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May 2-6, 2016 in Christchurch, New Zealand*

Blue Economy – Status and Future Growth

Gordon Johnston

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Recovery

from disaster

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Introduction

Definitions and Context

Hydrography & Business Sectors

The economic and business sectors, both regional and local that may invest in our coastal seas and oceans

Blue Growth opportunities – socio-economic benefits

Conclusions



Definitions and Context

Blue Economy – “the sum of economic activity having to do with coastal and intra-coastal waters, harbours, oceans, rivers, seas and fresh water resources”

Blue Growth – to describe “..a long term strategy to support growth in the maritime sector as a whole”

The Blue Economy – involves the Geodesy to delimit marine and coastal areas and their jurisdictions, measurement and monitoring of the coastal and ocean areas for habitat, access and security of food sources and good environmental status. The Blue Economy is concerned with the revenues, taxes and socio-economic benefits that the coastal seas and marine areas can generate for the local communities and states.

The Blue Economy – is a starting point for the engagement and cooperation and collaboration between stakeholders in order that our precious resources can sustain themselves and the population in the urbanized coastal habitat.

Commission 4 – Hydrography Work Group activity, WG 4.3



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Our environment is often under threat



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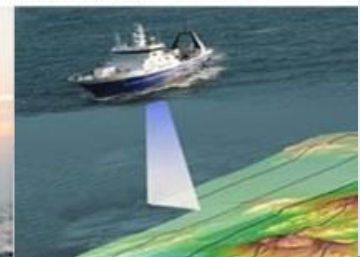
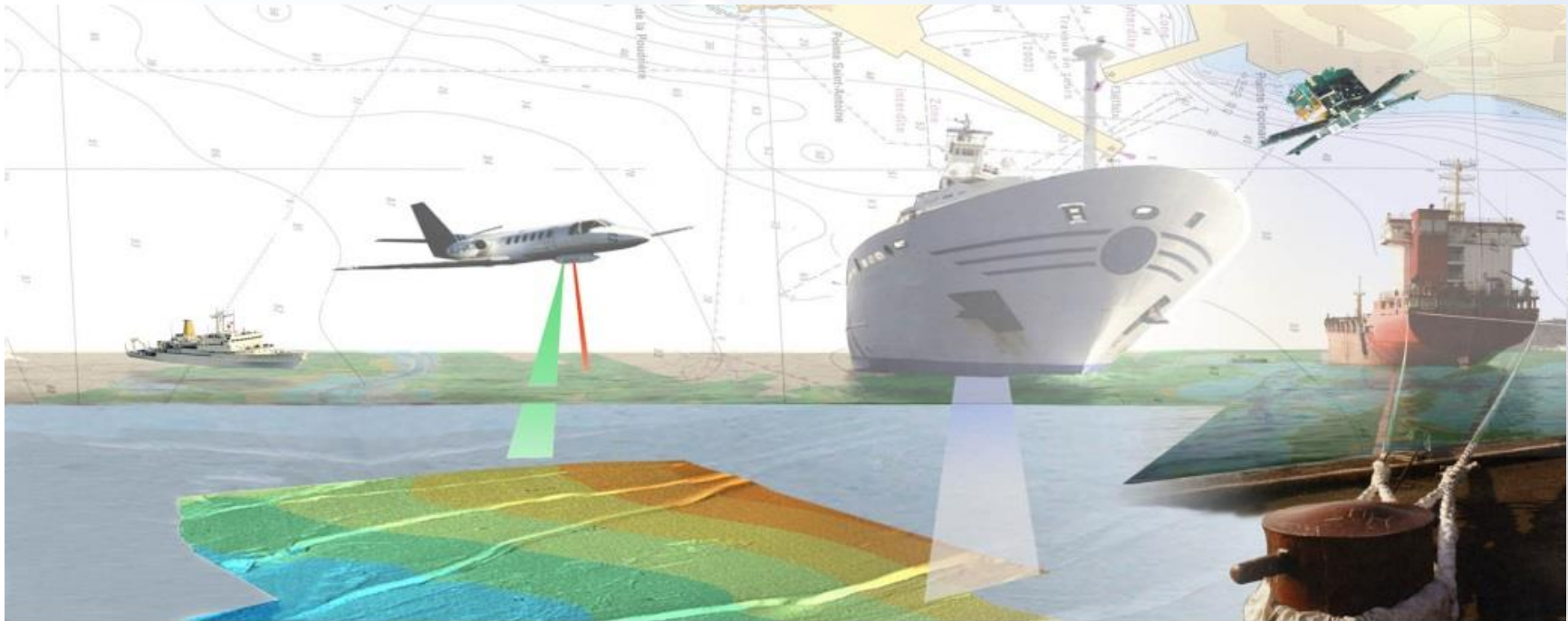
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Hydrographic Surveyors contribute through diverse activities



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How to influence and add value

- Over 70 percent of the planet's surface is covered by water
- 50% the world's population lives within 60 km of the sea
- Over 75% of all large cities are located on the coast.

We can state that the importance of our coastal seas & waters is growing

- How do we access sustained funding to achieve our own goals and objectives of good surveys of the majority of these areas?
- Are there different sources we have yet to engage and demonstrate our value to and contributions to?
- How much do we need?



Cost versus Benefit Studies

- Australia (1992)
Canada (1992)
APEC (2002)
- different analysis approaches:
 - what would happen if the charts weren't there?
 - what if no further hydrography took place?
- Cost versus Benefit ratios greater than 1:10 !
- Ireland (2008) Assessed the benefit ratio to be 1:6 and recent update (**2013**) suggests continued benefits of a similar value.
 - **Important** – **It made people feel good!** 😊
- Recent NOAA figures very much more positive but unlikely to be sustained at 1:30+ benefits.
- South West Pacific even greater for certain communities (1:60+)



And so.....Blue Growth

- Studies have shown that the ROI can be typically 1:6.
- Small regional investment initiatives offer only limited growth. However they can be dramatic
- However what are the potential opportunities for hydrographic surveys and surveyors to contribute to the expanding and enlarged economic scenario?
- This is not to leave behind the less well developed states and Small Island communities
- Rather this may offer them some opportunities to rapidly develop and improve their status



The size of the **Blue Economy**

Ocean development is very different than development on land

- Production methods/needs are different (pressure, remoteness, salt, etc.)
- *Ocean is 3 dimensional and always changing (a challenge for MSP)*
 - *Out-of-sight, out-of-mind for land dwellers...and ocean science folks live in their own world*
 - *Need to promote collaboration & minimize competition among areas*
- No way to gather national economic statistical data:
trying to change NAICS system for NAFTA
- *Must gather data on a regional / cluster level to understand / validate national data including direct revenue & jobs, multiplier effect and areas of opportunity*
- **Case Studies:** *the U.S. and NAFTA and Europe*



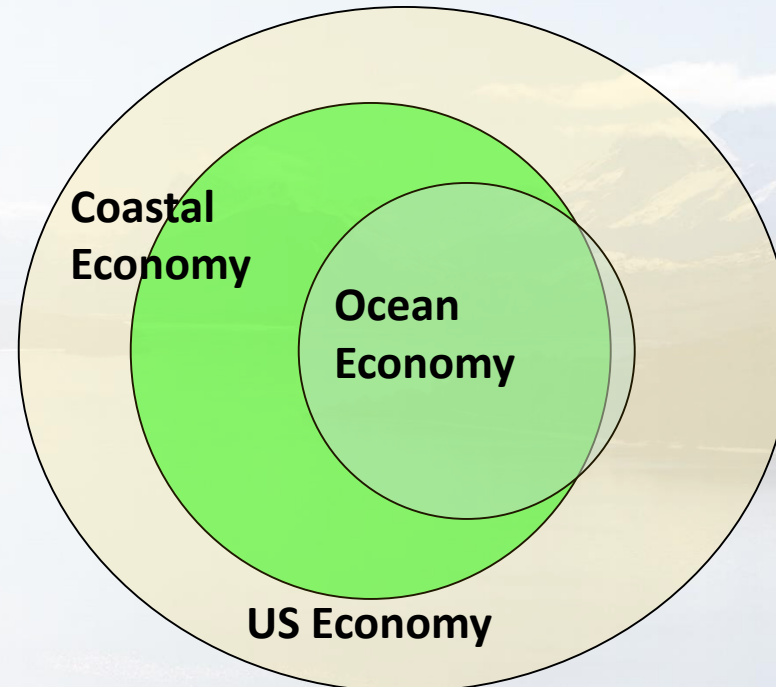
The Coastal and Ocean Economies Compared to the U.S. Economy (NOAA info)

National GDP > \$14 trillion

Coastal GDP ~ \$6.6 trillion

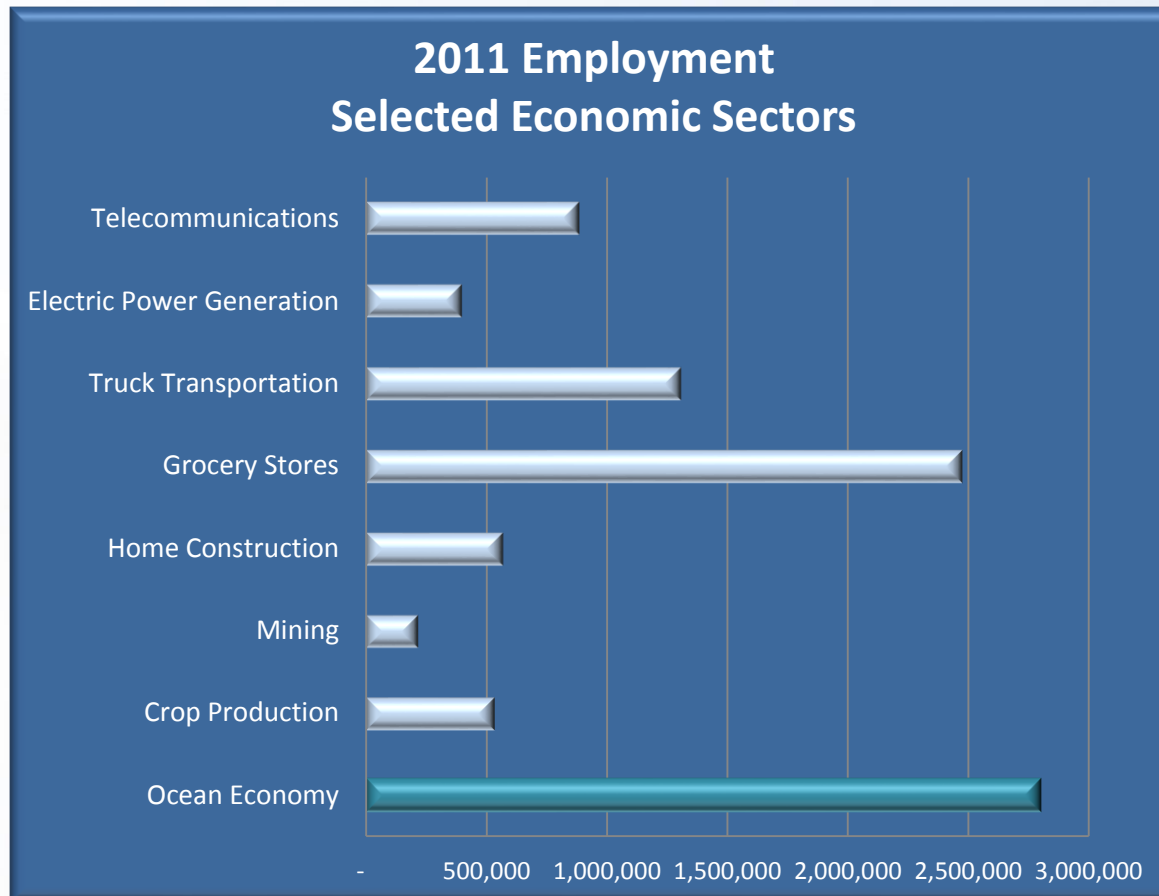
Ocean GDP ~ \$300 billion

Economic Activities using
Ocean Resources as an
input





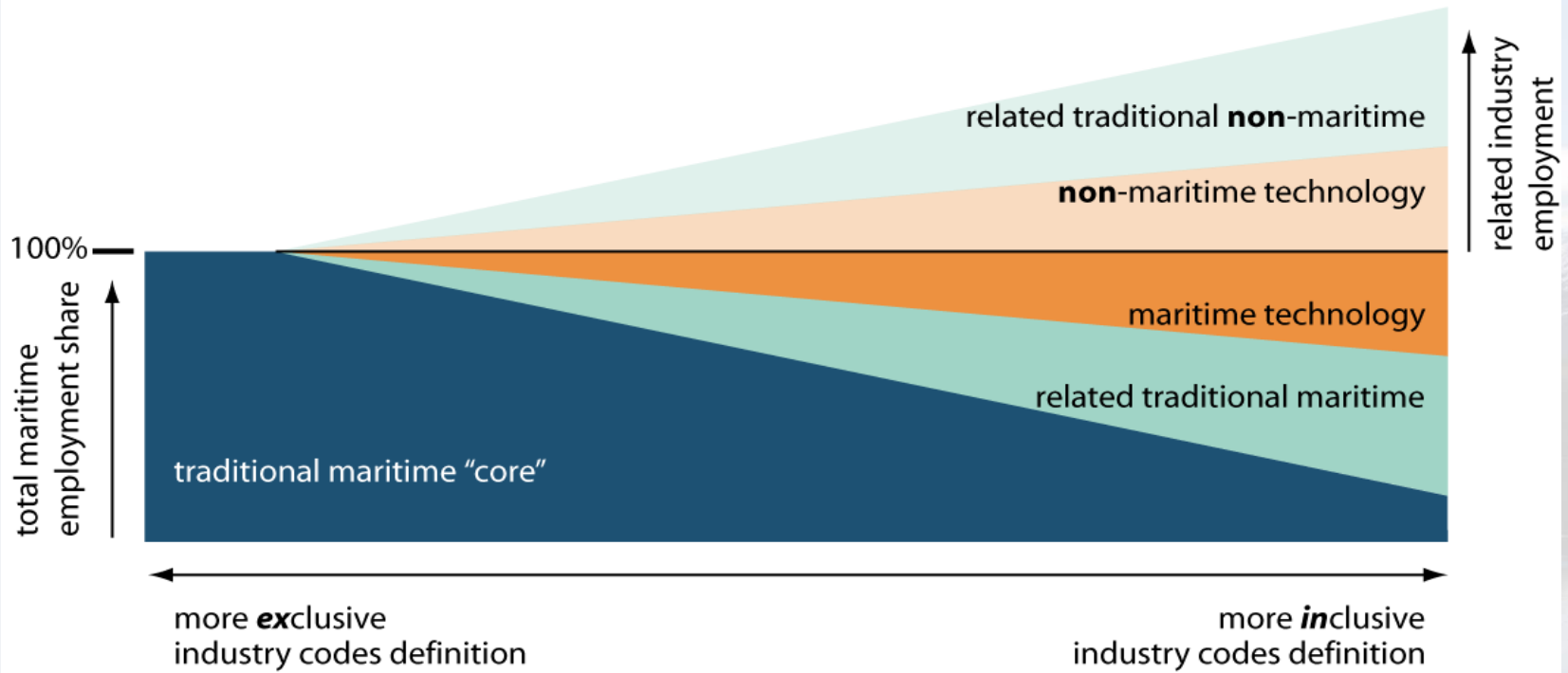
Relative Size of the U.S. Ocean Economy





The Blue Economy and identifying potential Blue Growth - USA

Graphic 1. Visualizing the San Diego Maritime Industry



note: Selected codes came from a variety of sources, described below. The assignment of industry codes as tech / non-tech, as well as to sub-clusters was conducted by ERISS, which bears sole responsibility for them.

source: ERISS; World Trade Center San Diego, *Maritime Economic Impact and Cluster Analysis*; The Maritime Alliance; Info-USA; Dun and Bradstreet; CorporateWiki.



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What else will be of value and make an impact??



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Europe

23 out of 28 EU countries have a coastline
The EU's coastline is 7 times as long as the US'
and 4 times as long as Russia's.

The EU's maritime regions are home
to almost half its population and account
for almost half its GDP.

In terms of surface area, there is more
sea than land under the jurisdiction of
EU countries

Including its outlying regions, the EU has
the world's largest maritime territory.

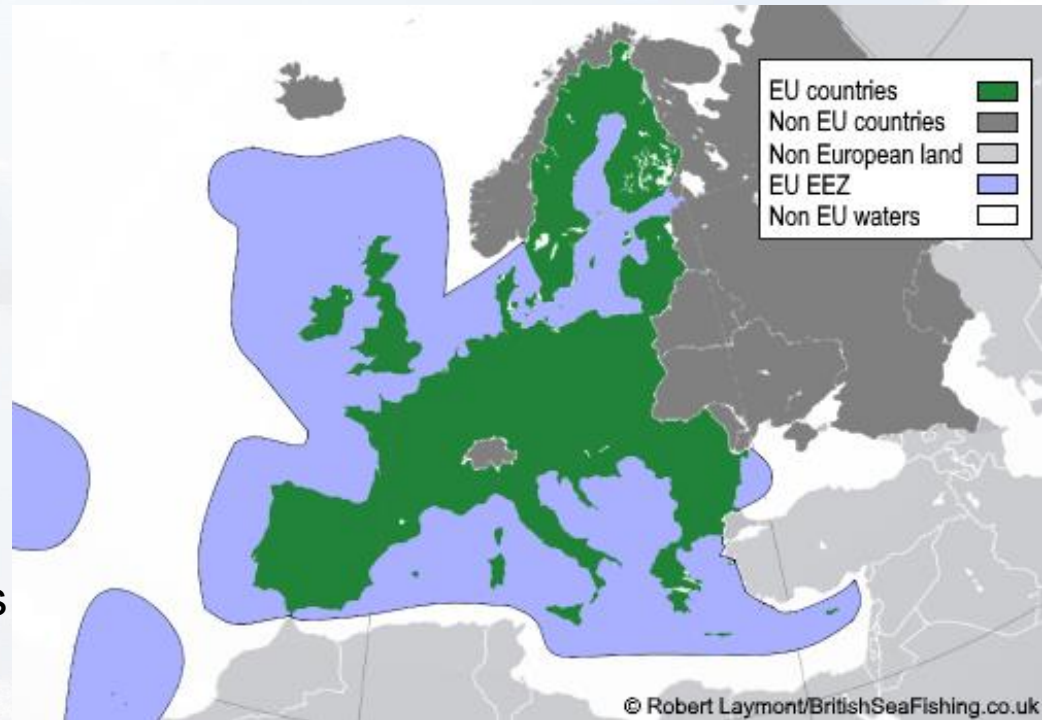




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Blue Economy

sectors of the blue economy crucial for value & jobs





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Blue Economy - Oil & Gas



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Blue Growth - Europe

Focus Area

Five sectors with high potential for sustainable Blue Growth are to be further developed:



According to the EC, the blue economy investments that create and finance it; the job creation and the technological innovation that will result; are mainly to do with:

marine energies (offshore wind energy, tidal barrage & wave power devices & ocean thermal conversion;
aquaculture;
maritime, coastal and cruise **tourism**;
marine **mineral resources**;
blue **biotechnology**.



Blue Growth - Europe

Sector	Opportunities for Blue Growth at a glance
Blue energy	<ul style="list-style-type: none"> -Offshore wind energy could meet 4% of EU's demand by 2020 and 14% by 2030 -Jobs at the sector could reach from the current 35.000 to 170.000 by 2020 and up to 300.000 by 2030
Aquaculture	<ul style="list-style-type: none"> -Europe's aquaculture sector supplies only ¼ of the global market on farmed fish whereas farmed fish accounts for ½ of the fish consumed globally, a share projected to grow to 65% by 2030. -Farmed fish Europe's industry is stagnating due to lack of space, lack of public awareness and cumbersome licensing rules
Maritime, coastal and cruise tourism	<ul style="list-style-type: none"> -Europe's coasts are the preferred holiday destination of 63% of European tourists. -maritime and coastal tourism sub-sector employs 2.35 million people equivalent to 1.1% of total EU employment
Marine mineral resources	Global annual turnover of marine mineral mining could potentially grow from virtually nothing to €10billion a year by 2030. European companies, with specialized vessels and advanced technology could benefit from this expansion
Blue biotechnology	Current employment at the sector in Europe is still relatively low with a gross added value of 0.8billion. It is currently a niche sector but it could grow as a medium sized market by 2020, and in the long run, around 15 years ahead, could become a provider of mass market products.



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Aquaculture	<ul style="list-style-type: none"> -Europe's aquaculture sector supplies only $\frac{1}{4}$ of the global market on farmed fish whereas farmed fish accounts for $\frac{1}{2}$ of the fish consumed globally, a share projected to grow to 65% by 2030. -Farmed fish Europe's industry is stagnating due to lack of space, lack of public awareness and cumbersome licensing rules
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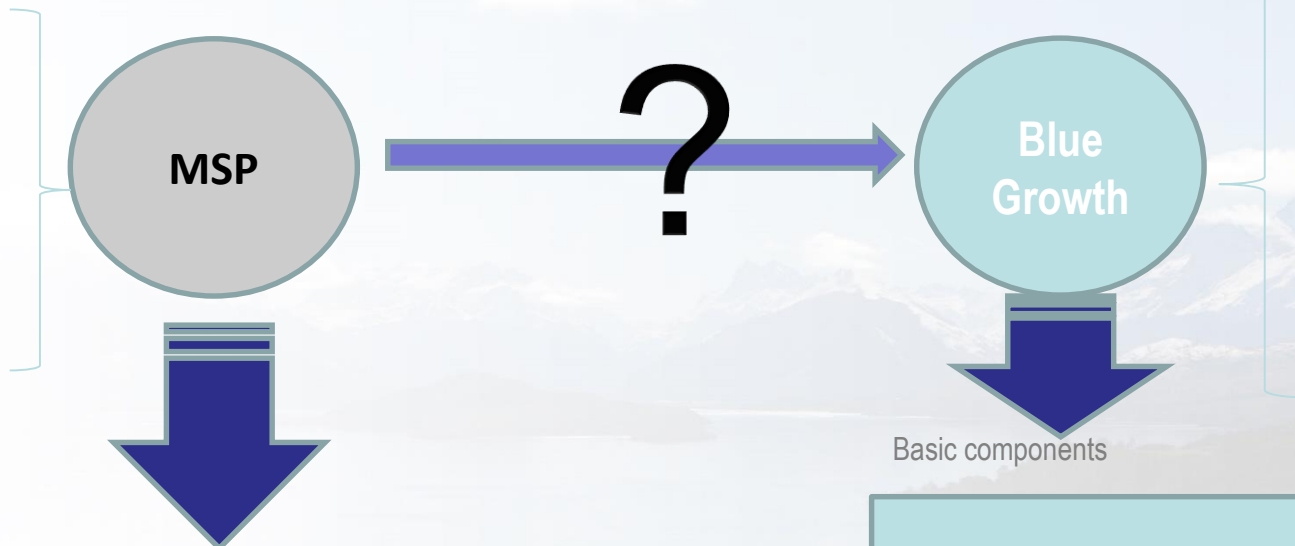
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Blue Growth

1st phase (2006-2012)

2nd phase (2012-2020)

Reaffirmed maritime dimension of EU



Maritime's contribution to achieving Europe's 2020 goals for smart, sustainable, inclusive growth

Cross sectoral implementation tools

Marine Knowledge

Marine Spatial Data Infrastructure

Maritime Surveillance



1) Blue Growth focus areas

2) Components to provide knowledge, legal certainty, and security

3) Sea basin strategies

Hydrographic survey and data





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What can we do to market our expertise and value in order to benefit and improve the coastal communities, their blue economies?

Collaboration and cooperation will be a key factor so its important we improve our profile to our stakeholders so that we are engaged, included and influential.

(remember some of the stakeholders are not aware they are a stakeholder!)



Conclusion

We must do a better job of understanding the **Blue Economy**

- More studies including the supply chain nationally / internationally
- More success stories (needed for funding) – **South West Pacific**
- More focus on **Blue Growth** (& more workforce development training – **Blue Jobs**)

We must engage and influence stakeholders on the importance of our seas

- Coalition of clusters may be very important to business so how should we in FIG participate? Intergovernmental Bodies
- Coordination of Data, Standards and industry codes is important
- Intergovernmental Bodies
- ***Think Global...Act Local!***

Plain Sailing or Some Headwinds?

Thank you!



Gordon Johnston
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gordon.johnston1@orange.net