



Presented at the FIG Working Week 2023,
28 May - 1 June 2023 in Orlando, Florida, USA

FIG WORKING WEEK 2023

28 May - 1 June 2023 Orlando Florida USA

Protecting
Our World,
Conquering
New Frontiers

Blue Surveying

Or: Hydrography, ESG and the Blue Circular
Economy = Sustainability

Gordon T Johnston, BSc(Hons), MRICS, FHydSoc, FRIN
RICS

Venture Geomatics Limited

g.johnston@venture-geomatics.com

@GordonJHydro



Organized By



Diamond Sponsors



Blue Surveying - Hydrography, ESG and the Blue Circular Economy = Sustainability

- Introduction

- Expensive, often survey requirements are quite narrow to avoid unnecessary expense but a Capital Value tool offers the survey project a broader and more diverse and uniform assessment of the benefits and values for the wider stakeholders

- Definitions & concepts, the Seville Declaration, changing behaviours...

- We develop a language that has a wider appeal and engagement relating to criteria, outcomes and goals.

- Blue Surveying has components that evaluate Sustainability

- The Capital Value Toolkit is offered an example to start the discussion on sustainability goals.

- Recommendations

But first what Hydrospatial challenges do we face?

- We have choices and options – but which are sustainable?

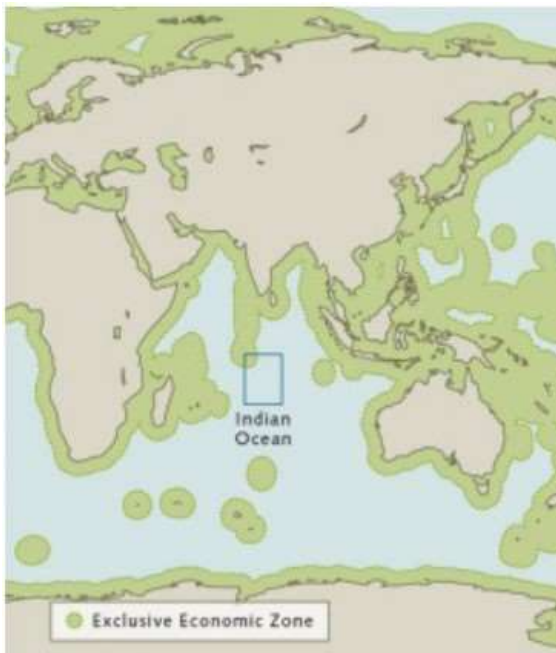


Image courtesy of NOAA Ocean Exploration, 2021 North Atlantic Stepping Stones: New England and Corner Rise Seamounts.

Sustainability – a Definition

- the quality of being able to continue over a period of time:
- *the long-term sustainability of the community – the Ocean Community for us.....*

ESG – a Definition

- Different areas of ESG can involve different types of measurement, for example:
- **environmental** – waste management, transportation and business miles, energy usage and carbon emissions
- **social** – employee wellbeing, diversity and inclusivity practices, and local community engagement
- **governance** – transparency about pay and gender gaps, accurate financial reporting and transparent decision making.
- Think about what you should measure and how you'll measure it, such as reviewing documents or benchmarking against similar businesses.
- The first stage is to find out what your organisation does, where it falls short, and set some targets in the areas you want to improve.

The Seville Declaration

- Introduces **Natural Capital** and other **Capitals** such as **Human** and also **Social** and **Produced Capitals**
- So, we need a way to assess risks and priorities for all:
- **A Value Toolkit**

- Blue Surveying is the CLGE theme of the year 2022,
- Blue Surveying is concerned with every form of water resource on earth be that natural or artificial, and in Europe in particular,
- the work of the geodetic surveyor is crucial as they understand their environment, its resources, and its fragility, which they survey and manage,
- water is a precious good and we have a duty to preserve it, and to prevent or avoid pollution and waste,
- water is not only precious but it can also become a threat to life and livelihoods, both in the coastal zone and inland
- seas, oceans and their coasts as well as rivers, channels and other waterbodies are essential for human activities and rights, but also for biodiversity and the climate,
- all lifeforms on this planet needs water to survive,
- all nations and peoples of the world must be increasingly committed to implementing policies that respect the environment and sustainable development,

The Value Toolkit

- the Value Toolkit is a set of processes and guidance that offers projects an opportunity to assess the risks and deliverables against a broader and consistent set of values for all the stakeholders.
- The Value Toolkit has been developed by the Construction Innovation Hub, in collaboration with HM Government and key players in the UK construction sector including RICS and 100+ other organisations and groups.
- But.....
- It is not only for construction of infrastructure as it supports many project initiatives through its generic approach and standardised use of four Capitals.
- the steps you take in using it will help you demonstrate compliance with BSI Flex 390 ***Built environment: Value-based decision making – Specification***

Ref: <https://www.supplychainschool.co.uk/topics/procurement/value-toolkit/>

The Value Toolkit

- **Capitals:**
 - **Natural:** environment, resources
 - **Social:** shared norms, DEI
 - **Human:** Knowledge, skills, health
 - **Produced:** Manmade, \$\$, returns, security

Natural Capital

The stock of renewable and non-renewable resources that combine to yield a flow of benefits to people.

Values the natural environment, addresses solutions to climate impacts and provides benefits to society throughout the full life cycle of the built assets.

- Air
- Climate
- Water
- Land
- Resource Use
- Biodiversity



Social Capital

The networks, the shared norms, values and understanding that facilitate cooperation within and among groups.

Refers to influence and consultation, equality and diversity, networks and connections as well as the changes people experience as a result of built assets.

- Involvement and influence
- Equality and diversity
- Networks and connections



Human Capital

The knowledge, skills, competencies and attributes embodied in individuals that contribute to improved performance and wellbeing.

Encompasses employment opportunities, skills development, individual health and wellbeing as well as an asset's capacity to influence these factors.

- Employment
- Skills and knowledge
- Health
- Experience



Produced Capital

The man-made goods as well as all financial assets that are used to produce goods and services consumed by society.

Encompasses Capital cost, operational cost and revenue, covering the whole of the direct monetary spend on the project over its whole life. Also indicators of the efficiency and quality of design, construction and operational processes.

- Lifecycle costs
- Financial return
- Production
- Resilience and security



Blue Surveying connecting to Capital Values

- Capitals:
 - Natural: environment
 - Social: equity and diversity
 - Human: employment, skills, experience
 - Produced: costs, returns, resilience
- The UK Government procurement process requires that Social values are assessed in contract tendering. **The Government Social Value Model.**

The UK Government Social Value Model

- 1 Tackling economic inequality
 - 2 Fighting Climate Change
 - 3 Equal opportunity
 - 4 Wellbeing
-
- These are related to the **UN 2030 SDG's** and have Model Award Criteria (MAC) associated with them to enable the evaluation of contracts and suppliers.
 - Ref: The Social Value Model ed. 1.1 2020

Applying a Sustainable Value Model

1: Tackling Economic Inequality - Please detail any activities, in the delivery of the contract, that support the delivery of social value through tackling economic inequality e.g. creation of new businesses, jobs, skills; increasing supply chain resilience and capacity.

2: Equal Opportunity - Please detail any activities, in the delivery of the contract that support the delivery of social value through equal opportunity e.g. reducing the disability employment gap; tackling workforce inequality.

3: Fighting Climate Change.....

Applying a Sustainable Value Model

3: Fighting Climate Change

3a: Contract Delivery - Provide detail any activities, in the delivery of the contract, that support the delivery of social value through fighting climate change e.g. effective stewardship of the environment. This should be specific to the tender and not a discussion around the environmental impact of the data collection as required by each instruction.

3b: Carbon Offsetting - The Authority is aiming to achieve Carbon Neutrality ahead of its Net Zero goals and as such may look to contractors to offset the footprint of each project. Provide full details of carbon offsetting techniques and any relevant certification for projects/companies that will be used for offsetting the carbon footprint of projects. The use of an organisation or product that is certified to the BSI PAS 2060 standard (or equivalent) will be given a minimum score of 6.

Assessing the challenges and offering Spatial expertise



- We have choices and options – but which are sustainable?

Sustainability – a Recommendation

- the survey community develop a common value model and set consistent criteria for use in their evaluation.
- A Standards Value Model for Capital exists and there are examples of Social Value Models so we as a profession must now lead and influence to ensure a sustainable future ocean.
- It should also support the next gen community and secure a supply chain that, being more inclusive, will create a sustainable future workforce.
- **Assessing our Carbon Footprint:**
 - alternative approach could be to measure our Water Footprint?
 - Jeans, car tyres etc now claim less use of water

Challenge and Actions

- the FIG Commission 4.2 Work Group “Sustainable Oceans” could work to develop a framework for a value based and sustainability decision model to include recommendations and guidance for the key criteria.
- FIG would work with other international bodies (CLGE, IHO, UN)



FIG WORKING WEEK 2023

28 May - 1 June 2023 Orlando Florida USA

Protecting Our World, Conquering New Frontiers



Organized By



Diamond Sponsors

