.
- Countries and business have to work together as well as competing technologically against each other to push development forward.

**In one word: we will have to think about sustainability !**

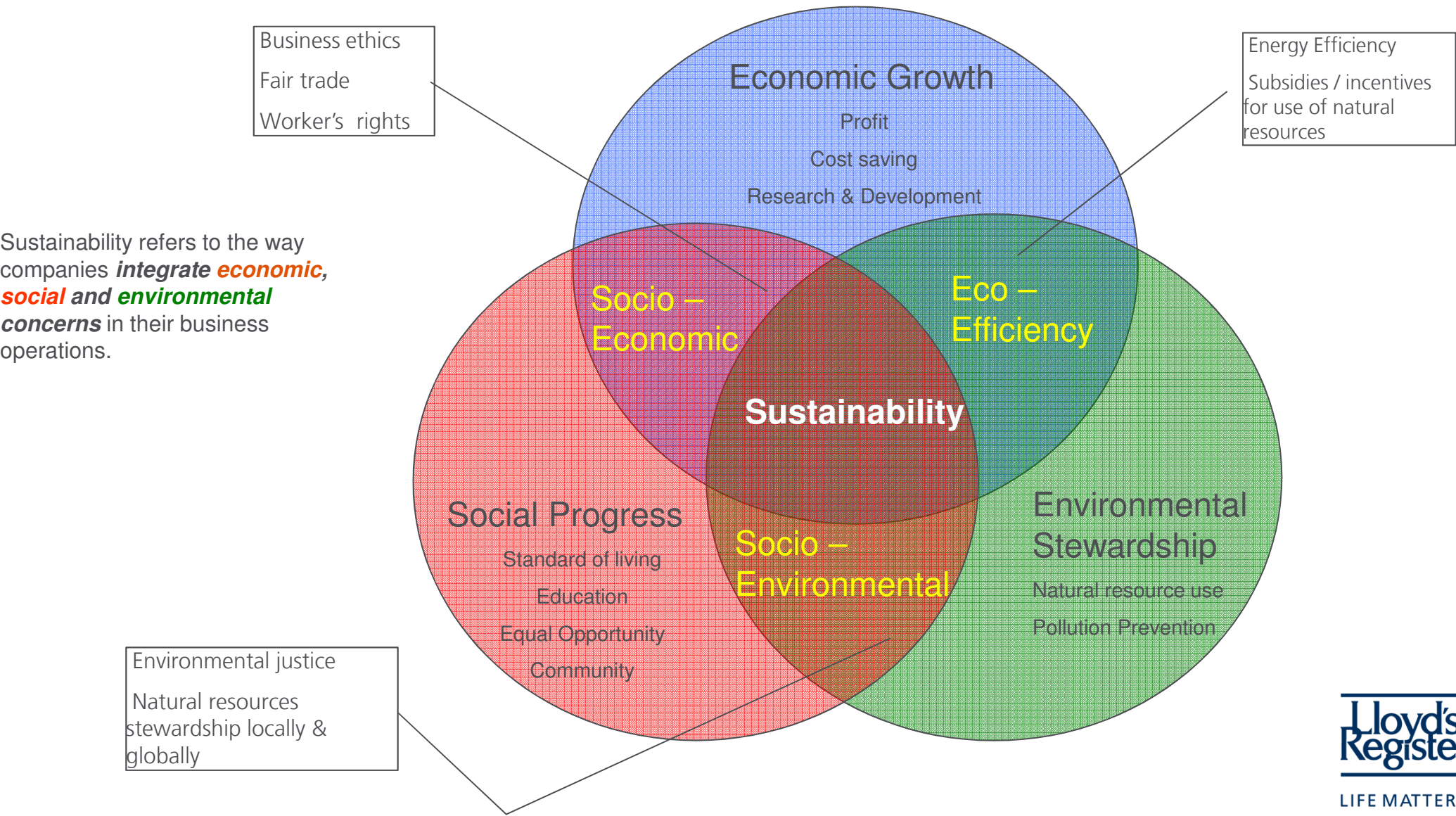
# Sustainability may also be known as...



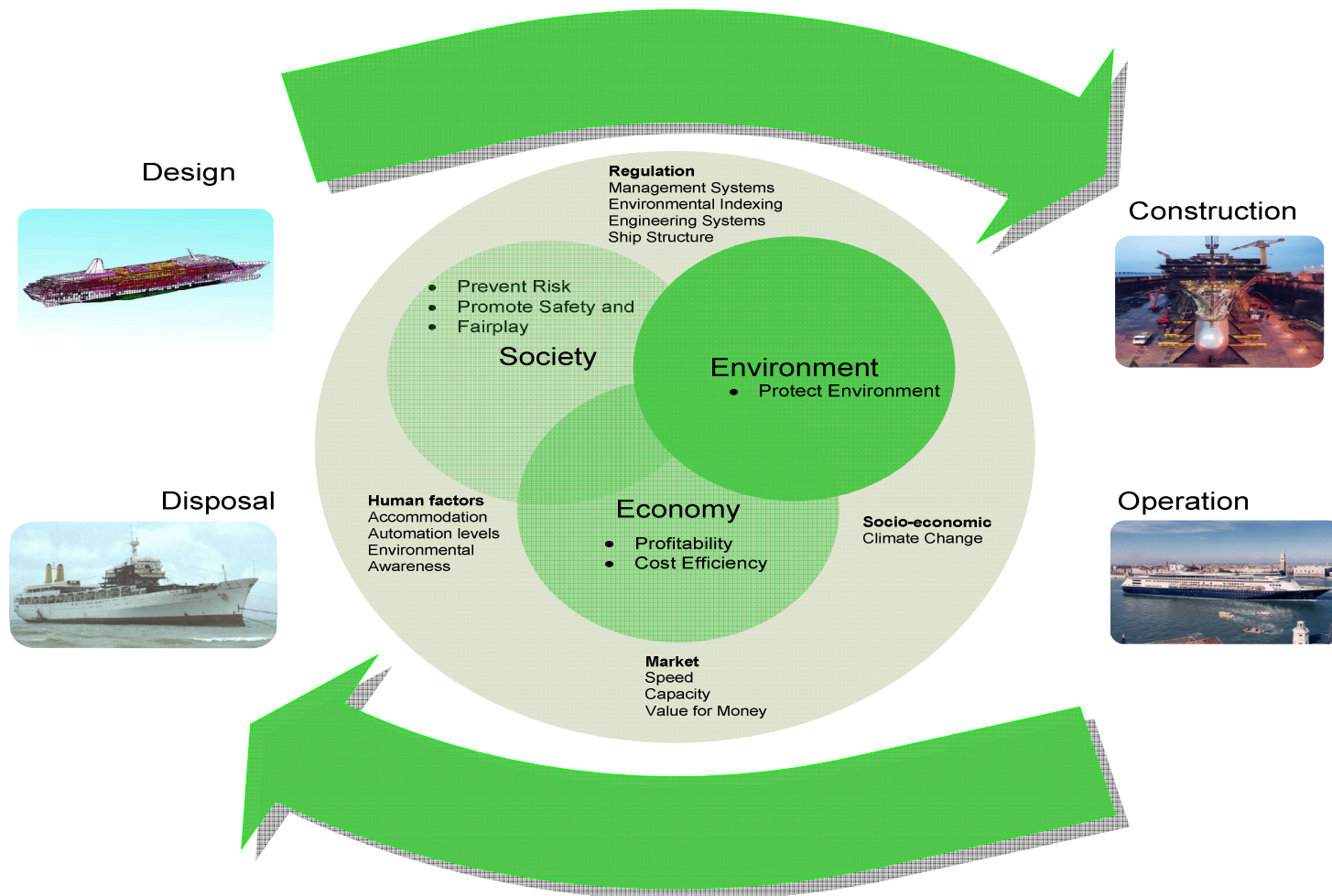
- **CSR (Corporate Social Responsibility)**
- Sustainable management
- Sustainable development
- Environmental responsibility
- Social responsibility
- Triple bottom line
- Corporate citizenship



..... and means in short this:



# Sustainability of Shipping



# Sustainability issues

- Examples of issues typically facing the Shipping Companies

Environmental	Social	Economic
<ul style="list-style-type: none"> <li>• <b>Regulatory compliance</b></li> <li>• <b>Emissions reduction</b></li> <li>• <b>Waste minimisation</b></li> <li>• <b>Climate change</b> <ul style="list-style-type: none"> <li>- carbon reduction</li> <li>- energy efficiency and products</li> <li>- ISO 14064, GHG</li> </ul> </li> <li>• <b>Green procurement</b> (i.e. Green Passport)</li> <li>• <b>Spill prevention/pollution</b></li> <li>• <b>Biodiversity (BWM)</b></li> <li>• <b>Working in environmentally sensitive areas</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Employees</b> <ul style="list-style-type: none"> <li>- diversity</li> <li>- job creation</li> <li>- human factors</li> <li>- training &amp; development</li> <li>- cultural audits</li> <li>- safety (fatalities)</li> </ul> </li> <li>• <b>Business ethics</b> <ul style="list-style-type: none"> <li>- standards / codes of practice</li> <li>- bribery and corruption</li> <li>- political activity</li> </ul> </li> <li>• <b>Human rights especially in supply chain and exploration</b> (ILO)</li> <li>• <b>Growing and aging population</b></li> <li>• <b>Poverty</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Revenue management</b> <ul style="list-style-type: none"> <li>- world debt</li> <li>- credit crisis</li> </ul> </li> <li>• <b>Earnings</b></li> <li>• <b>Costs - resource efficiency</b></li> <li>• <b>Business continuity</b> <ul style="list-style-type: none"> <li>- access to new oil reserves / energy</li> <li>- new fuel technology</li> <li>- Information Security Management</li> </ul> </li> <li>• <b>Stricter competition</b> with international companies / taxes, etc.</li> </ul>

## Sustainability





# Positive signals through sustainability?

Status Quo



**Business as usual**

**Clear economic growth**

**No single trade power dominates**

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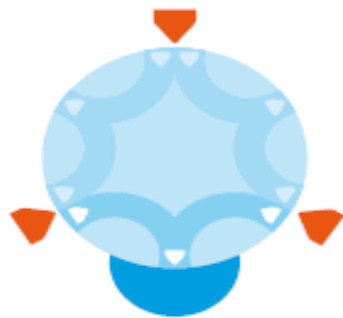


**Increased co-operation**

**A bit more growth**

**Accelerated globalisation**

Competing Nations



**Weaker global institutions**

**A bit less growth**

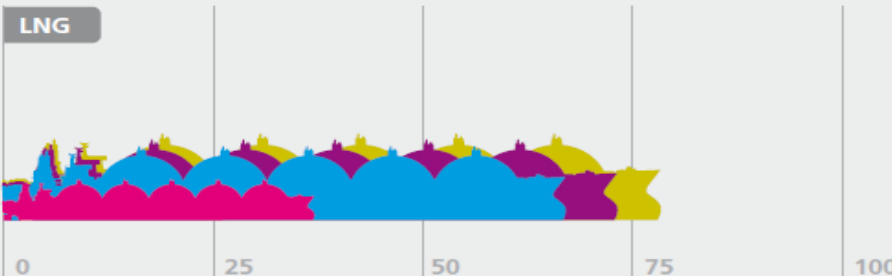
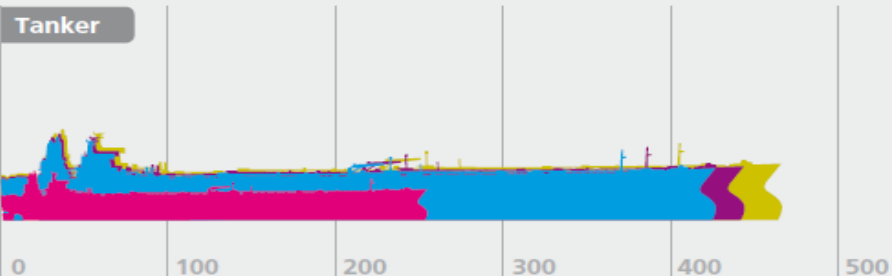
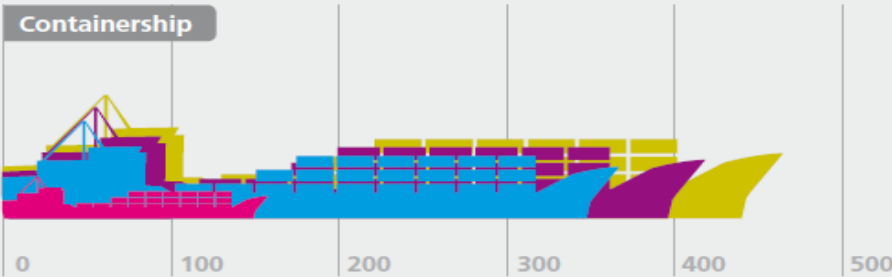
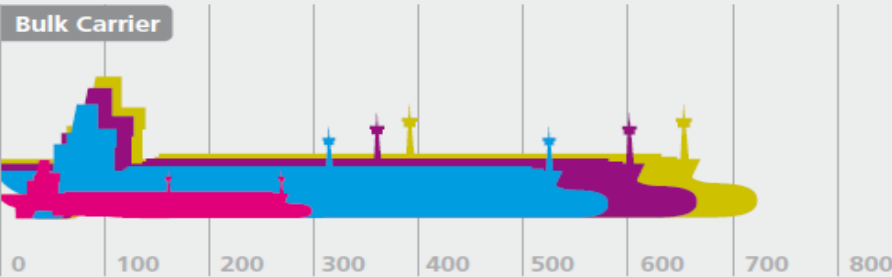
**Rise in protectionism**

# Fleet

Fig. 63 Bulk Carrier/Tanker/Containership/LNG carrier fleet (million GT)

Source: MSI / LR

2010 2030 - Competing Nations Status Quo Global Commons



# Offshore wind turbines 2010

## Offshore wind turbines

**100** times more offshore wind turbines

Fig.103 Number of offshore wind turbines  
Source: University of Strathclyde

2010

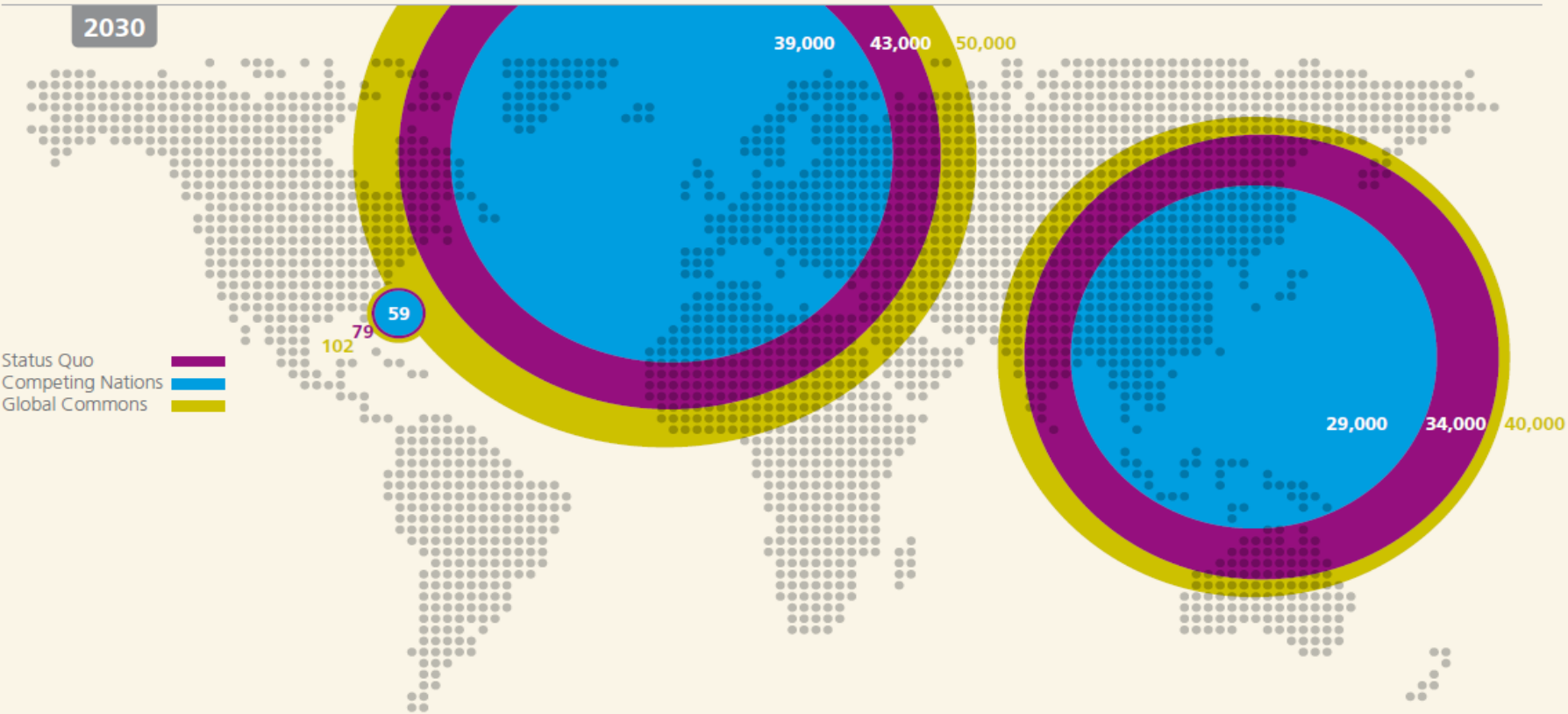




# Offshore wind turbines in 2030

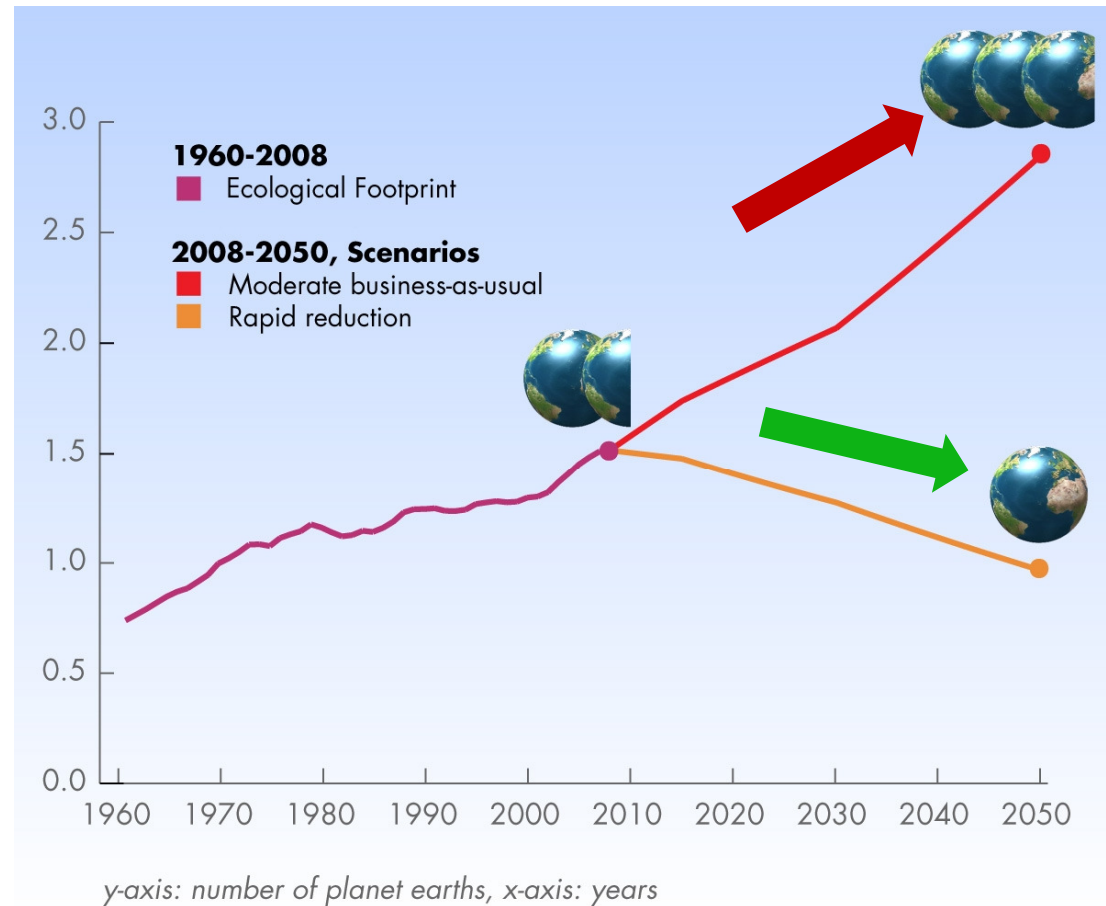
More than 65,000 wind turbines are required to provide more than 226,000Mw of wind capacity in 2030

Fig.104 Number of offshore wind turbines  
Source: University of Strathclyde



# Sustainability: Necessity and not a luxury!

- The facts are clear.
- When we do not start changing our behaviour now, we will leave the world in a dangerous situation.
- There will be lack of water, food, resources and energy.
- Countries could turn back to nationalism instead of joining forces to push developments forward.
- People could start to fight for the right to live a decent life.



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For more information, please contact:

**Uwe Bollwinkel**

Marine Business Manager

Lloyd's Register EMEA  
Am Strom 2  
D – 27568 Bremerhaven

**T** +49 (0)471 926896-0

**E** [uwe.bollwinkel@lr.org](mailto:uwe.bollwinkel@lr.org)

**W** [www.lr.org/marine](http://www.lr.org/marine)

**Thank you for  
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