

## BRIEFING NOTE ON SUSTAINABLE DEVELOPMENT

*Sustainable Development: Development that meets the needs of the present without compromising the ability of future generations to meet their own needs - "Our Common Future", UN World Commission on Environment and Development report, 1987, Gro Harlem Brundtland (chair).*

The purpose of this Briefing Note is to share with organisations the Byrne Ó Cléirigh (BÓC) experience on some of the issues and concerns arising from the practical implication of this complex area.



### Introduction

What is **Sustainable Development**? Although, the concept does not easily lend itself to a precise definition, it can be seen as a vision of progress that integrates immediate and longer-term needs, and local and global needs. It regards **social, economic and environmental factors** needs as inseparable and interdependent components needed for successful development.

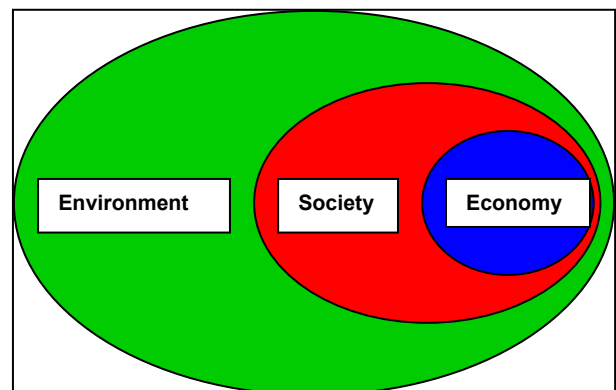
### Background

*'... sustainable development is now one of the most universally endorsed aspirations of our time.'* [1]. It is a process with many underlying themes, not a static state-of-being and this, leads to its precise definition creating some confusion.

While many different definitions have been introduced over the years, the most universally accepted comes from the UN report "Our Common Future" more commonly known as the **Brundtland Report**.

A key aspect of sustainable development is to prevent human induced climate change by reducing the emissions of greenhouse gases (GHGs) to the atmosphere.

A graphical view of sustainable development is presented below. This shows the economy existing within society and society existing within the environment: each, in turn, being a subset of the other. This illustrates that the protection of the environment must be a major priority in any project if it is to be sustainable.



### Agenda 21

A key outcome of the UN Rio Conference on Environment and Development in 1992 was the drawing up of *Agenda 21*. This was a comprehensive, international, action plan for the twenty-first century to be taken globally, nationally and locally by organisations of the United Nations System, Governments, and Major Groups (such as business) in every area in which humans impact on the environment. Agenda 21 sets three primary goals for sustainable development:

- Relevant national level policies and strategies,
- Integration of decision-making processes,
- Community involvement.

This was seen as the first global attempt to tackle Sustainable Development and the Agenda is still in progress today.

### Sustainable Development & Climate Change

One of the most pressing issues of the 21<sup>st</sup> century looks set to be **climate change**. The rising levels of CO<sub>2</sub> and other greenhouse gases in our atmosphere have raised serious concerns about the stability of our climate.



This has been brought about, primarily, from the burning of fossil fuels and changes in land use. In order to deal with this problem, organisations are being asked to tackle this global challenge on a local level.

The recently published **Stern Review** [2] states that *“The scientific evidence that climate change is a serious and urgent issue is now compelling. It warrants strong actions to reduce greenhouse gas emissions around the world to reduce the risk of very damaging and potentially irreversible impacts on ecosystems, societies and economies. “*

It also emphasises that the cost of action taken now is considerably less than the estimated damages in the future if we continue on in a business as usual manner,.

### Sustainable Solutions

For organisations to implement sustainable solutions within their current or planned operations, each of the following aspects must be carefully considered in an integrated manner:

- Energy,
- Transport,
- Waste,
- Water,
- Materials & Natural Resource Use,
- Whole Life Cycle (Cradle to Cradle),
- Biodiversity,
- Planning, Buildings & Land Use,
- Societal & Community Needs,
- Stakeholder Participation and Communication,
- Education & Training,
- Economic Feasibility.

### Services Available

BÓC can provide **innovative solutions**, which integrate aspects of economic, social and environmental concerns. Our multi-disciplined team, with its extensive expertise in sustainability, will assess each project on an individual basis and thus provide our Clients with specific solutions to address these complex, interlinked challenges.

At our initial meeting, we draw up a detailed list of all the areas to be focused on, including those of specific concern for the Client. A **first assessment** is carried out to record the current status in each of the areas listed above. From this **benchmark**, a list of **targets** is agreed with the Client and BÓC develops a comprehensive, sustainable development **programme** to ensure these targets are met. By successfully implementing the programme, with BÓC support, Clients will become **sustainability leaders** in their field of operation and also remove the uncertainty of complying with the growing levels of legislative and sustainability requirements, which are demanded by government and stakeholders.

Below is a comprehensive list of the areas that are assessed by BÓC for inclusion in the programme, as part of our all-round Sustainable Development service.

### **Energy**

- Renewable energy options & integration
- Energy auditing & advice
- Greenhouse gas emissions from energy use
- Energy efficiency & demand management

### **Transport**

- Sustainable transport plans
- Integration of sustainable transport facilities
- Multi modal transport studies

### **Waste**

- Waste management plans
- Recycling facilities & initiatives
- Waste to Energy facilities
- Composting & organic waste disposal
- WEEE disposal plans

### **Water**

- Water management plans
- Wastewater management
- Rainwater harvesting plans
- Grey water reuse studies
- Sustainable urban drainage systems (SUDS)
- Water efficiency plans

### **Materials & Resource Use**

- Sustainable material use
- Low embodied energy materials
- Green procurement strategies
- Recycled products purchasing
- Sustainable food plans

### **Life Cycle Analysis**

- Cradle to grave/cradle assessment
- Carbon footprinting
- Whole life environmental impacts

### **Biodiversity**

- Biodiversity plans
- Green area plans
- Green roof assessments
- Wildlife protection / encouragement plans

### **Planning, Buildings & Land Use**

- Policy advice for sustainable developments
- Orientation for passive heating
- Conservation area plans
- Sustainability advice for planning applications
- Integration of sustainable facilities
- Use of BREEAM, CEEQUAL etc. for project sustainability assessment

### **Societal & Community Needs**

- Air quality, noise, odour and light assessment plans
- Risk assessments
- Conservation plans
- Supporting local economies
- Local education and health protection plans

### **Stakeholder Participation & Communication**

- Community participation plans
- Community communication advice

### **Education & Training**

- Employee training in sustainability
- PR education campaigns
- Induction to sustainability / environmental management systems
- Seminars on Sustainable Development and Climate Change for high level management down to on the floor personnel

### **Economic Feasibility**

- Payback periods
- Cost savings via sustainable development plans
- Whole life cycle costing
- Regeneration / rehabilitation costing advice

### **Environmental Management Systems (EMS) & Sustainability Management Systems (SMS)**

BÓC promotes the use of **EMS** and **SMS** as a means of managing the impacts of an organisation's operation, either as a component of **Corporate Social Responsibility** (CSR), or as a stand-alone service. From the initial design and operation of the management system, to annual reporting and continuous improvement, BÓC can help organisations achieve much more than the basic minimum compliance. Overall, these measures reduce **ecological footprints**, provide safer, healthier work environments and benefit the local and global environment.

BÓC also promotes the use of the **Global Reporting Initiative** (GRI - [www.globalreporting.org](http://www.globalreporting.org)), as a means of reporting on the sustainability of companies. In 2007, GRI had 959 participant organisations, from 60 countries, declaring their use of the GRI Reporting Framework and it is regarded as best practise for sustainability reporting world wide. BÓC can help in the creation of the GRI annual sustainability report.



### **Opportunities for organisations**

In BÓC, we advise and support our Clients on how best to incorporate sustainability throughout their current and future operations. When planning new developments or operations, it is essential that the sustainable development programme be prepared and implemented at the beginning of a project and not seen as an ad-on, if all the potential benefits are to be realised.

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**Short- and long-term financial benefits** are realised from sustainable development in the following tangible ways:

- Savings in energy, water and resource use
- Savings on infrastructure maintenance expenditure and post project / operation decommissioning
- Savings in waste disposal
- Lower GHG emissions
- Healthier, happier, more productive employees
- Fewer legal liabilities and costs
- Image protection
- Reputation enhancement
- Future-proofing of projects
- Avoidance of expensive retrofits

Further **opportunities** can be expected as new legislation tackles unsustainable practices and governments promote sustainable development principles and practices.

### **About Us**

Byrne Ó Cléirigh is a multi-disciplined, engineering and management consultancy with a reputation for proficiency, innovation and reliability in three core areas of expertise:

- **Energy Supply & Use**
- **Environment Protection**
- **Safety & Risk Management**

We enable our Clients to successfully manage some of the key elements of profitable and sustainable enterprise today. We also provide Project Management Services, Programme Implementation and Training within our core areas of expertise.

If you wish to discuss how **Sustainable Development** may be implemented into your organisation / project or you require further information on any of our services, please feel free to phone us at +353-1-6770733 or send an e-mail to [sustainability@boc.ie](mailto:sustainability@boc.ie).

<sup>1</sup> Irish Government Green Paper on Sustainable Energy (1999). <sup>2</sup> The Economics of Climate Change (2006).