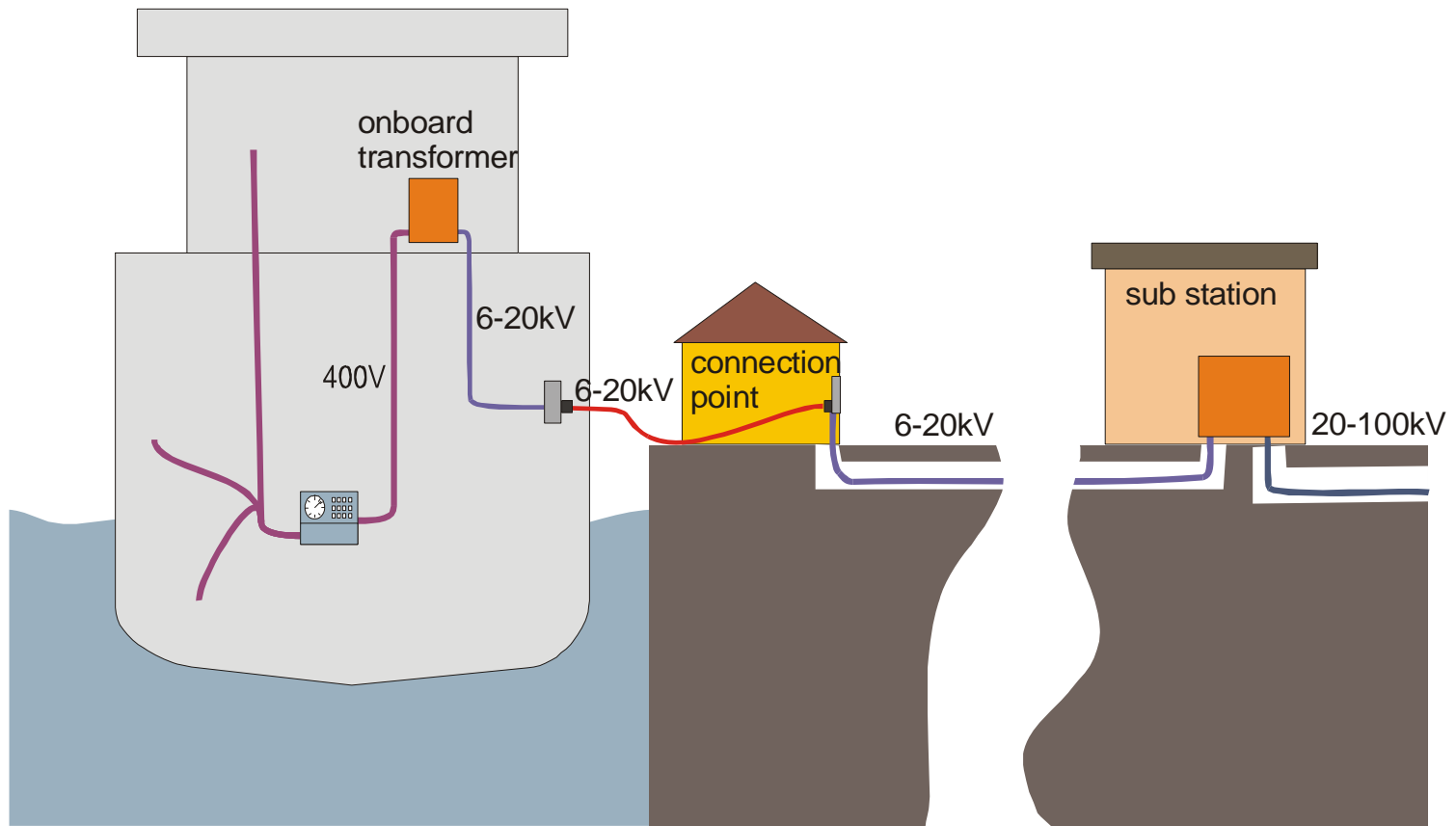


Tool Kit

Onshore Power Supply (OPS)



Connection principles for OPS in Göteborg



Tool Kit - Process

- Preparatory meeting in Nov 2007 in Rotterdam.
 - 13 "World Ports" + Port of Göteborg.
- At C40 World Ports Climate Conference in Rotterdam
 - Guidance document was presented.
 - Port of Göteborg agreed to take the work further.
- Tool Kit supported by CCI
 - Workshop in Hamburg Oct. 2008
 - Workshop in Göteborg Nov. 2008 + Seminar >60 participants
 - *Shipowners*
 - *Suppliers*
 - *Ports*
 - *Experts*
 - Workshop in Lubeck Jan. 2009?
 - *Demo*
 - *Costs*



Tool Kit - Goal

- 1. To help Ports and other stakeholders in decision making about OPS.**
 - Is OPS the right solution?
- 2. Once the decision has been made, to help them setting up the project.**
 - How are we going to do it?
- 3. To give guidance how to maximize the reduction of GHG by implementing OPS projects.**

Tool Kit - Scope

The toolkit should in stage 1 target three ship categories:

- Ferry and RoRo
- Cruise
- Container



Stakeholders

EC, IMO, WMF, IAPH, IACS, ISO, IEC, ESPO, ICS, etc.

Governments, City Authorities

Power Supplier



Port Authorities



Suppliers:

*Cavotec
ABB
Siemens
SAM
Electronics
Others...*



Ship Owners



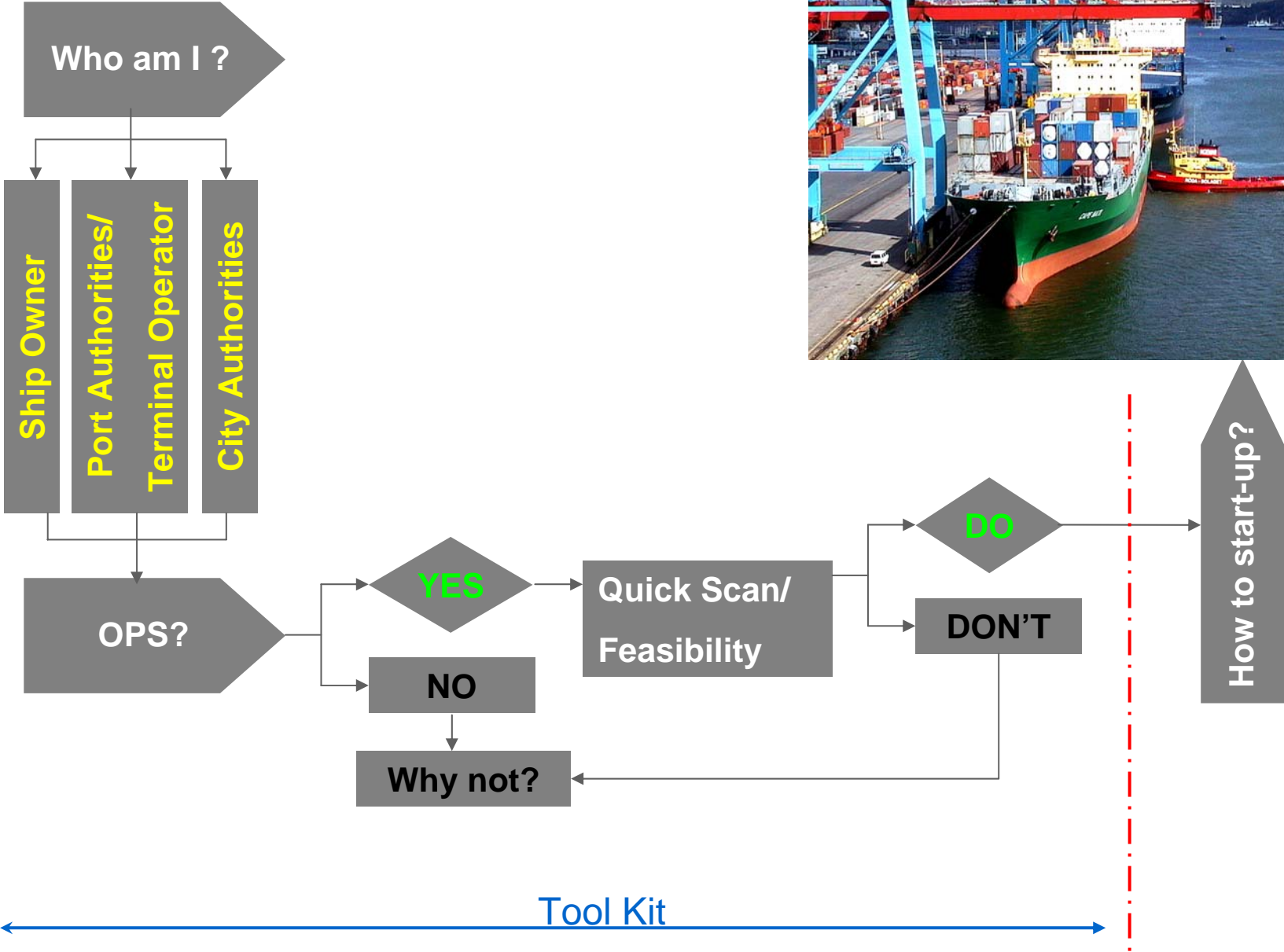
Oil Companies

TOP 5 Auxiliary Engine
Manufacturers:
1 MAN B&W
2 Daihatsu
3 Wartsila/Sulzer
4 Yanmar
5 MAK



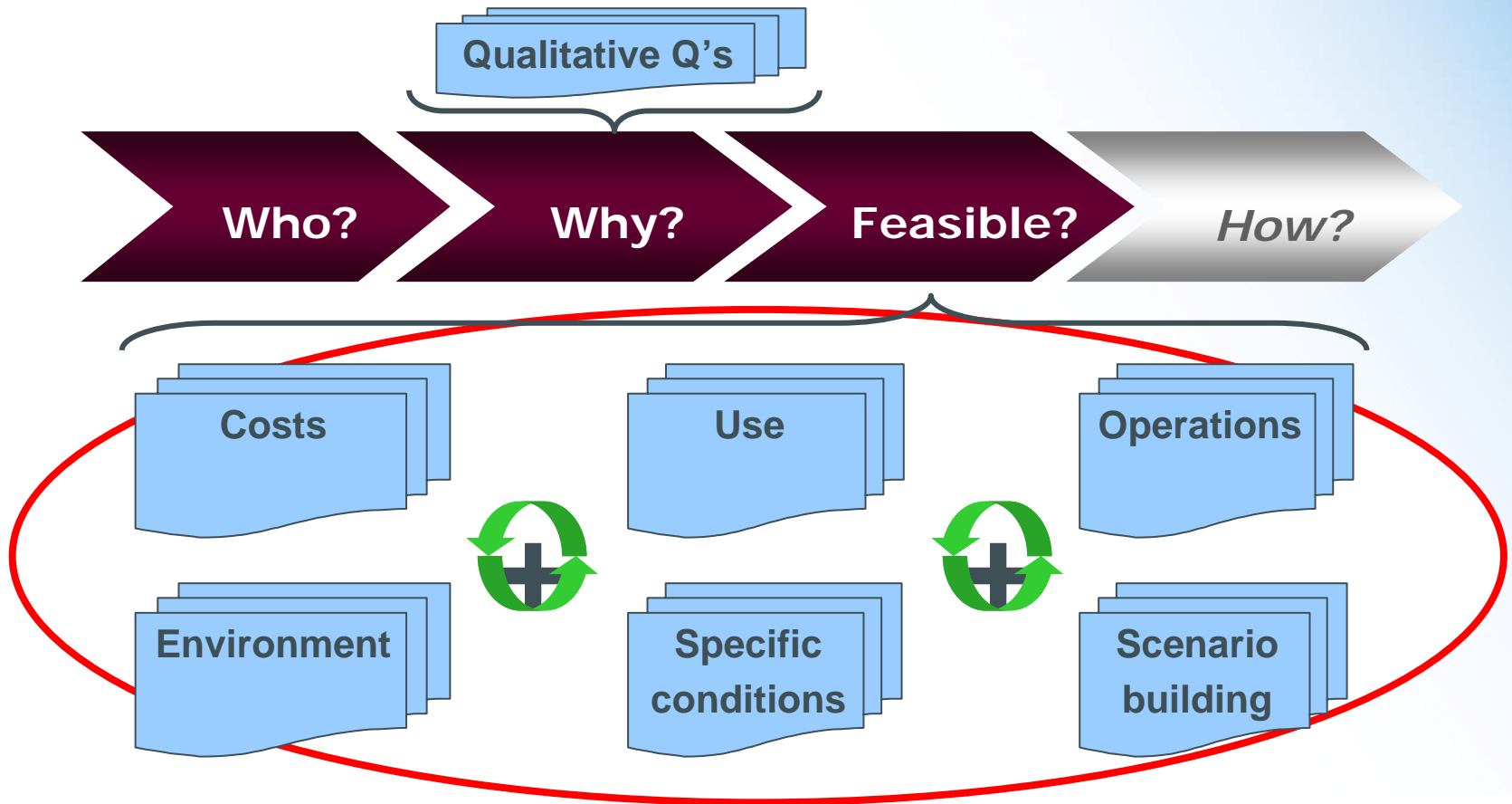
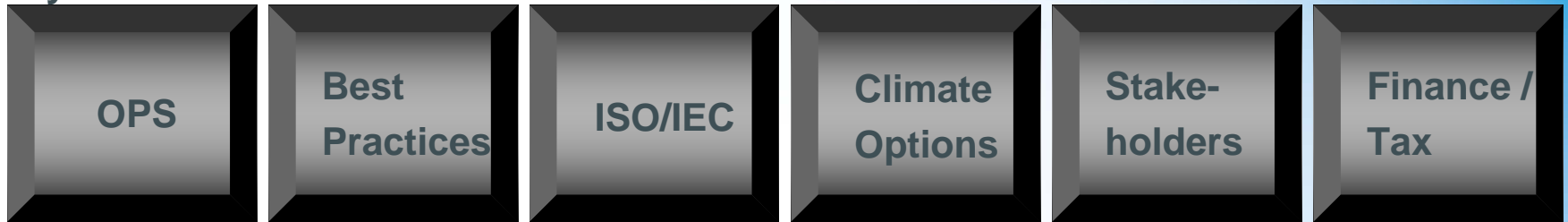
Engine Manufacturers

OPS Tool Kit



OPS Tool Kit

library



Cost - Shore side electricity

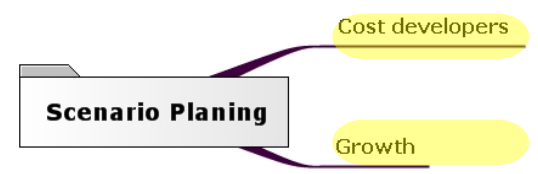
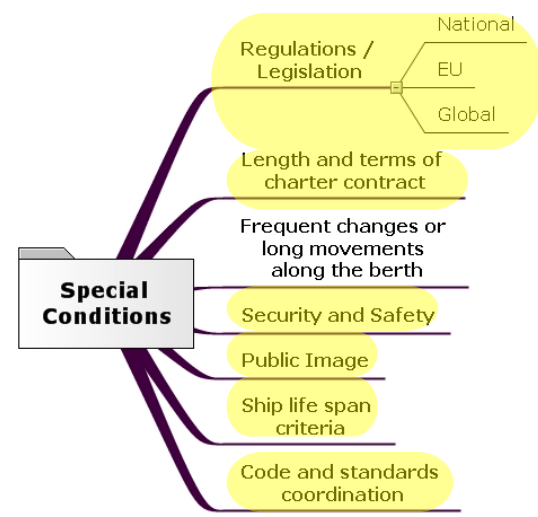
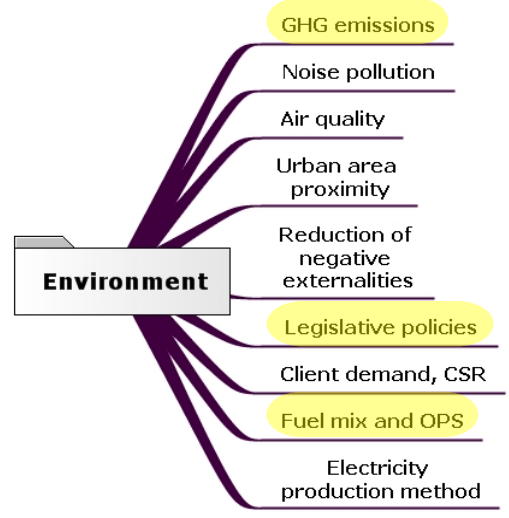
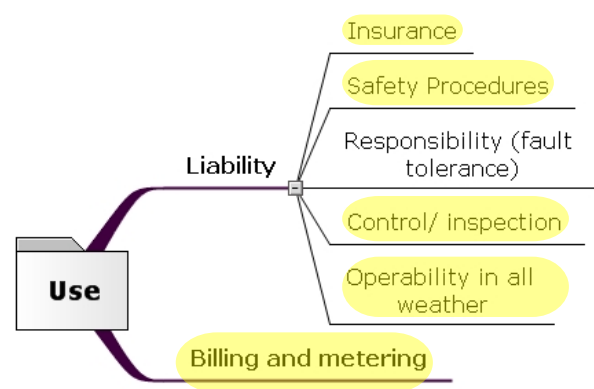
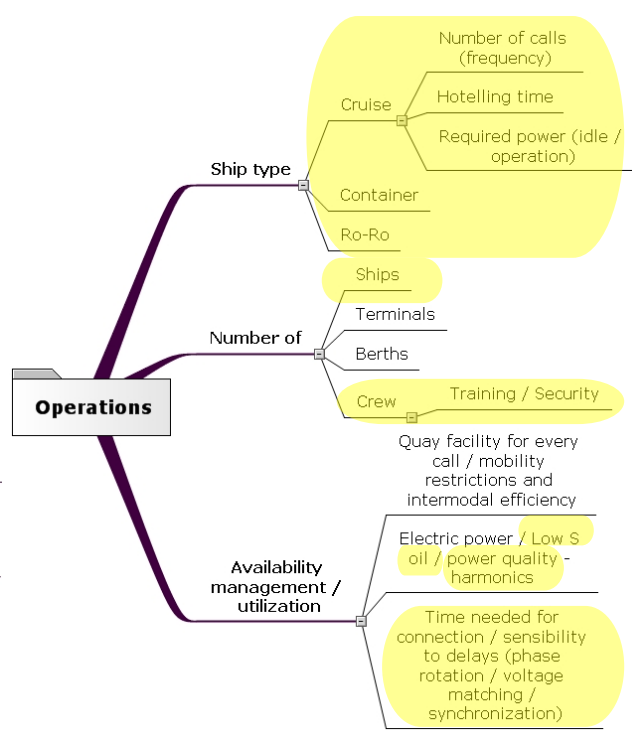
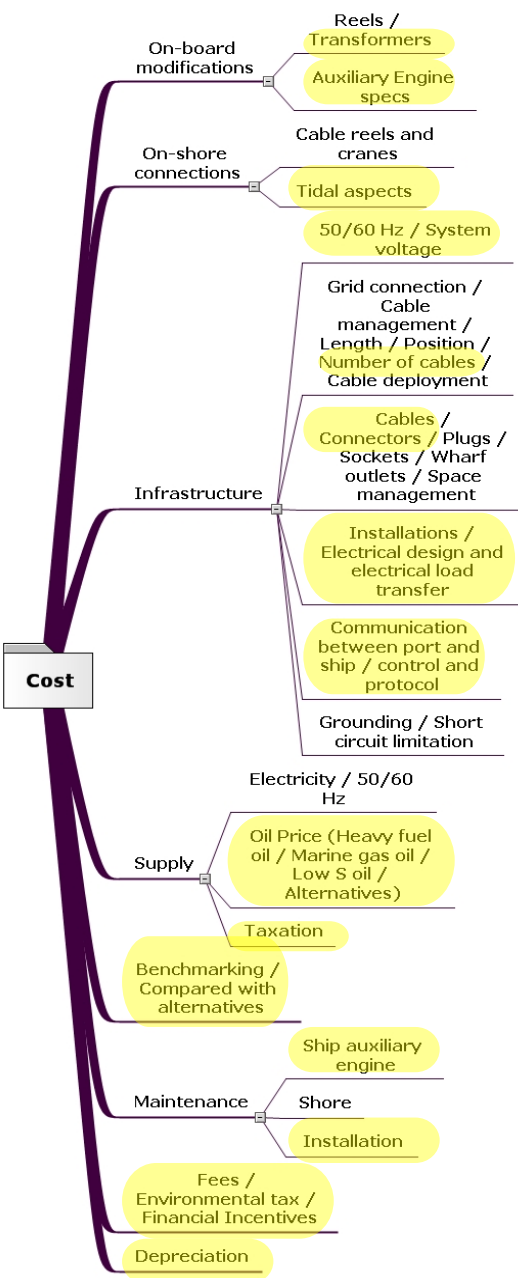


OPS Tool Kit

Who am I?

Ship Owner

ALTRAN

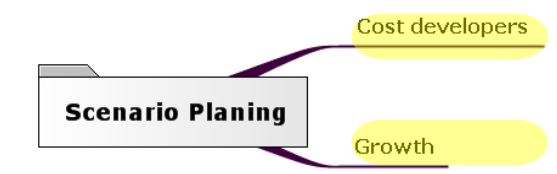
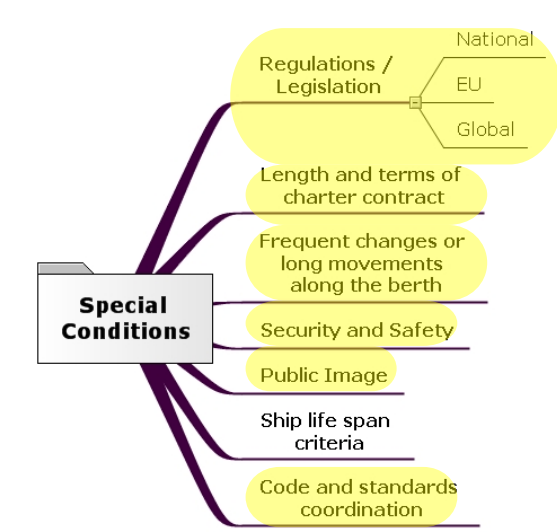
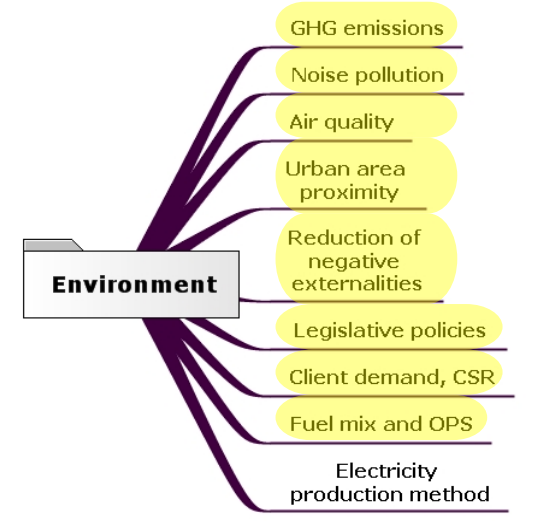
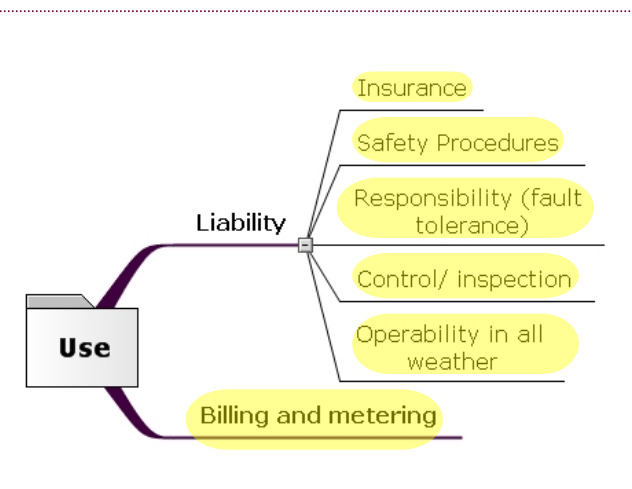
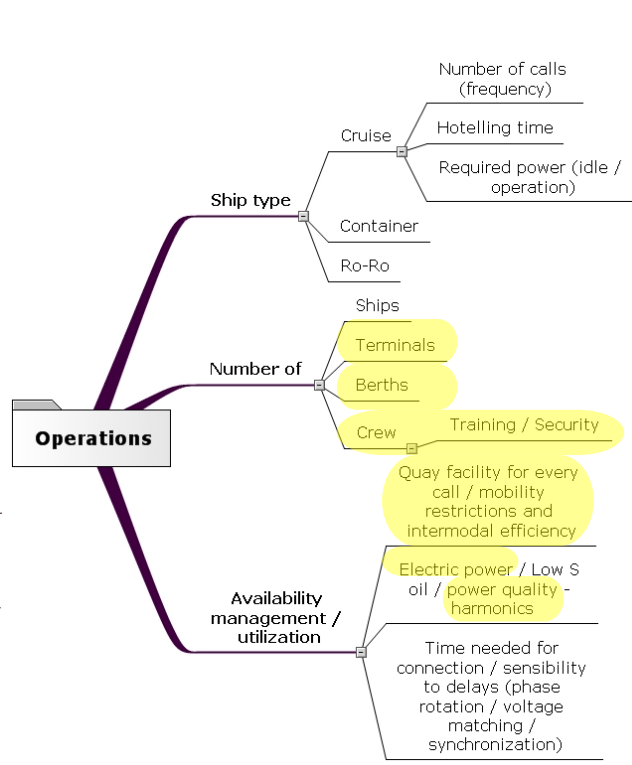
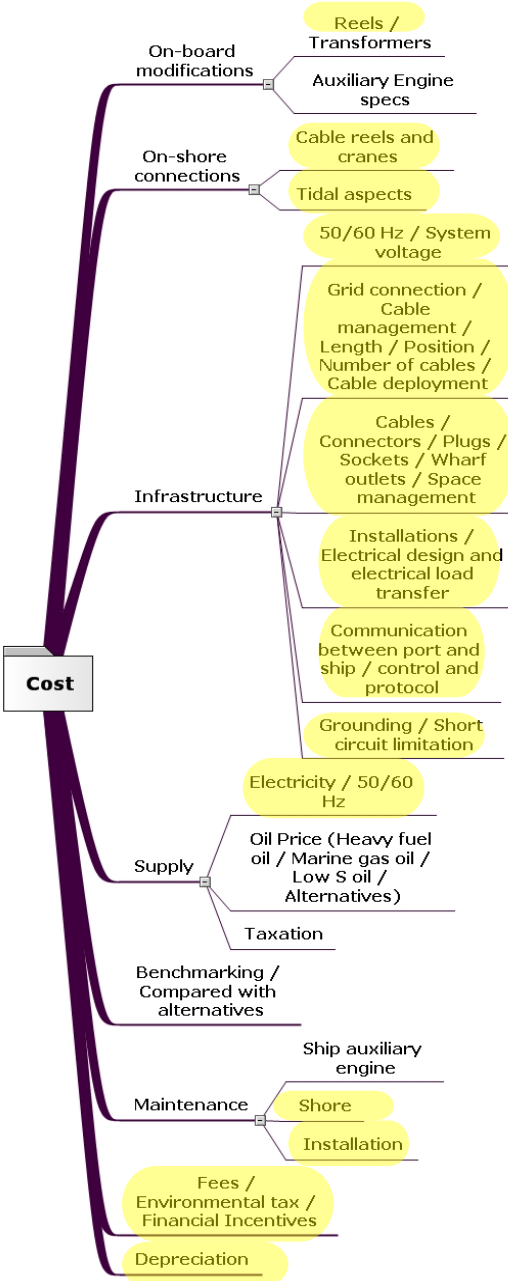


OPS Tool Kit

Who am I?

Port Authority

ALTRAN



Thank you



www.portgot.se Environment - World Ports Climate Initiative