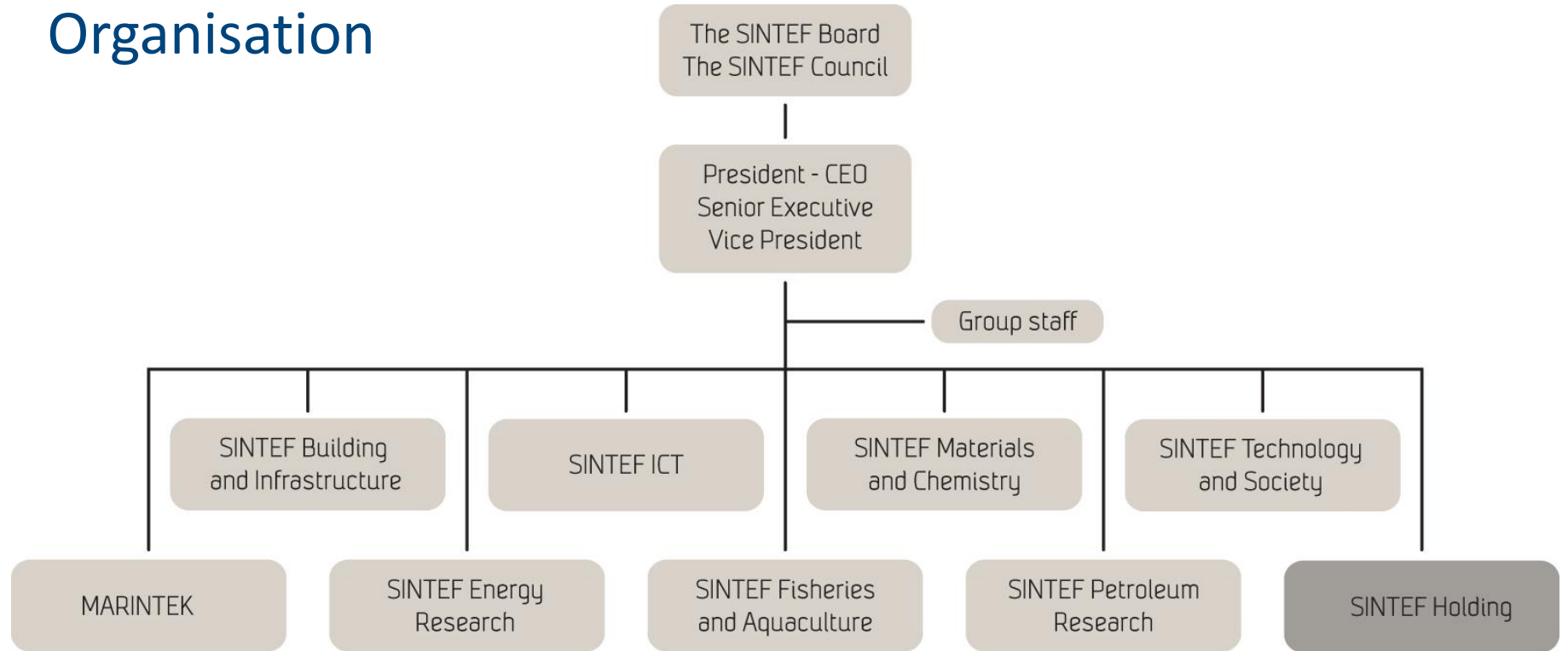


WHAT IS SINTEF ?

Roar Solbakken

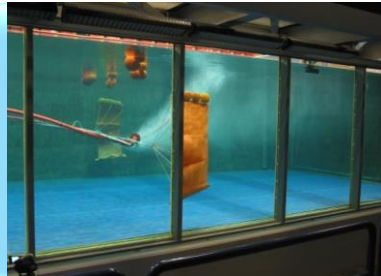
Organisation



"The European Fisheries and Aquaculture Engineering Laboratories" at SINTEF

Fishing gear engineering

Flume tank
Hirtshals , Denmark



Marine Juvenile Process Engineering

Trondheim



Aquaculture engineering

Large scale test site
Offshore constructions
Coastal location



Simulation, Surveillance and Operations Laboratories (SSO)

Trondheim



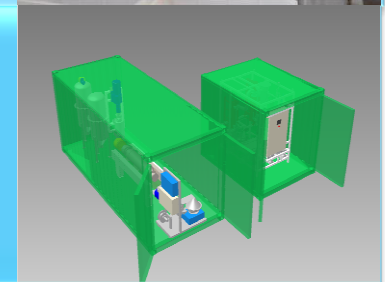
Fish Process Engineering

Process Hotel
Trondheim



Mobile Pilot Plant for Marine Ingredient

Trondheim



Norwegian Center for Seaweed Technology

Trondheim



Namibian Seabed Environmental Assessment Project

Roar Solbakken, Project Manager

Swakopmund June 2014



Google maps

The Pilot Project:

- Develop The Main Project
- Give The Main Project a scientific content, identify and fill in knowledge gaps
- Estimate the costs of The Main Project
- Focus on co-financing of The Main Project



WPs of The Main Project:

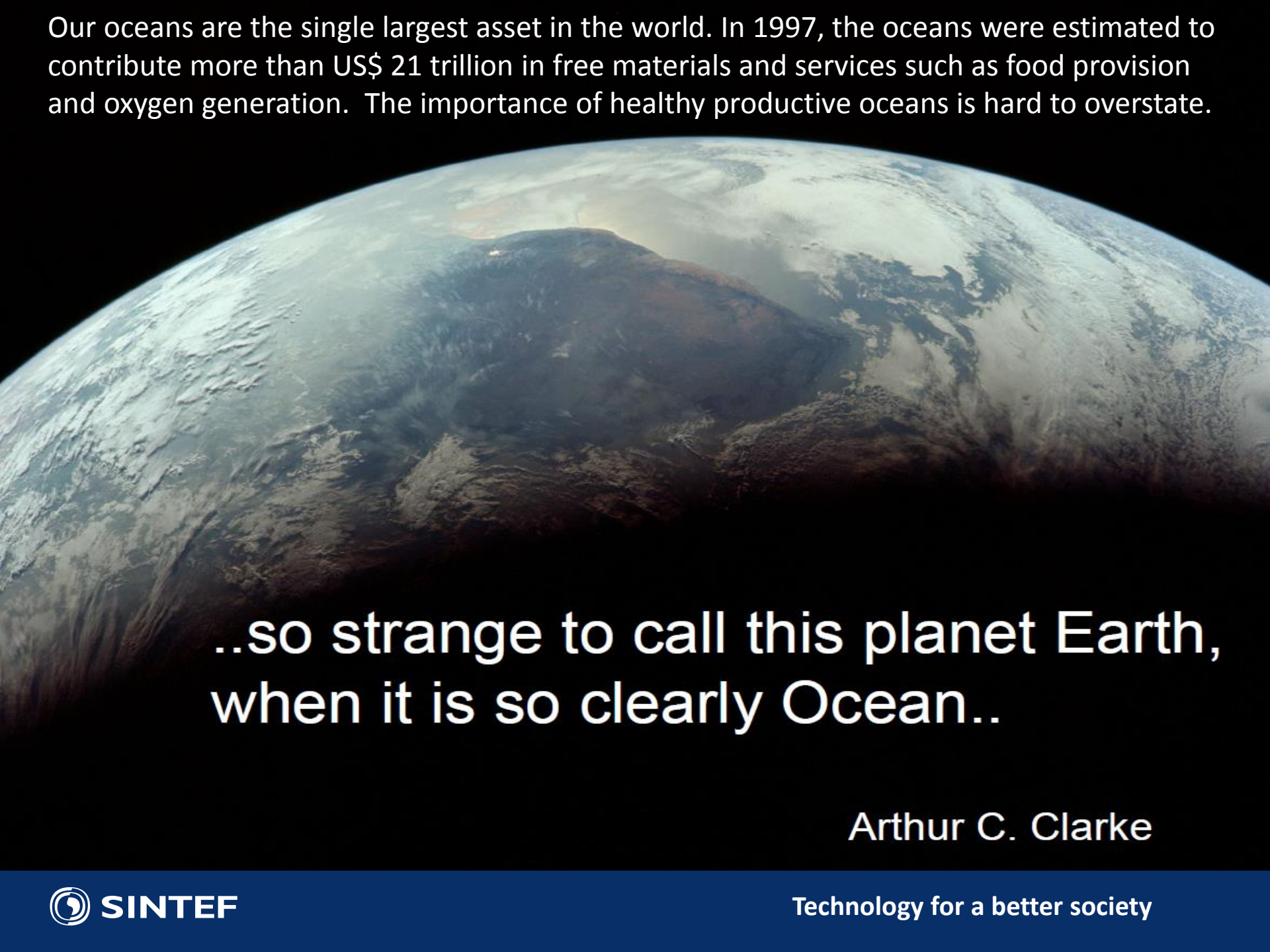
- WP 1: Identify present knowledge on the marine ecosystem off the coast of Namibia
- WP 2: Initial survey of Namibian industries – baseline information
- WP 3: Pre-environmental studies
- WP 4: Food Safety
- WP 5: Experimental and toxicological studies
- WP 6: Ocean Modelling
- WP 7: Assessment of results from WP 1 – 6
- WP 8: Suggestions for regulations and management of the Namibian coastal systems
- WP 9: Capacity building and knowledge transfer
- WP 10: Monitoring development

The Main Project will include field work and analysis, and cover all seasons.

FAO:

- By 2050:
 - Double the food production
 - Half the climate footprint

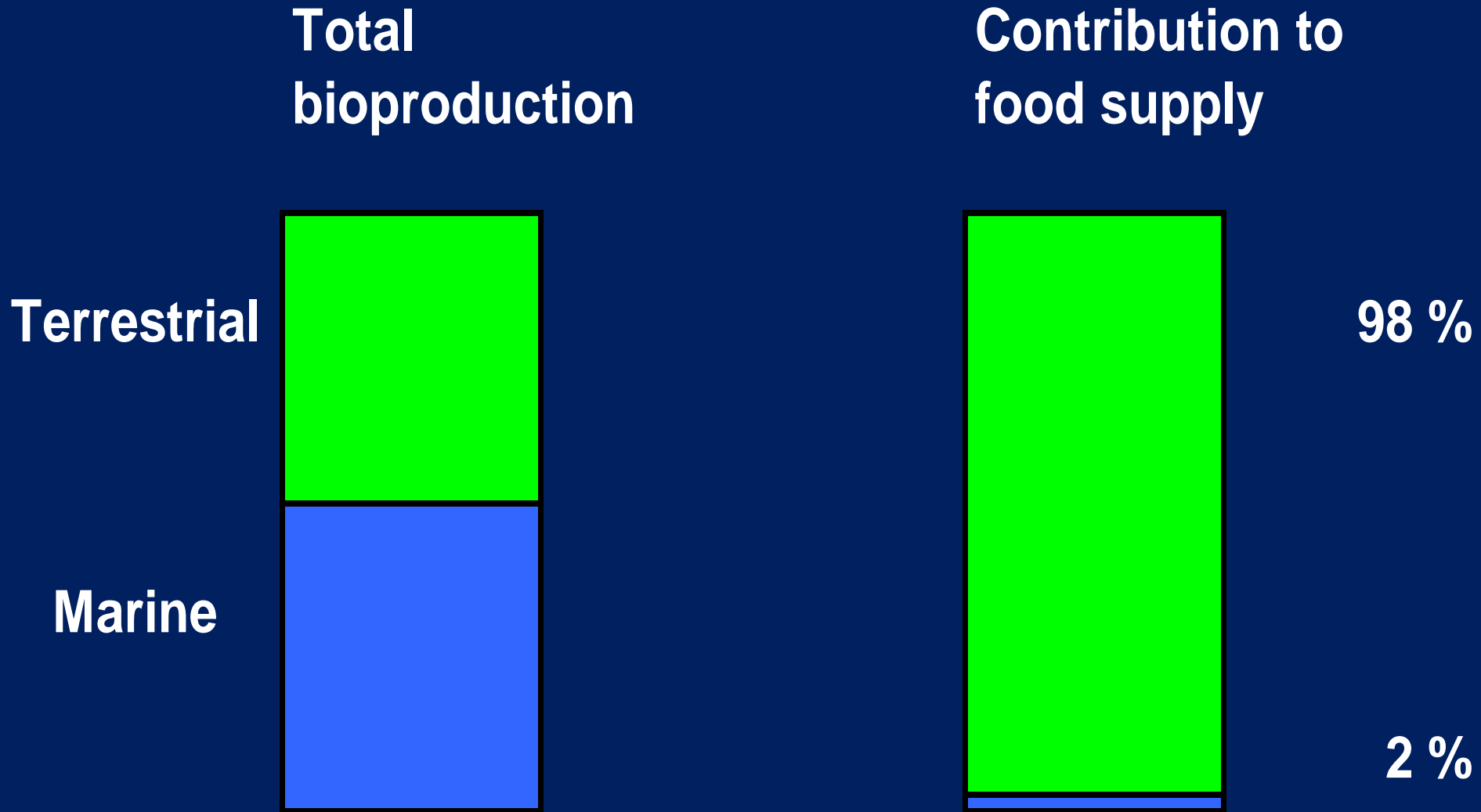
Our oceans are the single largest asset in the world. In 1997, the oceans were estimated to contribute more than US\$ 21 trillion in free materials and services such as food provision and oxygen generation. The importance of healthy productive oceans is hard to overstate.



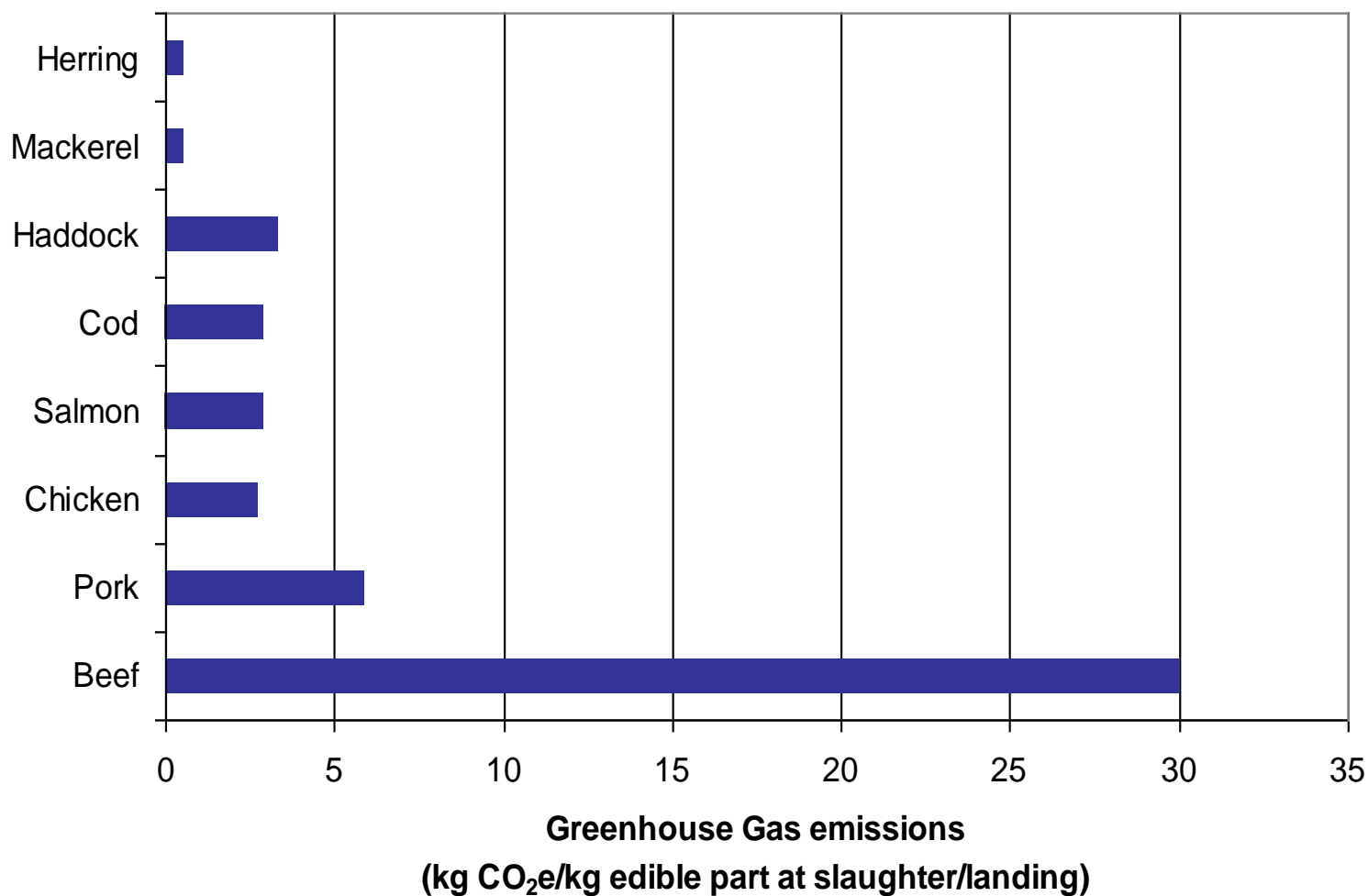
..so strange to call this planet Earth,
when it is so clearly Ocean..

Arthur C. Clarke

Biological production and food supply



Seafood in perspective



Food safety:

- Food Safety Surveillance:
- Monitor :
 - Trace metals (cadmium, nickel, mercury, arsenic, copper, chromium) on the industry site and on a reference site pre-industrial activity.
 - Time series, focus on species for human consumption, edible parts of fish and crustaceans. Samples to be taken at all seasons.
 - Monitoring should include deep-sea crab, shellfish and oysters, lobster, pilchard, orange roughy, hake, monk fish and South African horse mackerel.
- If trace metals are accumulated in species important for the fishing industry:
 - Toxicokinetic studies (uptake, distribution and elimination)
 - To study if problems are of long time concerns.

- Monitor:
 - Radioactive compounds and mining production chemicals (flocculants, flotation chemicals and others)
 - Time series, focus on species for human consumption, edible parts of fish and crustaceans. Samples to be taken at all seasons
 - Monitoring should include deep-sea crab, shellfish and oysters, lobster, pilchard, hake, monk fish and South African horse mackerel.
- If the monitored compounds are accumulated in species important for the fishing industry:
 - Toxicokinetic studies (uptake, distribution and elimination)
 - To study if problems are of long time concerns.

Bathymetry

- Multi-beam data
- Backscatter data
 - Depth
 - Seabottom soft/hard/texture
 - Rock, sediments, corals, glacial deposits
 - Slopes, ground variations, trawling footprints
 - Predict geohazards (marine rock falls and slides)
- Combine with biological data

Co-financing:

We are in dialogue with:

- World Bank
- FAO
- UNIDO
- UNEP
- Norwegian Ministry of Foreign Affairs
- Norwegian Embassy in Pretoria

Thank you for your attention !

roar.solbakken@sintef.no