



مجموعة أبوظبي للإستدامة
ABU DHABI SUSTAINABILITY GROUP



THE NATURAL CAPITAL FLAGSHIP PROGRAMME

ACTIVITIES AND OUTCOMES

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هيئة البيئة - أبوظبي
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NATURAL
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COALITION



AUTHORS

James Spurgeon,

Natural Capital Coalition Representative and Director of Sustain Value and

Rosie Dunscombe,

Technical Director at Natural Capital Coalition

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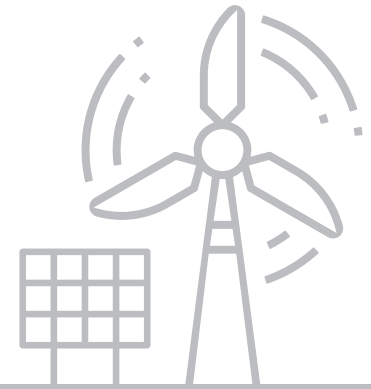
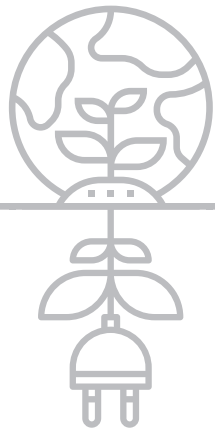


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FOREWORDS

Abu Dhabi's social, cultural and economic fabric is inextricably woven with the land, air and sea resources that have nurtured our ancestors for centuries. Our natural capital is the foundation of our development and is critical to supporting the growth and wellbeing of our people, and it is our duty to protect and preserve these precious ecosystems for the continued benefit of generations to come.



Rising pressure on our natural capital from increased human consumption requires renewed, strengthened efforts to conserve it. To tackle key natural capital issues including the quality of air and water, marine pollution, habitat destruction, toxic waste and the adverse impacts on our biodiversity, the public and private sector need to jointly address the negative externalities of environmental impacts such as greenhouse gas emissions, loss of natural assets and pollution-related health costs. The lack of adequate action on the degradation of our natural capital risks the sustainability of our quality of life, and even survival.

The Abu Dhabi Natural Capital Flagship Programme represents our commitment to approaching everything we do through a 'natural capital lens'. The initiative is geared towards supporting Abu Dhabi businesses and government entities shift towards operating in a more sustainable and resilient way to minimize the environmental costs associated with production. The Natural Capital Protocol is a framework designed to help generate trusted, credible and actionable information that will help empower informed business decisions, as well as provide an integrated and consistent approach to accounting for capitals.

The Environment Agency - Abu Dhabi (the founder of the Abu Dhabi Sustainability Group), plays a fundamental role in helping organisations in Abu Dhabi assess and evaluate their natural capital impact through internationally-benchmarked methods. Through this collaboration, we hope to position Abu Dhabi among the pioneering cities to adopt this critical and much needed approach. Our collaboration with the Natural Capital Coalition will also allow us to leverage a wide global network of organisations and individuals to share knowledge and best-practice when it comes to promoting the sustainable use of our shared natural capital.

I would like to commend and thank the Natural Capital Coalition and Abu Dhabi Sustainability Group for their contributions to this report. This document marks a serious stride towards a sustainable future for all. I hope that this valuable resource helps all relevant stakeholders understand the matter at hand, and outlines the measures we collectively need to take to ensure that we leave this planet a little better than we found it. After all, our future generations depend on it.

**Her Excellency Dr. Shaikha Al Dhaheri,
Acting Secretary General, Environment Agency - Abu Dhabi**

There is a growing understanding around the world of the importance of conserving and enhancing nature. Businesses within Abu Dhabi and the wider region have been leading the world in their approach to this, becoming early adopters of natural capital thinking.



This is reflected in the long-standing partnership between the Environment Agency - Abu Dhabi, the Abu Dhabi Sustainability Group and the Natural Capital Coalition, who have been working together to provide natural capital support to the region. This collaboration has led to this Flagship Programme, which is summarised in this report. Now is the time to support the progression of the region's relationship with natural capital, to build on early adoption and bring positive changes.

The companies who took part in the Natural Capital Flagship programme have helped to show to the world how we all depend on natural capital. From the resources we use, to the peace and tranquility that it creates in our souls. The programme has been a starting point for many organisations and although it is now officially over, I am sure that those that took part will use the knowledge they acquired to continue to make improvements and shift towards operating in a more sustainable and resilient way.

We are extremely thankful to the Abu Dhabi Sustainability Group, who have facilitated this programme, the Environment Agency - Abu Dhabi, for their support and Her Excellency Dr. Shaikha Al Dhaheri for her continued leadership.

Mark Gough,
Executive Director, Natural Capital Coalition



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EXECUTIVE SUMMARY

The ADSG Natural Capital Flagship Programme has been a partnership between the Abu Dhabi Sustainability Group (ADSG) and the Natural Capital Coalition. The aim is to increase understanding of the benefits of including natural capital in decision-making, and to support organisations in the region applying the concept of natural capital through using the Natural Capital Protocol.

NATURAL CAPITAL

Natural capital is the stock of natural resources, such as plants, animals, water and minerals, that combine to yield a flow of benefits to people.



It is simply a different way to think about the 'environment', introducing three shifts to our thinking:



People and businesses don't only impact, but also are entirely dependent on the environment.



It moves our mind-set from just measuring quantities (e.g. tons of carbon) to understanding associated values, (i.e. its relative worth to different stakeholders).



It helps us to recognize 'systems thinking' whereby everything on Earth is inter-connected, with trade-offs in all decisions we make that should be fully accounted for.

The world is witnessing a dramatic loss in natural capital from land conversion, over-consumption, pollution and climate change. In the context of the Middle East, whilst the UAE's rapid economic development has boosted the economy significantly, it has resulted in serious environmental challenges. This in particular has led to a significant increase in demand for energy and water accompanied by high levels of Greenhouse Gases and other air pollutant emissions, as well as habitat loss and degradation, and issues associated with eutrophication, waste disposal and biodiversity loss.

This is leading to significant risks and opportunities for all stakeholders including people, businesses, financial institutions and governments. Businesses face more stringent environmental standards and regulation, constraints over resource use, prices being raised, bigger fines and liabilities, and greater reputational risks. However, potentially significant opportunities may be leveraged too, such as through growing demand for renewable energy, clean technology and habitat restoration, as well as through associated sustainable financing possibilities.

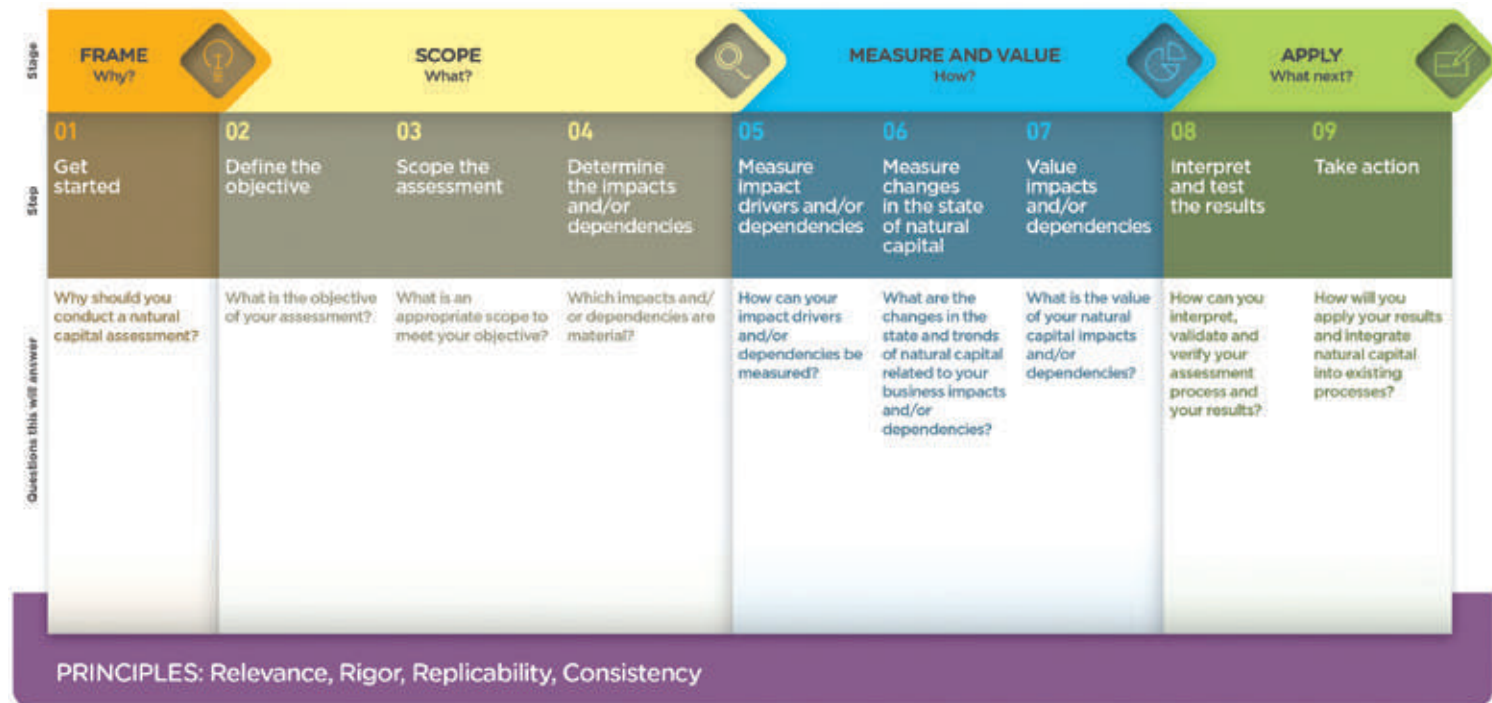


Natural capital is the stock of natural resources, such as plants, animals, water and minerals, that combine to yield a flow of benefits to people.

NATURAL CAPITAL ASSESSMENTS

Natural capital assessments provide a process to measure and value relevant natural capital impacts and dependencies in qualitative, quantitative or monetary terms. The Natural Capital Protocol provides a framework to help businesses do this for any particular context it wants to assess, whether for a project, product, company or whole value chain. The Protocol provides a four stage approach comprising nine steps (see Figure 1) to help companies undertake more consistent and robust assessments.

Figure 1 - The nine steps of a Natural Capital Protocol assessment.



Natural capital assessments can thereby reduce risks and costs; increase revenues and share price; drive innovation; attract talent; and enhance stakeholder relations, brand value and reputation. The Protocol sets out a number of different ways that natural capital assessments can be used to do this, for example through



1 Assessing risks and opportunities



2 Comparing alternative options



3 Assessing impacts on different stakeholders



4 Estimating total value and/or net impact of sites and products etc.



5 Communicating internally or externally

Rather than compete with other environmental and sustainability approaches, natural capital assessments complement and enhance them. For example, they add additional insight to environmental impact assessments and company reporting. They can also support application of the circular economy, meeting the Sustainable Development Goals, applying Science Based Targets and implementing Task Force on Climate Related Financial Disclosure (TCFD) assessments.

THE NATURAL CAPITAL FLAGSHIP PROGRAMME

The Flagship Programme started in 2017 with a Hiwar (a seminar dialogue) to introduce the topic of natural capital, quickly followed by the Abu Dhabi Sustainable Business Leadership Awards and Forum 2018 that had a strong natural capital focus. A series of three training workshops was then held on how to implement natural capital assessments. Numerous actual applications were discussed, including some in the region relating to coral reefs. The programme concluded with one-on-one consultations with two UK experts in natural capital assessments and finally with this report.



Natural capital assessments provide a process to measure and value relevant natural capital impacts and dependencies in qualitative, quantitative or monetary terms.

Based on conversations and feedback from the workshops, organisations mentioned the following examples of how natural capital assessments could be used in Abu Dhabi and the region:



Supplementing Environmental Impact Assessments (EIAs).



Evaluating and promoting the benefits of sustainability projects and decision-making.



Promoting better and more integrated transport and health solutions.



Justifying net positive targets.



Conducting sector based natural capital studies.



Exploring synergies with national natural capital accounts.



Informing Integrated (Environmental and Social) Profit and Loss Accounts.



Helping to justify and finance conservation projects.

Feedback from the workshop participants has been excellent, with 86% from one of the sessions confirming that applying a natural capital assessment would be useful for their organisation, and 50% now considering or planning to undertake such an assessment.

The Flagship programme has proved to be of considerable interest and has laid the foundations for further work on the topic in the region. What is needed now is for companies in the region to implement natural capital assessments and promote their work on it, encouraging others to adopt it too. AD SG is currently exploring options for how to best move this forwards. This may include development of additional sector specific materials to help inform and undertake natural capital assessments. The Natural Capital Coalition also has plans in place to launch a UAE Regional Platform on natural capital.



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01

INTRODUCTION

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The ADSG Natural Capital Flagship Programme has been a partnership between the Abu Dhabi Sustainability Group (ADSG) and the Natural Capital Coalition. The aim is to increase understanding of the opportunities and benefits of including natural capital in decision-making, and to support businesses and other organisations in the region applying the Natural Capital Protocol (the Protocol) (see Box 1).

Box 1: The Natural Capital Protocol

The Protocol is a 'globally accepted standardised framework to identify, measure and value direct and indirect impacts (positive and negative) and/or dependencies on natural capital'.

The Protocol sets out how to undertake a natural capital assessment, defined as 'the process of measuring and valuing relevant ("material") natural capital impacts and/or dependencies, using appropriate methods'.

Governments, businesses and financial institutions around the world are increasingly recognizing the importance of taking natural capital into account in decision-making and better understanding how it underpins their activities. Adopting a natural capital approach is also an effective means of informing and potentially delivering on both climate change and sustainable development goals.

The Flagship Programme started in December 2017 with a Hiwar (seminar discussion) on natural capital. It has since run throughout 2018 comprising a series of three natural capital training workshops, and one-on-one consultations with two natural capital experts from the UK. The first training workshop was held as part of the Abu Dhabi Sustainable Business Leadership Awards and Forum in February 2018 which also had a strong focus on natural capital. This report sets out what has been achieved so far through the Programme.

The programme has been led by the Natural Capital Coalition, drawing on its experience of running similar successful programmes in other countries, such as Portugal and Japan. The training workshops have involved a leading expert in the field of natural capital for its delivery, together with additional input and support from other core team members of the Natural Capital Coalition. ADSG, supported by the Environment Agency, has also provided considerable administrative and logistical support to promote and arrange the workshops at a selection of top venues in Abu Dhabi.



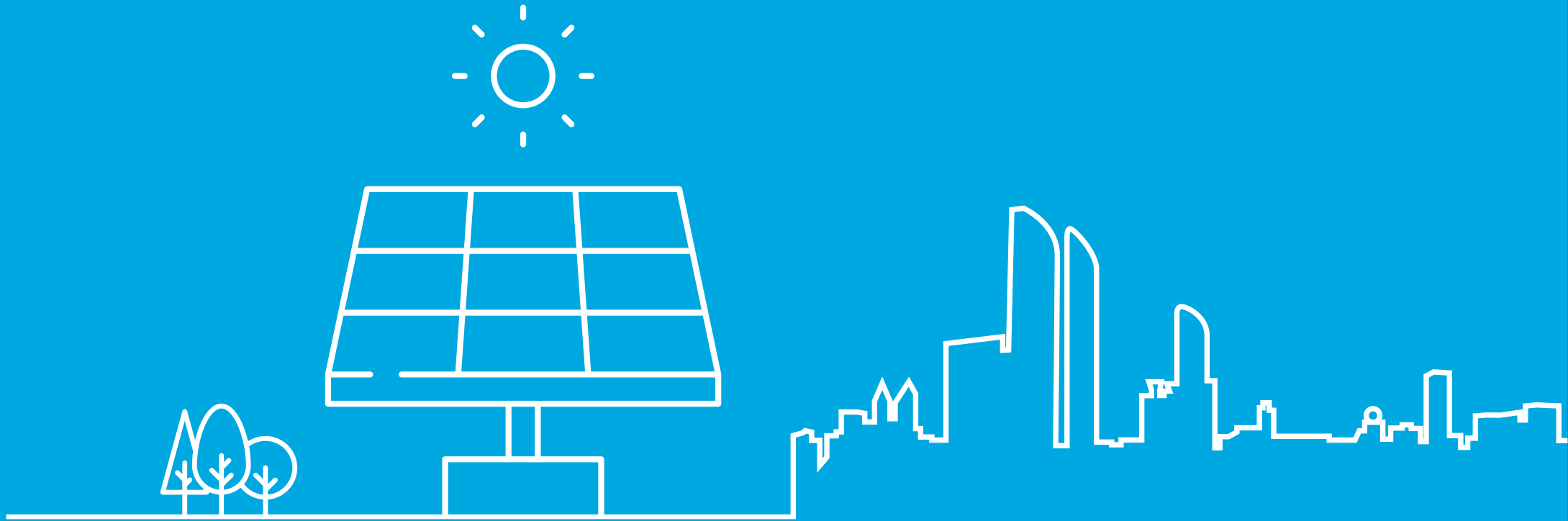
CONTENT OF THE REPORT

Section 2 explains the fundamental aspects of natural capital, what is involved in undertaking a natural capital assessment, as well as a discussion of the business case and the many potential uses of natural capital assessments. Examples are provided at a global and UAE level.

Section 3 provides an overview on the Hiwar, the training sessions and the one-on-one expert consultations. This is followed in Section 4 by a summary of organisations attending the sessions and the results of a survey of respondents attending the final workshop. Section 5 highlights feedback from attendees on the Programme together with ideas as to how their organisations and sectors could apply natural capital thinking through use of the Protocol. The Report then culminates with some conclusions from the now completed Programme and indicates next steps for the uptake of natural capital in Abu Dhabi and the region.



Adopting a natural capital approach is also an effective means of informing and potentially delivering on both climate change and sustainable development goals.





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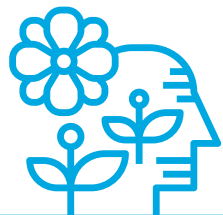
NATURAL CAPITAL

WHAT IS NATURAL CAPITAL?

NATURAL CAPITAL

WHAT IS NATURAL CAPITAL?

The term natural capital is just a different way to think about the 'environment'. It is the stock of natural resources that combine to yield a flow of benefits to people (see Box 2). Natural Capital thinking is a way of informing decisions so that they include our relationship with nature. This can be summarised as three shifts:



1 From impact to dependency - The usual way of thinking about the environment has been focused on the impacts we have on it. Natural capital introduces the fact that people and businesses are entirely dependent upon the environment too.



2 From measurement to valuation - Natural capital moves our mind-set from just measuring quantities (e.g. tons of carbon and m³ of water) to understanding the value of a ton of carbon or a m³ of water. Values may be qualitative, quantitative or monetary, but they always consider the context and relative worth to different stakeholders.



3 Single issues to systems thinking - A natural capital approach helps us to recognize that everything on Earth is inter-connected. It is important to not only think about managing carbon but also water, biodiversity and social issues too. There are trade-offs in all decisions we make, and a natural capital approach helps to highlight both the nature and extent of environmental trade-offs.

Box 2 - Natural capital – what is it?

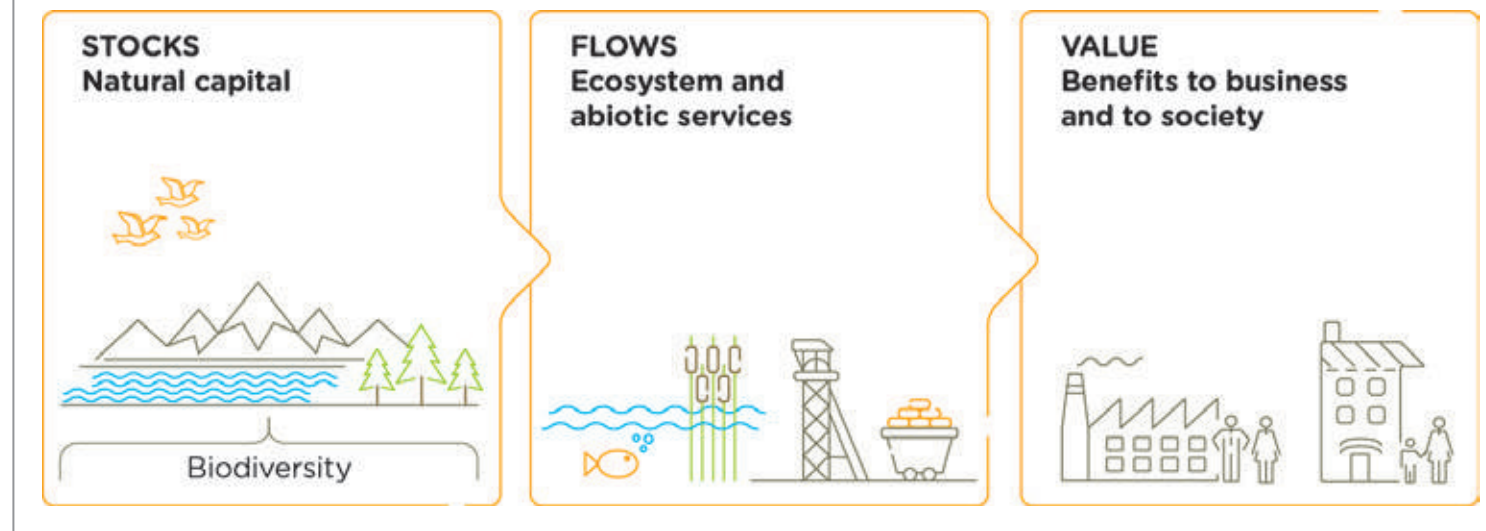
Natural Capital is 'the stock of renewable and non-renewable natural resources (e.g., plants, animals, air, water, soils, minerals) that combine to yield a flow of benefits to people'. The concept is summarised in the figure opposite that highlights how the STOCKS of renewable and non-renewable natural resources (i.e. natural capital 'assets'), give rise to FLOWS of benefits (also known as 'ecosystem and abiotic services') that provide VALUE to business and society.

Ecosystem services are the 'benefits people obtain from ecosystems', these services include:

- **Provisioning services:** Material outputs from nature, such as seafood, water, fiber, genetic material.
- **Regulating services:** Indirect benefits from nature generated through regulation of ecosystem processes, such as mitigation of climate change through carbon sequestration, water filtration by wetlands, erosion control and protection from storm surges by vegetation, and crop pollination by insects).

- **Cultural services:** Non-material benefits from nature, such as spiritual, aesthetic, recreational and others.
- **Supporting services:** Fundamental ecological processes that support the delivery of other ecosystem services, such as nutrient cycling, primary production and soil formation.

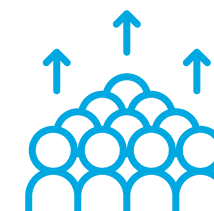
Abiotic services are 'the benefits arising from fundamental geological processes, such as the supply of minerals, metals, oil and gas, geothermal heat, wind, tides, and the annual seasons..



WHY IS IT IMPORTANT?

Businesses and society as a whole, both depend and impact upon natural capital (see Box 3). However, we are witnessing massive global declines in natural capital, be it the recent surge in species extinctions, including species important for the pollination of commercial crops; or the availability of water, leading to drought and famine; or declines in air quality leading to increases in disease and deaths in humans, amongst many other services linked to declines in natural capital.

Some of the underlying reasons for the declines in natural capital are an ever increasing population and an associated increasing demand for products, but also the fact that use and impacts upon natural capital and associated ecosystem services often do not have a market value. Or where there is a price, it is too low to make people appreciate its worth, for example for water.

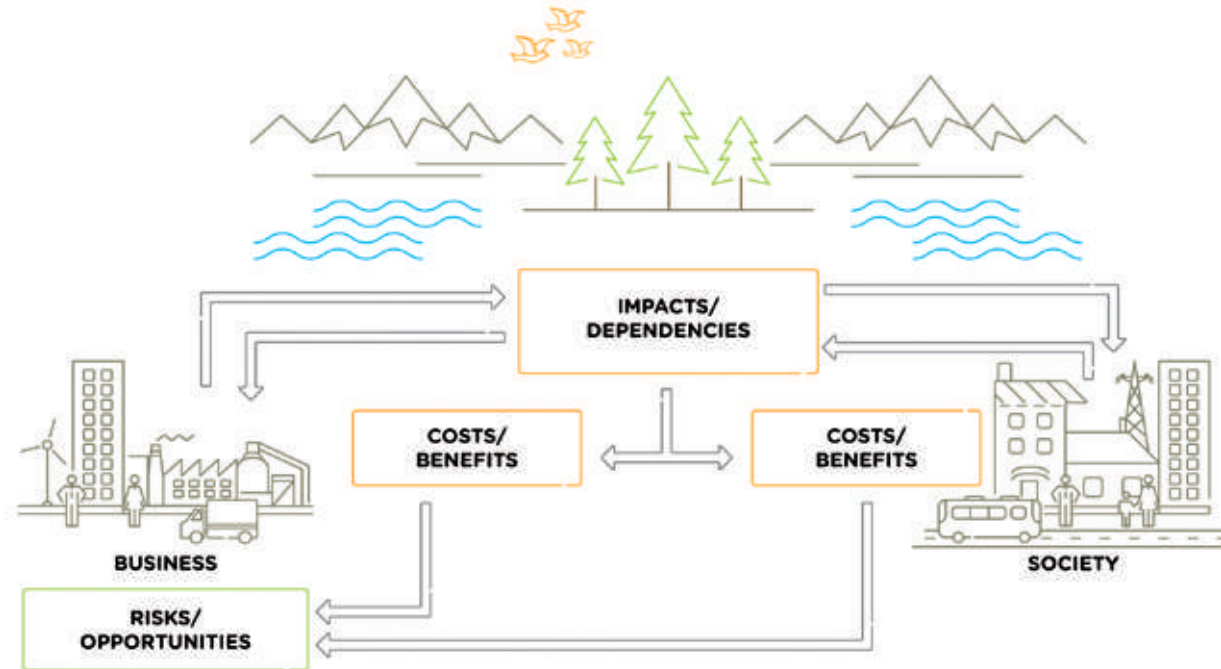


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Box 3 – Impacts and dependencies on natural capital – and links to climate change

The conceptual figure below captures the essence of the Protocol and natural capital thinking. Businesses and society both depend and impact on natural capital, giving rise to a range of costs and benefits which in turn lead to considerable potential risks and opportunities to businesses (and to society).



Links to climate change risks and opportunities are particularly strong. On the one hand businesses depend upon energy and climate regulation, as well as on water and storm and flood protection. On the other hand, they give rise to greenhouse gases (GHG) and their land management activities can affect storm and flood control functions of habitats.

Source: Natural Capital Protocol (2016).

Risks and potential costs for businesses can relate to more stringent environmental standards and regulation being introduced, constraints over resource use (e.g. no water), and prices being introduced or raised for what may even have been free. Reputational risks and potential fines and liabilities to businesses associated with causing natural capital impacts will also become more significant as our understanding of environmental issues develops and social media spreads bad news stories quicker.

However, potentially significant opportunities for providing commercial solutions to environmental issues are on the rise too. These may relate to renewable energy, water cleansing technology or habitat restoration techniques. The rapid growth in green and sustainable bonds and impact investing also represent new ways of making money from investments with positive impacts on natural capital.



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ABU DHABI AND MIDDLE EAST CONTEXT

Many of the same natural capital dependency and impact based risks and opportunities occur for business and financial institution in Abu Dhabi and the Middle East as they do for businesses and financial institutions in the rest of the world. This includes issues around GHG emissions, air pollution, water availability and pollution, eutrophication, waste disposal and biodiversity loss.

Indeed, whilst the UAE's rapid economic development has boosted the economy significantly, it has resulted in serious environmental challenges from the rapid pace of associated population growth and urban development. This in particular has led to a significant increase in demand for energy and water accompanied by high levels of Greenhouse Gases and other air pollutant emissions. However, it has also brought with it a host of wider natural capital issues too, as highlighted in Box 4.



Box 4. Key natural capital issues in the region

- High greenhouse gas emissions
- Noise and light pollution
- Falling groundwater levels
- Oil pollution
- Harmful algal blooms
- Soil erosion and degradation
- Salt intrusion and salinization of soils
- Waste generation and disposal
- Overfishing and fish stock declines
- Alien invasive species
- Poor air quality (dust, NOx and SOx etc.)
- Lack of freshwater
- Thermal and brine discharges to the sea
- Eutrophication of water bodies
- Land degradation and habitat conversion
- Desertification
- Over-grazing in declining natural pastures
- Lack of green vegetation
- Loss of biodiversity

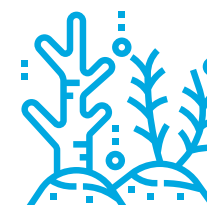
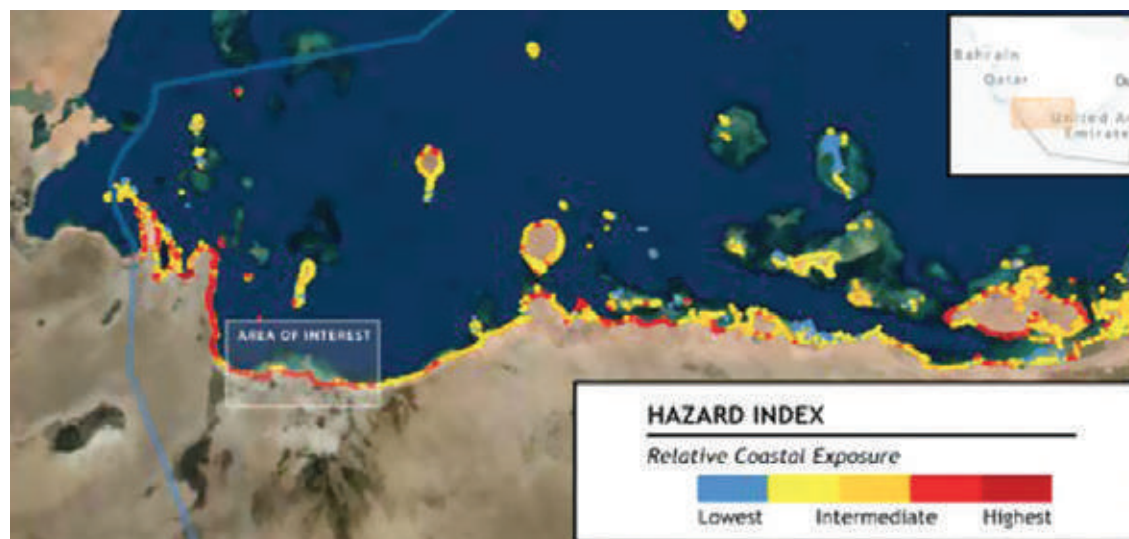
Sources: <https://www.government.ae/en/information-and-services/environment-and-energy/environmental-challenges-in-the-uae> and Razan Khalifa Al Mubarak, H.E. et al. (2017). Abu Dhabi State of Environment Report. Environment Agency – Abu Dhabi. Oriental Press, Dubai, pp. 34-106.

On the one hand, many of these natural capital issues in the region are either directly or indirectly (through the value chain) caused by, or exacerbated by, business activities. On the other hand, many of the issues will have an impact on the same or other businesses in the region that have a direct or indirect (again through the value chain) dependency on the associated natural capital and ecosystem services. One such example is that inadequate water supply and sanitation is costing the Middle East and North Africa region around \$21bn a year in economic losses (World Bank, 2018¹).

In recent years, several studies have investigated the value of marine natural capital assets and ecosystem services within Abu Dhabi. These studies highlight the significance of the natural capital values and in some cases reveal links to a business context. For example, (AGEDI, 2014²) estimated that the total value for three Blue Carbon ecosystems (sea grasses, mangroves and saltmarshes) is at least over US\$ 658 million or 2.4 billion AED, per annum. Meanwhile, AGEDI (2015³) reports that a contingent valuation study indicated that the beach in Abu Dhabi is worth in the order of US\$ 140 million per year to just 15 Abu Dhabi hotels and worth around US\$ 680 million per year to residential beach users.

The significance of marine natural capital impacts and dependencies in the Arabian Gulf was also recently raised at a half-day meeting on the topic on 4th March in Abu Dhabi. Organized jointly by the Environment Agency - Abu Dhabi, the Abu Dhabi Global Environmental Data Initiative (AGEDI) and the UK Science and Innovation Network the event involved discussing critical marine issues in the Arabian Gulf associated with climate change, desalination, invasive species and waste (including plastic). Another recent output of the programme (AGEDI, 2016⁴) has been to explore coastal vulnerability to storm surges and links to natural habitats to mitigate such risks (see Figure 1).

Figure 1 - The Coastal Vulnerability Inspector tool - screenshot of relative coastal exposure



**In recent years
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²AGEDI (2014) Ecosystem Services Assessment Report. Abu Dhabi Blue Carbon Demonstration Project. Abu Dhabi Global Environmental Data Initiative

³AGEDI (2015) Decision-maker Summary Ecosystem Services Assessment. Abu Dhabi Global Environmental Data Initiative

⁴AGEDI (2016) Executive Briefing, Coastal Vulnerability Index. LNRCCP. CCRG

Increasingly natural capital tools and approaches such as these will be able to help Abu Dhabi, and other regional, businesses and other stakeholders better harness natural capital assets and opportunities and mitigate the ever spiraling associated risks. There is considerable scope to apply such natural capital approaches to help deal with all the environmental issues raised in Box 4.

NATURAL CAPITAL ASSESSMENTS USING THE PROTOCOL

Natural capital assessments provide a process to measure and value (in qualitative, quantitative or monetary terms) relevant natural capital impacts and/or dependencies in relation to a specific context. The Natural Capital Protocol sets out this process to help businesses do this for any particular context it wants to assess. This may be in relation to a project, product, company or whole value chain. The Protocol provides a four stage approach comprising nine steps (see Figure 2) to help companies undertake a more consistent and robust assessment. While organisations are encouraged to undertake all the steps, the right outcome may be determined through just undertaking some of the steps.

The valuation element may involve determining monetary values, although this is not always needed: qualitative and/or quantitative values may suffice. Determining values helps ascertain the relative importance of impacts and dependencies and allows for more meaningful comparison and trade-off analysis. This is increasingly important in decision-making, helping to take into account a broader set of non-marketed environmental impacts in a consistent and more understandable way, especially when in monetary terms.

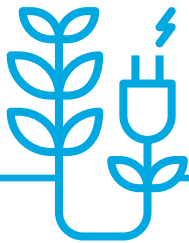
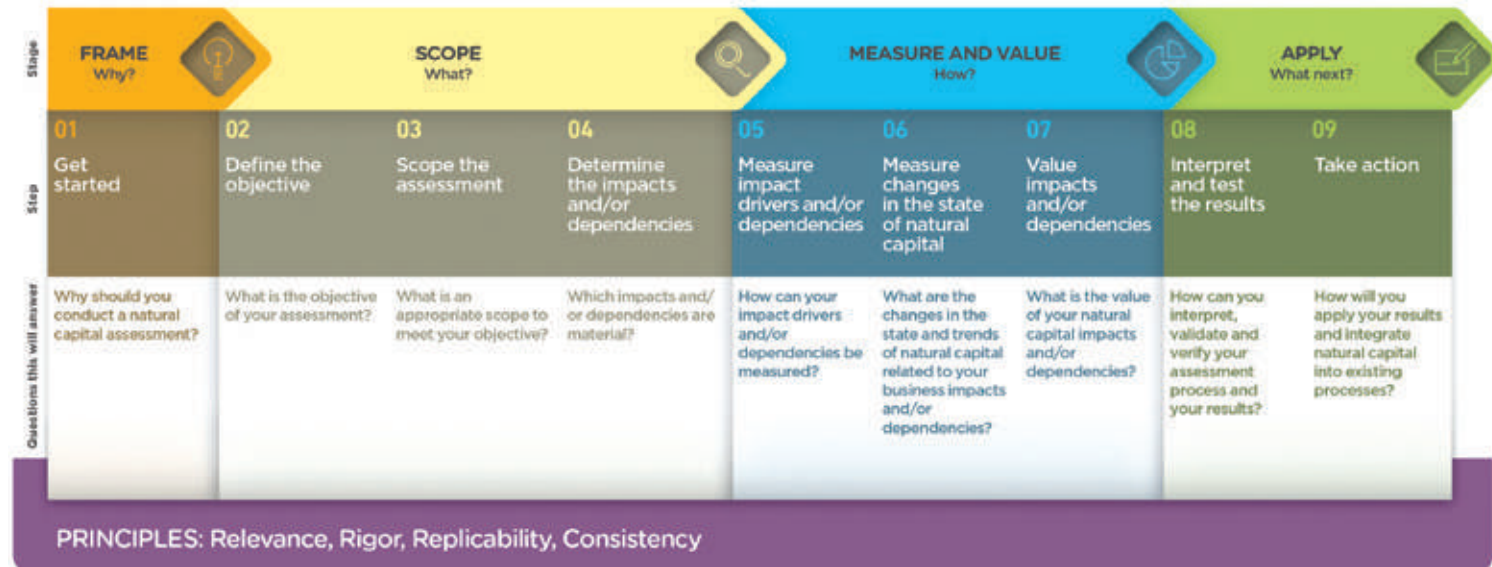


Figure 2 - The nine steps of a Natural Capital Protocol assessment.



APPLICATIONS OF NATURAL CAPITAL ASSESSMENTS

There are multiple different potential uses or ‘applications’ for companies to undertake natural capital assessments. All are potentially relevant for businesses and other organisations in Abu Dhabi and the region. The Protocol conveniently groups them into five categories, as set out in Table 1.

Table 1 – Applications of Natural Capital Assessments

Application	How used	Example questions it can help answer
Assess risks and opportunities	To assess the nature and magnitude of natural capital impacts and/or dependencies, and their associated business risks and opportunities.	<ul style="list-style-type: none"> • What are the most significant environmental impacts and dependencies your business has, and what risks and opportunities could these give rise to? • What are the biggest potential risks and opportunities for your business, project or product from a natural capital perspective? • Is there a certain level of business activity at which impacts and/or dependencies on natural capital pose a serious risk?
Compare options	To compare, contrast, and select from a range of alternative options, while considering their relative natural capital impacts and/or dependencies.	<ul style="list-style-type: none"> • What is the best development design option to minimize adverse natural capital impacts and maximize beneficial impacts? • What procurement sourcing option is best? • Which existing or potential company sites present the greatest risk? • Which companies or assets should your investment portfolio favor or exclude based on their natural capital risks or opportunities? • Is wetland restoration more cost-effective for water treatment, compared to a conventional water treatment plant?





<p>Assess impacts on stakeholders</p>	<p>To ascertain which stakeholders are affected by changes in natural capital due to business activities, and by how much.</p>	<ul style="list-style-type: none"> • What is the right level of compensation for an incident that affects natural capital which reflects the values of affected stakeholders? • How should you best engage with affected communities to secure your license to operate in those communities?
<p>Estimate total value and/or net impact</p>	<p>To determine the total value of natural capital linked to your business activities (e.g. valuing landholdings).</p>	<ul style="list-style-type: none"> • Does the change in total value of the relevant natural capital justify your restoration and rehabilitation investments? • What is the best use of your property from a total value perspective?
	<p>Assess net impact to determine whether a business activity creates net positive or negative impacts.</p>	<ul style="list-style-type: none"> • How can you develop a facility or product that has a verifiably net positive impact on natural capital? • What is the overall 'environmental profit and loss' of your company or operation as identified through evaluating all key material impacts?
<p>Communicate internally or externally</p>	<p>Communicate natural capital impacts and/or dependencies to internal or external stakeholders to engage and attract investors, customers and internal management.</p>	<ul style="list-style-type: none"> • How can you maintain and enhance your social "license to operate" by providing evidence of reduced natural capital impacts/ dependencies? • How can you attract new investors by demonstrating effective and strategic use of funds to reduce natural capital impacts/ dependencies? • How can you benchmark and compare your natural capital performance against other businesses within and beyond the UAE? • How has the natural capital performance of your business/product/ project changed over time, and is this in line with your goals?

BUSINESS CASE FOR NATURAL CAPITAL ASSESSMENTS

The business case for companies to undertake natural capital assessments is multifaceted, with numerous growing drivers, ways they can be used and potential benefits to be gained. Natural capital assessments can reduce risks and costs; increase revenues and share price; drive innovation; attract talent; and enhance stakeholder relations, brand value and reputation. Table 2 summarises some of the more common business case arguments that can help generate such benefits.

Table 2 - The business case for undertaking natural capital assessments

<p>Operational <i>Regular business activities, expenditures and processes</i></p>	<ul style="list-style-type: none"> • Reduce raw material costs and risk of interruption to supply from extreme weather, flooding etc. • Realize efficiency gains
<p>Legal and regulatory <i>Laws, public policies, and regulations that affect business performance</i></p>	<ul style="list-style-type: none"> • Identify future legislation • Reduce compliance costs and risk of fines and penalties
<p>Financing <i>Cost of and access to capital including debt and equity</i></p>	<ul style="list-style-type: none"> • Reduce financing costs and increase margins • Improve access to finance – attracting investors
<p>Reputational and marketing <i>Trust and relationship with stakeholders, customers, suppliers and employees</i></p>	<ul style="list-style-type: none"> • Identify new revenue streams and differentiate your products • Improve ability to attract and retain employees
<p>Societal <i>Relationships with wider society</i></p>	<ul style="list-style-type: none"> • Identify benefits and negative impacts to local communities through improved natural capital (e.g., water quality) • Support a social license to operate



The business case will continue to strengthen as drivers further intensify (e.g. resource scarcity, climate change, regulations, environmental markets, peer pressure, and reporting requirements such as Dow Jones Sustainability Index's new impact valuation section). Whilst there is a business case for undertaking assessments, what is still really needed at a national and international level is a correction of market incentives to fully internalize environmental externalities (e.g. reward environmental improvements and make polluters pay).

LINKS TO OTHER SUSTAINABILITY INITIATIVES

Rather than compete in any way, natural capital assessments complement and enhance all other environmental and sustainability approaches. One prominent example is the UN Sustainable Development Goals, which natural capital underpins and is fundamental to their delivery. A starting point for businesses to address environmental issues is often to conduct an environmental impact assessment for a project development, implement an environmental management system for site operations, or apply a reporting standard, such as the Global Reporting Initiative, to produce an annual company sustainability report. Each of these approaches overlaps with the first five steps of undertaking natural capital assessments. As such, these other approaches can provide valuable inputs into natural capital assessments. Equally, however, natural capital assessments can inform these other approaches.

There is a natural progression from measurement, through to valuation, then decision-making, followed by strategizing to ultimately external disclosure, as shown in Figure 3. A particular benefit of natural capital assessments is that they can help take these other approaches to a higher level. For example they can help to: i) identify a more comprehensive set of environmental impacts, ii) cover environmental dependencies as well, and iii) apply a business and stakeholder value based approach rather than simply establishing quantitative metrics.

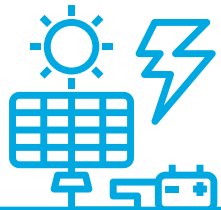
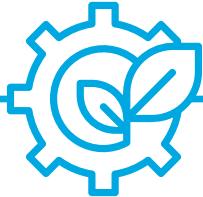
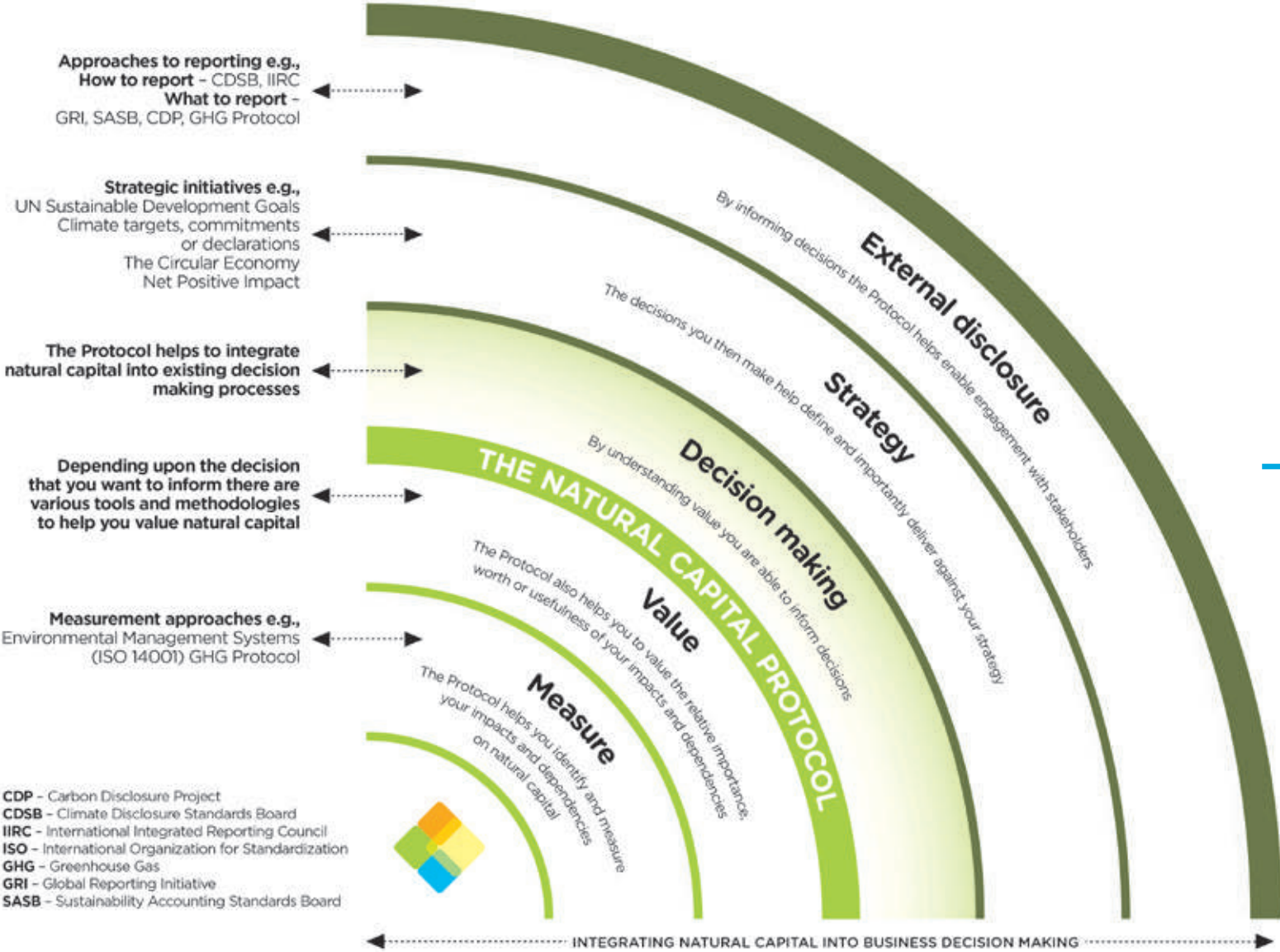


Figure 3 - The natural capital landscape



This landscape is not exhaustive. The Natural Capital Coalition will continue to explore the landscape as it evolves.

Furthermore, natural capital assessments have strong links with other developing sustainability concepts. For example, they provide an excellent means of supporting analysis to help:



1 Justify a circular economy approach by demonstrating reduced negative environmental externalities compared to a linear economy approach.



2 Provide the necessary context for adopting Science Based Targets.



3 Target and evaluate progress towards achieving the Sustainable Development Goals.



4 Undertake scenario analysis and other aspects of conducting the internationally agreed Task Force on Climate Related Financial Disclosure (TCFD) assessments.



5 Inform impact investing, green bonds and achieving Net Zero and Net Positive targets.



EXAMPLE APPLICATIONS

The Natural Capital Protocol has been adopted widely throughout the world by many different companies across multiple sectors. Over 50 companies originally contributed to piloting the Protocol to inform the Protocol. Currently over 200 companies and government-related organisations have applied the Protocol in one form or another in over 40 countries. This includes leading companies such as Akzo Nobel, Dow Chemical, International Paper, Jaguar Land Rover, Natura, Novartis, Roche, Skanska, Shell, Tata Group and Yorkshire Water. Case study write-ups are available for all these on the Natural Capital Protocol web-site⁵.

Example applications of relevance to the Middle East are provided in Box 5. The coral reef applications reveal that natural capital assessments have actually been conducted in the Middle East for many years to inform coral damage assessments for developments and accidents. The Antofagasta example shows how natural capital assessments can be useful for evaluating options such as desalination versus surface water abstraction, complementing more conventional Environmental Assessments. Finally, the Roche study shows how any company can apply the Protocol to its operations to identify their impact and dependencies and better understand associated risks and opportunities.

⁵<https://naturalcapitalcoalition.org/protocol/protocol-application-programme/> and <https://naturalcapitalcoalition.org/hub/>

Box 5 - Example natural capital assessments of relevance to Middle East



Coral Reefs - Applying natural capital assessments in the Middle East

Natural capital assessments have been used in the Middle East for a number of years to inform coral reef damage assessments, effectively applying the same steps and approach as in the Natural Capital Protocol. For example, such assessments have been undertaken in Yemen, Jordan and Saudi Arabia (see Spurgeon, 2018⁶). These assessments have been conducted alongside Environmental Impact Assessments to inform implementation of the mitigation hierarchy (i.e. to avoid, minimize, offset and compensate for impacts) to coral reefs from the construction and operation of a Liquefied Natural Gas (LNG) plant, ferry and container terminals, a port and a power plant.

The assessments have used baseline surveys of coral reefs to then predict the nature and extent to which the corals are likely to be damaged from physical destruction and thermal stress. A combination of Habitat Equivalency Analysis⁷ and environmental valuation techniques were used in each case to calculate the likely change in coral cover, recovery time and societal costs in terms of reduced fisheries, tourism and non-use (i.e. biodiversity or conservation) values. The assessment results informed the scheme design, mitigation measures and what the best form of offsetting and value of compensation should be for any residual unavoidable damages.



Antofagasta - A theoretical case study: natural capital assessment to compare desalination versus surface water abstraction options

Antofagasta, a Chilean mining company, applied a natural capital assessment approach as part of a theoretical case study to evaluate alternative options for obtaining water to continue their subsidiary's (Minera Los Pelambres') copper mining operations in Chile. In this case study, MLP has rights to abstract more water from the surface water river in the area, but there would potentially be significant impacts to local communities from exercising this right, especially given an increase in predicted droughts. Antofagasta therefore wanted to compare the environmental, social and economic impacts of this option to building a desalination plant and pipeline from the sea to the mine instead.



The assessment used the Excel ESE-ROVA⁸ tool, which is consistent with the Natural Capital Protocol. This enabled comparison of a wide range of natural capital impacts as well as social capital impacts, in quantitative and monetary terms, to inform option selection. The tool estimates monetary values for some impacts and uses them to weight scores and values for other significant impacts. Environmental impacts valued in monetary terms included crop irrigation, GHGs, air pollutants, dust, noise, landscape and biodiversity habitats. Together with a more traditional Environmental Impact Assessment, these assessments helped inform the decision and approval in 2018 to build the desalination plant and pipeline, but only as a back-up for use in periods of drought. The desalination plant can also then be used to provide nearby local communities with much needed additional freshwater during such droughts.



Roche – Applying the Natural Capital Protocol to six operational sites

Roche, a multinational pharmaceutical company based in Switzerland, undertook a natural capital assessment to i) better understand the company's environmental impacts, dependencies and associated risks and opportunities, and ii) to investigate how the Protocol approach compares to their existing 'Eco-balance' approach to evaluating environmental impacts. As part of the framing stage, Roche conducted a high-level natural capital materiality assessment for global operations along their whole value chain. In addition, they applied the Protocol to their six operational sites in Switzerland – identifying and estimating monetary values for 17 of their environmental impacts, including GHGs, a range of air emissions and water pollutants, water consumption and waste.

The assessment validated their Eco-balance approach and also converted the impacts to monetary units, enabling a useful comparison with company profits. GHG emissions and travel impacts were revealed as having the most significant societal costs, but were relatively low compared to associated net revenues. The assessment also highlighted opportunities to enhance potentially significant positive impacts related to use of canteen food, green space, plants and biodiversity at their sites. Having appreciated the additional insights gained, Roche has subsequently conducted natural capital assessments to inform improved water management at a large manufacturing and research plant in California and to develop an Environmental and Social Profit and Loss Account for their operations globally.

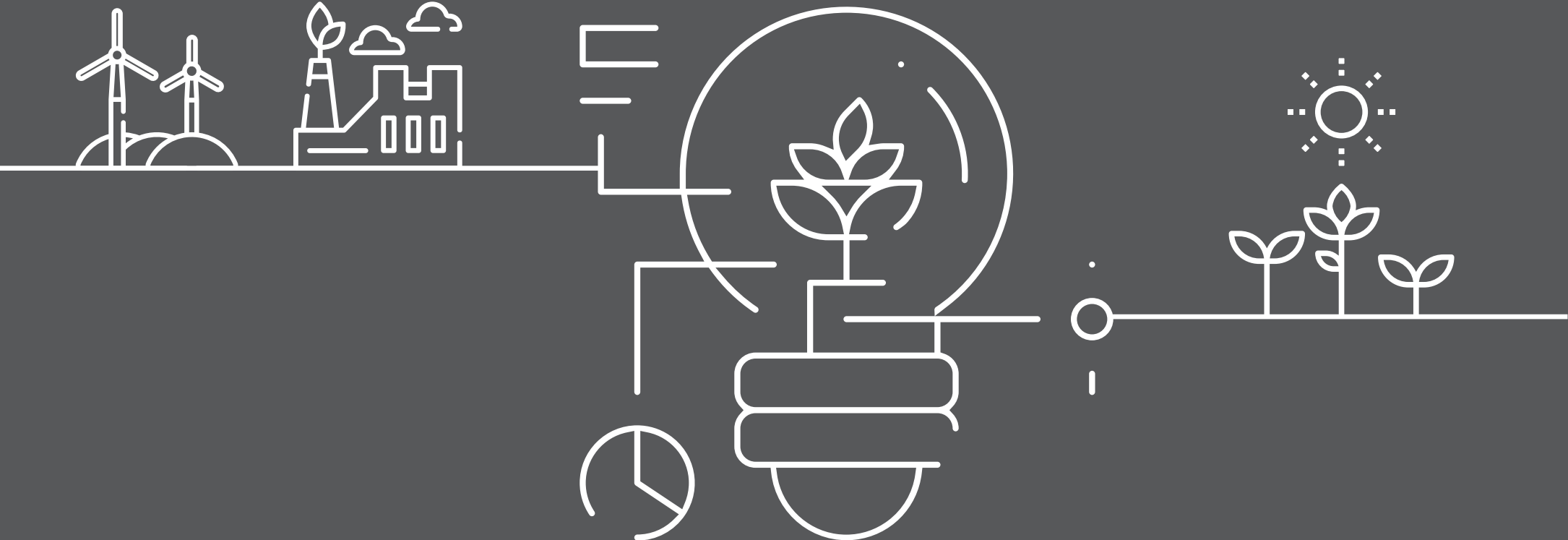
⁶Spurgeon, J (2019). The value of our vanishing reefs. In 'The Restoration Economy'. RICS Land Journal March/April 2019. Royal Institute of Chartered Surveyors.

⁷This approach determines the area of habitat damage over time and how much area of equivalent habitat needs to be restored or created to offset the impacts.

⁸ESE-ROVA is the Environmental, Social and Economic - Risk and Opportunity Valuation Assessment tool developed by Antofagasta and Sustain Value.



NATURAL
CAPITAL
FLAGSHIP
PROGRAMME





03

THE NATURAL CAPITAL FLAGSHIP PROGRAMME

THE NATURAL CAPITAL FLAGSHIP PROGRAMME

The Abu Dhabi Sustainability Group Natural Capital Flagship Programme ran from the end of 2017 through to the end of 2018. It started with a Hiwar (a seminar dialogue) to introduce the topic of natural capital followed by the Abu Dhabi Sustainable Business Leadership Awards and Forum 2018, and a series of training workshops on how to implement natural capital assessments.

HIWAR ON NATURAL CAPITAL



The ADSG Hiwar sessions are a series of sustainability seminars that focus on current issues through the lens of practitioners from the government, business and not-for-profit community. They target senior professionals concerned with sustainability and its implications in United Arab Emirates. A Hiwar on natural capital was held on 17th December 2017 at the Four Seasons Hotel, Al Maryah Island. The aim was to examine and analyze what natural capital means, introduce the Natural Capital Protocol (context, development and progress to date) and provide updates on the progress made internationally, regionally and locally. It also explored how attendees can support the momentum for change, specifically highlighting the role of the private sector in realizing the shift to a green economy.

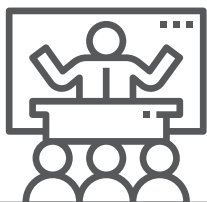
Presentations were given by James Spurgeon (Natural Capital Coalition Representative), Jane Glavan (Partnership Manager at Abu Dhabi Global Environmental Data Initiative (AGEDI) and Nessrine Al Zahlawi (Unit Head for Terrestrial Biodiversity Policy and Regulations at Environment Agency – Abu Dhabi). The session was moderated by Huda Al Houqani (Director of ADSG at Environment Agency – Abu Dhabi)

ABU DHABI SUSTAINABLE BUSINESS LEADERSHIP AWARDS AND FORUM 2018

The 2018 event was entitled 'Taking Nature into Account' and was held from 20th to 22nd February at the Anantara, Eastern Mangroves Hotel. It began with an evening awards ceremony recognizing those organisations in the UAE that have demonstrated sustainability impact across six award categories. Speeches were given, amongst others, by Her Excellency, Razan Khalifa Al Mubarak, Secretary General of Environment Agency – Abu Dhabi, and Mark Gough, Executive Director, Natural Capital Coalition. An excerpt of Mark Gough's speech on natural capital is given in Box 6 addressing the 'third shift' from single issues to systems thinking.



Hiwar Panellists on "Natural Capital as the Road to A Prosperous and Resilient Economy" held on December 2017, Four Seasons, Abu Dhabi.



Box 6 - Excerpt from Mark Gough's speech on natural capital

"We are, I believe, entering a new renaissance period where we need generalists who can understand how all of the experts connect. Where we need people to make sense of all of the acronyms, special languages for each profession and highlight that the whole is bigger than the parts that makes it.

The themes in sustainability are all very important. Health & safety, the environment, climate change, social justice, governance. Each of these is important in its own right, but the most important thing might be how these all come together in a system. The connections between each of these themes is a bigger part of the story than each individual theme itself and knowing why and how they connect will allow us to make significant improvements.

A good example is how energy, water and food interconnect. We know that each is important but if we create desalination plants we know that this has energy and carbon impacts. If we grow food this impacts water. If we produce food based energy, then this limits the amount of food we can grow. Nature teaches us that everything is connected. That it is all a system and yet we have been looking at things in isolation.

The way to address this and how sustainability will change is through collaboration.... This is clear from the work we have been doing at the Coalition. We work in what we call 7 worlds. Conservation, academia, business, membership organisations, finance, standard setters and governments.

It is only when they come together and create a community that we can create lasting change. "Collaboration is not about gluing together existing egos. It's about the ideas that never existed until the next person entered the room" (Kathleen McNenny).

We all talk about collaboration and working in partnership, but this is becoming more and more important and will be a defining feature of sustainability in the future".

The first full day of the conference covered topical issues including:

- i)** delivering the UN Sustainable Development Goals and considering how natural capital thinking can support this and offer a practical framework;
- ii)** implementing the Task Force on Climate-related Financial Disclosures (TCFDs) and how the Natural Capital Protocol framework can help in this; and
- iii)** delivering sustainability through the supply chain by considering company reliance and impacts on natural capital and associated risks and opportunities.

The second day involved two parallel workshops on energy efficiency and the Natural Capital Protocol. The latter was the first of the three natural capital training workshops, as further explained on the next page.

NATURAL CAPITAL TRAINING WORKSHOPS

In 2018, three training workshops were held on the Natural Capital Protocol for businesses in the Middle East. Through presentations, group discussions and practical engagement, the workshops sought to equip attendees with the awareness and knowledge to be able to undertake or commission a natural capital assessment for their own organisation. The sessions were led by James Spurgeon, with contributions from Mark Gough and Rosie Dunscombe (all representing the Natural Capital Coalition), Huub Den Rooijen (The Crown Estate), Florian Eppink (local consultant) and Sandra Anani (Abu Dhabi Sustainability Group).

The first workshop introduced the concept of natural capital and discussed how to complete the first two stages of the Protocol, 'framing' and 'scoping' an assessment. The second workshop focused on the third stage, i.e. measurement and valuation. The third and final workshop explored how companies can interpret and apply the results of a natural capital assessment to targeted action within their industries (i.e. Stage 4). The final workshop was followed by a half-day expert clinic of one-on-one discussions with natural capital experts. Participants were encouraged to attend all three to gain the skills necessary to complete a natural capital assessment independently.

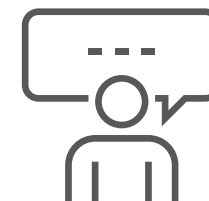
WORKSHOP #1: FRAME AND SCOPE (FEBRUARY 22)

The aim of this first workshop was to introduce the Protocol and provide training on the first two Stages: 'Frame' and 'Scope.' The day began with a look at global progress in natural capital thinking, particularly at the connection between natural capital and biodiversity in local contexts.

Following a theory session, an overview of international and local examples, and a detailed case study from The Crown Estate (UK), participants were given assistance in planning natural capital assessments for their organisations, beginning by identifying and scoping potential opportunities. This led into an activity, "The Challenges of Application." For this exercise, participants were put into groups formed around themes such as tourism, renewable and non-renewable energy, construction and finance. They then engaged in framing and scoping natural capital assessments by identifying the impacts and dependencies of their organisation on natural capital, and working through challenges of the scoping phase. The themed groupings helped ensure that the natural capital issues discussed were more likely to be of relevance to all.

WORKSHOP #2: MEASUREMENT AND VALUATION (MAY 9)

For the second workshop, the day began with a review of the Protocol and of the 'Framing' and 'Scoping' phases covered in Workshop 1. Participants then shared ideas from templates they had completed during the first workshop, discussing natural



capital assessments they had proposed. This was again undertaken by attendees sitting at tables in groups organized by sector, covering oil and gas, renewable energy, construction and tourism.

An overview was then given of Stage 3 of the Protocol: 'Measurement and Valuation'. This covered measuring impact drivers and dependencies, measuring changes in the state of natural capital, and valuing impacts and dependencies on natural capital. Participants then deliberated within their sector groups on how they could apply these steps to their scoped assessments, building upon progress from Workshop #1.

The session concluded with the whole group being led through how to conduct stages 1 to 3 for a real-life manufacturing site on the coast in Abu Dhabi. This involved talking through the identification of likely material impacts and dependencies, and discussing how each could be valued from a business and societal perspective. This practical session really helped bring the Natural Capital Protocol to life for the attendees, showing how straight-forward the approach actually is.

WORKSHOP #3: APPLICATION OF THE PROTOCOL AND EXPERT CLINIC (NOVEMBER 6-7)

This final workshop was split over two days. Day 1 started with a brief recap of earlier training on framing, scoping, measuring and valuing impacts and dependencies on natural capital. Attention was then focused on the final Protocol stage: 'Apply'. This involved an explanation of interpreting and testing results, and how to turn them into targeted action.

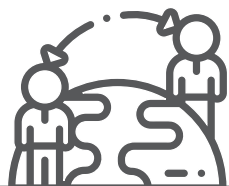
Two practical sessions then followed, with firstly each participant sharing how their organisation was applying or considering applying a natural capital assessment. This provided a fascinating discussion and range of insights, under Chatham House rules, as to what each organization was doing, or could potentially do, in terms of adopting a natural capital approach. A number of these ideas and insights are reproduced in Section 5.

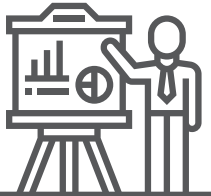
The workshop concluded with a brainstorming session whereby the attendees were talked through how to undertake a natural capital assessment for a fictitious coastal development. The hypothetical example was developed in the session in order to feature key aspects of relevance to each attendee, and as such, include elements of tourism, transport, energy and conservation.

EXPERT CLINIC

Day 2 was a half-day event open to any organisation who wanted to receive free expert⁹ advice and support on how they might apply their own natural capital assessment. A series of one-on-one sessions ranging from around 30 – 45 minutes were provided to six organisations who took up the offer.

⁹The experts were James Spurgeon and Rosie Dunscombe, both representing the Natural Capital Coalition from the UK.





Natural Capital Protocol Training Workshop 2:
Measurement & Valuation, May 2018 at Dusit Thani, Abu Dhabi.





04

PARTICIPATION AND SURVEY RESULTS



PARTICIPATION AND SURVEY RESULTS

ATTENDEES

Over 40 organisations participated in one or more of the training sessions, representing a range of sectors including business, financial institution, government, agency, consultancies and NGOs (see Table 3). Some of the output from surveying participants is summarised below, although information gleaned on attendee plans for undertaking natural capital assessments are covered in the next section.

Table 3 - Participating organisations in the training

Category	Organisation
Business	Abu Dhabi Airports Company
	Abu Dhabi Health Services Company
	Abu Dhabi National Oil Company (ADNOC)
	Abu Dhabi National Exhibitions Company (ADNEC)
	Al Barakah Holding
	Al Jazeera International Catering
	Anantara
	Dolphin Energy
	Emirates Global Aluminium
	Emirates Palace
	Emirates Nuclear Energy Corporation (ENEC)
	Emirates National Oil Company (ENOC)
	Etihad Airways
	Farner Services
	Media One
	Midfield?
Musanada	
Ultra Tech	

Category	Organisation
Financial Institution	<ul style="list-style-type: none"> • BNP Paribas • CICPA • Rotana • Union National Bank
Government Agency	<ul style="list-style-type: none"> • Abu Dhabi Water and Electricity Authority • Critical Infrastructure & Coastal Protection Authority (CICPA) • Department of Culture and Tourism • Department of Health Abu Dhabi • Department of Transport – Abu Dhabi • Environment Agency-Abu Dhabi • Ministry of Climate Change and Environment • US Embassy
Consultancy	<ul style="list-style-type: none"> • 3 BL Associates • EY • Independent consultants (several) • PwC
Influencers	<ul style="list-style-type: none"> • Birdlife • Emirates Nature - WWF • United Nations - Convention on Migratory Species Office



FEEDBACK FROM ATTENDEES

Attendee feedback was extremely positive with 100% stating it was either excellent (44%) or good (56%). Some of the specific feedback is reproduced in Box 7. Phrases used to summarize the training included: beneficial, informative, thought provoking, and a step towards more involvement in the topic. Other constructive feedback provided will be used to further develop and enhance future components of the Flagship Programme.

Box 7 - Feedback on the training course



"I found the training subject matter to be thought provoking, extremely informative and relevant to my organisation's work."

Lyle Glowka, United Nations Convention on Migratory Species Office - Abu Dhabi



"The course was very useful providing basic concepts of the natural capital approach while allowing for more detailed discussions on real life applications. The sectoral breakout sessions offered a great opportunity to initiate a discussion on sector specific issues. Building on this, I would like to see in the future more in-depth sectoral discussions with tangible take-home messages for the participants."

Marina Antonopoulou, Marine Programme Leader - Emirates Nature-WWF

Other non-attributed feedback included :

"It gave me a clear idea about the Protocol and how it is different from other approaches".

"I liked how the speakers provided a recap of earlier stages to give a grasp to new attendees".

"The discussions were good".

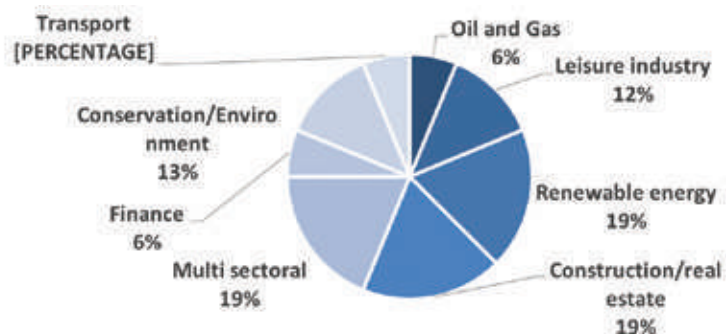
"I liked the examples and group exercise".

"It was good how the approach was flexible and adaptable to group needs and interests".

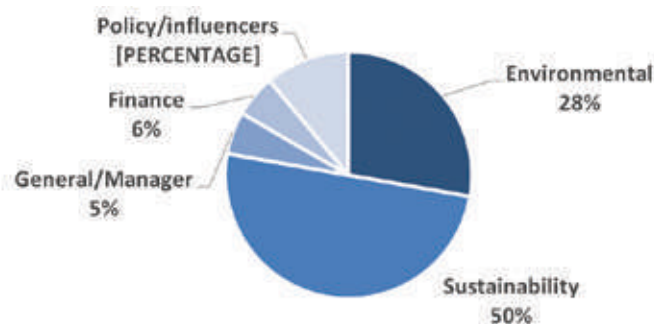
"I appreciated the knowledge of the presenters".



Sectors represented: Attendees represented a rich diversity of sectors, as illustrated below. Renewable energy, construction/real estate, and multi-sectoral were the most common areas of involvement with conservation/environment and the leisure industry the next most represented. Oil and gas, finance, and the transport sector were the smallest sectors present, each with 6% of attendees.



Main technical focus of roles: As anticipated, by far the most common technical focus among respondents was sustainability, at 50%, followed by an environmental focus, which was shared by 28% of respondents. It was also encouraging to have attendees with policy/influencers, finance, and general/manager focuses in their roles.

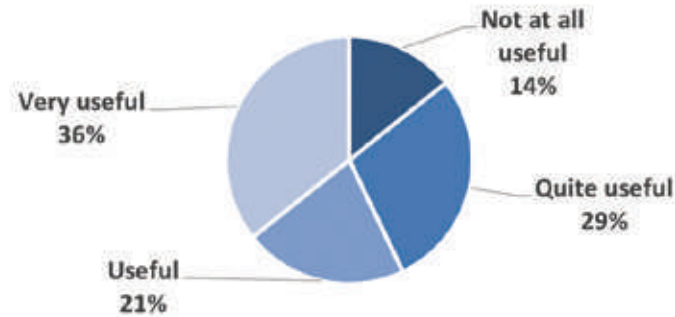


Countries of operation: A 61% majority of attendees were from organisations that operate in Abu Dhabi specifically. However, we also welcomed 17% of attendees who operate in the Middle East generally; 11% in the UAE, and another 11% were from organisations with global operations.

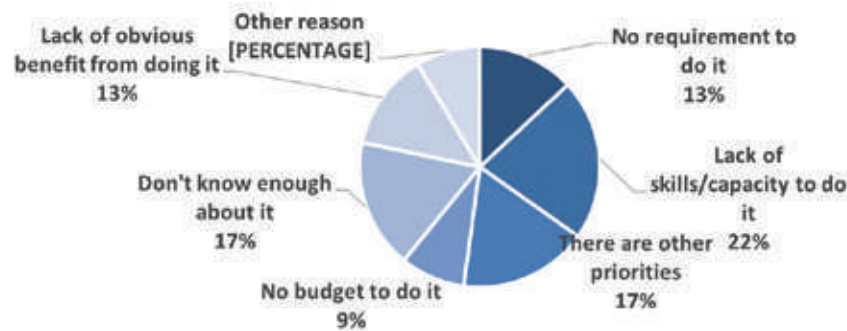
Management of environmental impacts: Attendees' responses were somewhat evenly split on the extent to which their organisations identify and manage their environmental impacts. This demonstrates how natural capital thinking can be useful for a breadth of organisations, from those already engaging in managing environmental impacts a great deal (29%) through those engaged often (21%), a little (29%), but also those 'not at all' engaged in this work yet (21%).



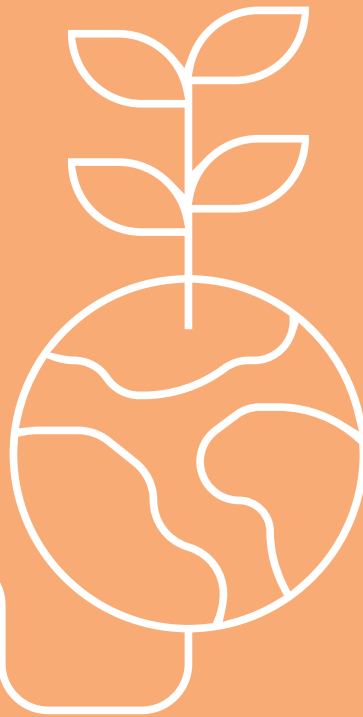
Perceived use of a natural capital assessment: The majority (86%) of respondents held that it would be useful for their organisation to undertake a natural capital assessment that assessed their environmental dependencies or the values associated with these. This included 36% of respondents who thought it would be very useful, 21% useful and 29% quite useful. Interestingly though, 14% thought such an assessment would be not at all useful for their organisation (although the reason for this was not explained).



What is preventing organisations from applying natural capital assessments: Attendees highlighted a broad range of reasons as to why their organisations did not undertake natural capital assessments. Over half (52%) cited a lack of: business case, driver, priority or budget to do it as the main reason, whilst 39% said it was not knowing enough about it or not having the rights skills. It is hoped that after this training course, more organisations in Abu Dhabi will be better motivated and equipped to for these kinds of assessments.









05

COMPANY AND ORGANISATION ACTIONS

COMPANY AND ORGANISATION ACTIONS

INTRODUCTION

Like most countries, the concept of natural capital is new to most organisations in Abu Dhabi and the Middle East, with no current requirements for organisations to adopt such an approach. However, through this Natural Capital Flagship Programme it is clear there is now an encouraging level of interest – certainly amongst those organisations attending the training sessions.

VIEWS ON THE NATURAL CAPITAL APPROACH

Attendees of the training courses generally found natural capital a potentially very useful concept to apply. In particular, they recognized how it can help organisations look at environmental problems in a different way that enables them to better understand potential associated risks and opportunities (see Box 8).



Box 8 – Example attendee thoughts on the natural capital approach

“The natural capital approach offers a great opportunity for governments and businesses to map out the interdependencies of sectoral policies and business operations with the natural environment. It provides a reliable platform, as well as the necessary tools, to better understand the concept of ecosystem services and link conservation and sustainable management of natural resources to decision making. It is important to streamline the accounting for ecosystem services across economic sectors to ensure true sustainability and it is positive to see a global shift in the business mind-set towards this direction”.

- Marina Antonopoulou, Marine Programme Leader - Emirates Nature-WWF

“Widespread application of the Natural Capital Approach could be a game-changer for biodiversity conservation and should figure prominently in the post-2020 biodiversity agenda and the achievement of the Sustainable Development Goals. It can help different sectors understand their dependencies and impacts on the ecosystem goods and services that are often taken for granted”.

- Lyle Glowka, Convention on Migratory Species Office – Abu Dhabi

“The Natural Capital Protocol is a key enabler of our Public-Planet Partnerships (PPP) framework, which designs mutually beneficial and regenerative collaborations between the human world (government, business and civil society) and the natural world.”

- Leena Al Olaimy, Cofounder, Public-Planet Partnerships, Bahrain

"Coastal habitats represent vital natural capital that provide a myriad of essential ecosystem services; they support fisheries, protect shorelines, provide opportunities for tourism, and are important for cultural heritage and identity. With Abu Dhabi's rapidly developing growth trajectory it is paramount that Abu Dhabi's ecosystems are protected and valued locally, nationally and globally in terms of their wildlife, natural resources and landscape."

- Jane Glavan, AGEDI Partnerships Manager, Environment Agency - Abu Dhabi

IDEAS FOR UNDERTAKING NATURAL CAPITAL ASSESSMENTS

Throughout the training sessions, excellent discussions were held around the many potential ways that a natural capital assessment could be undertaken by each organisation attending. For a variety of reasons though, including sensitivity and confidentiality, it is not possible to go into details of those discussions or plans, with the exception of two examples provided in Box 9. Instead, set out beneath is a generalized and anonymized summary of some of the ideas discussed.

Box 9 - Potential plans for conducting a natural capital assessment

"I lead the regional office in Abu Dhabi of the United Nations Convention on Migratory Species, an intergovernmental organisation with 127 member States focused on migratory species conservation. Migratory species are unique components of biodiversity that fly, swim or run across international boundaries. They rely on a range of habitats as they move to complete their life cycles. The Natural Capital Approach if applied within a country and across countries in a migratory pathway could lead to better informed decision-making. My organisation does not apply the Natural Capital Approach per se. However, within the West Asian region when we see an opportunity we try to champion the Natural Capital Approach to governments as a means to make better decisions when proposed projects potentially threaten habitats important to migratory animals"

- Lyle Glowka, Convention on Migratory Species Office - Abu Dhabi

"While we are not planning a specific project per se, however our current work can feed into an ecosystem valuation initiative. Our work in developing a coastal habitat map for northern emirates provides the foundation for future valuation work in a georeferenced manner"

- Marina Antonopoulou, Marine Programme Leader - Emirates Nature-WWF





The following generalized examples were all mentioned and discussed by one or more attendees in relation to how their organisation could potentially apply natural capital assessments.

- **Supplement Environmental Impact Assessments (EIAs).** Several attendees agreed that natural capital assessments could usefully complement EIAs either during or after an EIA is conducted. They could help highlight the most significant natural capital impacts (and dependencies) across the construction and operational lifespan of developments. They could also help to prioritize environmental initiatives (e.g. mitigation and enhancement measures) during both the construction and operation phases. Natural capital assessments could also demonstrate the real costs and benefits of a development to help identify optimum project design. The latter could be particularly important in cases

where significant damage may otherwise be inflicted by a scheme to natural habitats that provide multiple important ecosystem services.

- **Evaluate and promote the benefits of sustainability projects.** A number of participants also discussed the potential for using natural capital assessments within their organisations to help evaluate environmental and sustainability projects. They recognized how useful it could be to quantify and value the range of additional societal benefits that projects they had undertaken or were thinking of undertaking could be. This includes valuing the benefits associated with saving water, reducing air emissions and solid waste, and providing green space and plants in an office environment. This approach could help select between alternative schemes with different trade-offs, explore different risks and opportunities and help communicate the business case to justify such projects. Some attendees also mentioned how there could be strong links with the Social and Human Capital protocol too.
- **Help inform general sustainability decision-making.** Natural capital approaches could be used to help inform a number of broader sustainability related decisions. This includes, for example, investigation of supply chains, planning for cities (e.g. green cities), project appraisals and asset/facility management. Opportunities also exist here for consultancy firms who could support their clients with natural capital assessment advice or services.
- **Promote better and more integrated transport solutions.** A natural capital assessment approach could help inform and justify a more holistic systems based approach to linking different transport options (e.g. road, rail, air etc.) and making them more sustainable. In particular, it could help address energy, water and air pollution issues in a joined up way and make a stronger business case if impacts and savings can be converted to monetary values.
- **Promote better health solutions.** In a similar manner, a natural capital assessment approach could help inform and justify a more holistic approach to improving air quality and associated health impacts. Again, a stronger business case for action could be made, and solutions better targeted, if impacts and savings can be converted to monetary values.
- **Justifying net positive targets.** Natural capital thinking and assessments could be used to help organisations justify developing net positive outcomes for both humans and nature.
- **Conduct sector based natural capital studies.** There appeared to be scope and potential benefits for undertaking national natural capital studies from different sector perspectives. For example, studies could investigate say the tourism, construction and energy sectors to identify each sector's main impacts and dependencies on natural capital. Options for incentivizing behavior to enhance natural capital and not damage it could be considered too.
- **Explore synergies with national natural capital accounts.** For some organisations, there could be interesting potential links with national level natural capital accounts, if the UN Systems for Environmental- Economic Accounting (SEEA) were implemented in the UAE.



- **Inform Integrated (Environmental and Social) Profit and Loss Accounts.** Natural capital assessments could be used in the development of integrated environmental and social profit and loss accounts for an organisation's overall operations. This could help promote the value of the overall positive environmental and social impacts an organisation has beyond its financial performance.
- **Help to justify and finance conservation.** Natural capital assessments could help to make a stronger and broader economic and societal case for conserving habitats and wildlife, such as birds and sharks. In addition, such assessments could identify the nature and extent of benefits and who they accrue to, thereby informing potential sustainable financing mechanisms (such as user fees).

CURRENT PLANS FOR UNDERTAKING NATURAL CAPITAL ASSESSMENTS

The final session questionnaire survey revealed that 7% of organisations had already undertaken some form of natural capital assessment and that 50% were either considering (43%) or planning (7%) to undertake a natural capital assessment. Box 10 highlights some anonymous statements about what steps some of those organisations attending the training sessions are now considering and planning.

Box 10 - Current steps that organisations attending the final workshop are taking:

- "We are developing an initiative to encourage different departments within our organisation to undertake a natural capital assessment".
- "We are planning to develop an initiative that can be part of an overall strategy to adopt natural capital assessments".
- "We plan to introduce the Natural Capital Protocol to our top management and, along with undertaking Sustainability Reporting, are aiming to ascertain Natural Capital outcomes of our organisation".
- "We are introducing the Natural Capital Protocol to governments and other decision-makers".
- "As a consulting organisation, we are exploring the possibility to help one of our clients apply the Natural Capital Protocol".

POTENTIAL USE FOR IMPLEMENTING A NET POSITIVE STRATEGY

A promising future application of the Natural Capital Protocol is to support organisations wanting to demonstrate they have a net positive impact – a trend being adopted by several leading sustainability companies worldwide. Whilst not linked to the Flagship Programme, Majid Al Futtaim is a Dubai based company that has committed to becoming Net Positive by 2040 (see Box 11). As part of their approach they undertook a hotspot assessment of their material issues, identified as carbon and water. This allowed them to understand the scale of their challenge. They are now working across the business to understand and evaluate their carbon and water footprint impacts to focus and help deliver the greatest change most quickly. The Protocol can help guide companies through this process – from identifying material natural capital impacts, to determining ways to measure them, and finally to developing appropriate plans for achieving a net zero or net positive impact.

Box 11 – The Majid Al Futtaim approach to Net Positive

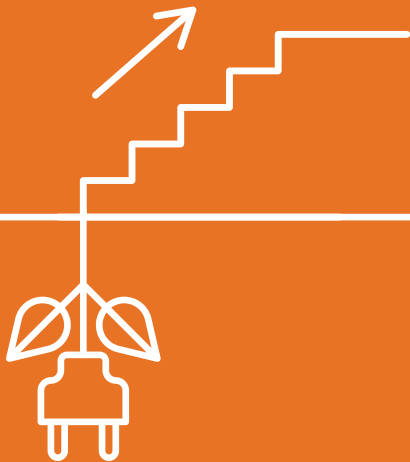
Majid Al Futtaim is a Dubai based company that owns and operates 21 shopping malls, 12 hotels and three mixed-use communities across the Middle East, Africa and Asia. They have committed to become Net Positive in carbon and water by 2040 through the following.

- **Understanding our impacts** – we are establishing a robust data management system to allow us to quantify our carbon and water impacts across the group.
- **Reducing negative impacts** – we will set interim targets, which will prioritize action in areas with the highest possible short-term savings, before tackling change across the wider business.
- **Balancing our impacts** – to help with making a positive contribution, we will aim to source renewable and zero carbon energy, and to reuse and purify grey water.
- **Making a positive contribution** – to make a lasting positive contribution to the environment, we need to produce more clean energy than we require, at the same time creating clean water for our communities.

Source: Majid Al Futtaim (2018) Our Net Positive Impact Commitment Whitepaper: Leading by Example: Sustainability through leadership paper.







06

CONCLUSION AND NEXT STEPS

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OUTCOME OF THE SESSIONS

The Flagship programme so far has proved to be of considerable interest and has laid the foundations for further work in this space. The training workshops were attended by 64 people from 40 different organisations as well as five freelance consultants. The attendance and rich discussions demonstrate there is plenty of interest in the subject within Abu Dhabi and UAE. The organisations represented a broad range of sectors, in particular: tourism, energy (renewable and non-renewable), financial institutions, government agencies and conservation related organisations.

A number of organisations attending have either already started undertaking natural capital assessments or are planning to undertake them. A range of potential applications were discussed by attendees, some of which will hopefully be implemented in the coming months. This includes complementing Environmental Impact Assessments; evaluating and promoting the benefits of sustainability projects; justifying net positive targets; and helping to justify and finance conservation.

However, several fundamental barriers to organisations actually undertaking natural capital assessments were identified. This includes a lack of in-house knowledge and skills in natural capital together with a lack of requirement and business case for organisations to adopt such an approach. Other issues are thus of greater priority and easier for organisations to deal with.

A recurring theme throughout discussions in each training session was that more examples of natural capital assessment applications are wanted from the region. Whilst some examples were mentioned of how natural capital thinking has begun to feed into company and organisation decision-making within the region, it is still early days. This space thus represents a prime opportunity for leading sustainability organisations in the region to take up the mantle and be amongst the first to adopt the approach. This can generate considerable reputational benefits. The growing number of other companies worldwide adopting such approaches can be drawn upon for inspiration.

NEXT STEPS

ADSG is currently considering how best to follow up this initial training programme. In the first instance, this document will in itself hopefully help to inform and inspire further action. Other possible actions in the short term include development of additional materials - and more sector specific - to help inform and undertake natural capital assessments.

Furthermore, the Natural Capital Coalition has plans in place to launch a UAE Regional Platform, further details of which were announced at the Sustainable Business Leadership Forum in April 2019.

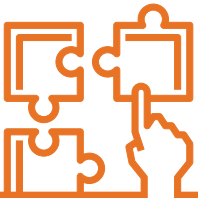






Environment Agency-Abu Dhabi - Established in 1996, the Environment Agency - Abu Dhabi (EAD) is committed to protecting and enhancing air quality, groundwater as well as the biodiversity of our desert and marine ecosystem. By partnering with other government entities, the private sector, NGOs and global environmental agencies, we embrace international best practice, innovation and hard work to institute effective policy measures. We seek to raise environmental awareness, facilitate sustainable development and ensure environmental issues remain one of the top priorities of our national agenda.

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The Abu Dhabi Sustainability Group (ADSG) is a membership organisation whose mission is to promote sustainability management in Abu Dhabi by providing learning and knowledge sharing opportunities for government, private companies and not for profit organisations in a spirit of cooperation and open dialogue. The ADSG was set up by the Environment Agency - Abu Dhabi in 2008, as a forum of members who have signed the ADSG Declaration, committing to adopt best practices of sustainability management and reporting and to actively participate in ADSG activities. The ADSG is open to new members willing to practice and champion sustainability in Abu Dhabi in a spirit of cooperation and open dialogue

www.adsg.ae



The Natural Capital Coalition is a unique global multi-stakeholder collaboration that brings together leading initiatives and organisations to harmonize approaches to natural capital and grow a supportive enabling environment for natural capital thinking. The Coalition represents over 300 organisations at its core.

www.naturalcapitalcoalition.org



Sustain Value is a UK based natural and social capital consultancy firm established in 2011. We specialize in helping businesses identify, value and manage environmental and social impacts and dependencies. We provide highly cost-effective support to clients throughout the world, operating through a flexible global network-based structure drawing upon a diverse range of independent experts and researchers. All projects are led by James Spurgeon, who has 25-years' experience valuing environmental and social issues for clients in different sectors in the UK and internationally. James is a lead author of the Natural Capital Protocol and sits on the Coalition's Advisory Panel. We would like to thank Maggie Cormack and Alex Brown for their assistance on this project.

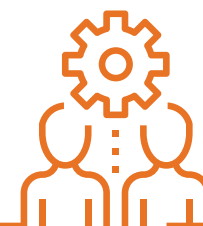
www.sustainvalue.co.uk

Sustainability to Action (STA) is an Abu Dhabi founded and based boutique consultancy consisting of a group of consultants and associates who are experts in business responsibility in the areas of sustainability, corporate responsibility, materiality, stakeholder engagement, communications and behaviour change through social engagement. STA's team work with stakeholders to embed and integrate responsible business practices in organisations by providing insight and consultancy services, training, coach-mentoring and thought leadership. STA is leading the Natural Capital Coalition regional platform in the UAE

www.sustainabilitytoaction.com

For further information contact:

- Huda Al Houqani – halhouqani@ead.ae
- Sandra Anani – sandra@sustainabilitytoaction.com
- James Spurgeon – james.spurgeon@sustainvalue.co.uk
- Rosie Dunscombe – rosie.dunscombe@naturalcapitalcoalition.org
- Rasha Ali El Sawaby – rasha.sawaby@adsg.ae





شراكة لريادة الاستدامة في أبوظبي
A partnership to champion sustainability in Abu Dhabi



ص ب 45553 · أبوظبي · الإمارات العربية المتحدة
PO Box 45553 · Abu Dhabi · United Arab Emirates

ت 02 - 6934644 هـ

communication@adsg.ae
www.adsg.ae



@ADSG_Comms