

STEWARDING OUR GLOBAL COMMONS - AN URGENT CALL FOR ACTION

Summary report for the Stewardship
Commons session as part of
Temasek Ecosperity Week 2019

By:



In Partnership With:



GLOBAL COMMONS ALLIANCE
A PLAN FOR THE PLANET

Prepared by AlphaBeta

Published in August 2019

Important Notice on Contents – Estimations and Reporting

This summary report for the Stewardship Commons 2019 session organised by Stewardship Asia Centre (SAC) and the Global Commons Alliance (as part of the Ecosperity Week 2019) has been prepared by AlphaBeta.

Stewardship Asia Centre (SAC) is a thought leadership centre promoting effective stewardship and governance across Asia. Positioned to inspire and catalyse change, SAC builds capabilities and platforms that enable organisations to foster enduring success and responsible wealth creation for the long-term, and to benefit the wider community and future generations.

SAC collaborates with credible partners globally and works with corporations, state-owned enterprises, family-owned businesses, institutional investors as well as non-profit organisations. Through its forums, knowledge platforms and content, the Centre promotes the learning and application of concepts and practices that will enable organisations to create value and also contribute to the well-being of society over the long term.

All information in this report reflects the discussions that took place at the Stewardship Commons session, supported by additional information and analysis provided by AlphaBeta. The Stewardship Asia Centre would like to thank all the participants at the session for giving their valuable time and enabling such a rich discussion on this crucial topic.



AlphaBeta is a strategy and economic advisory business serving clients across Australia and Asia from offices in Singapore, Sydney, Canberra and Melbourne.

SINGAPORE

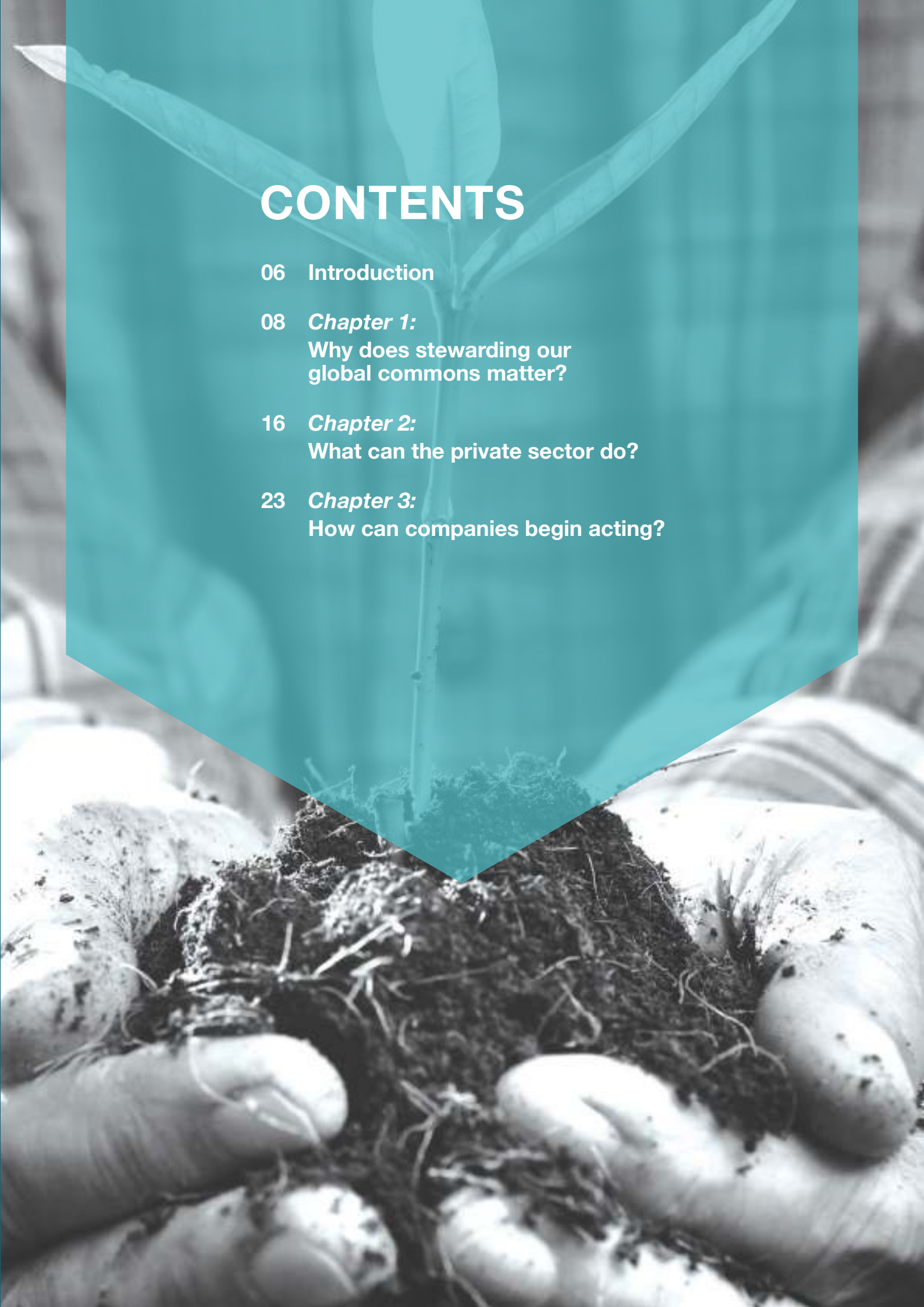
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A black and white photograph of a person's hands holding a small plant with roots in soil. The image is partially covered by a teal-colored geometric overlay on the right side, which contains the text.

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THE URGENCY OF ACTION TO STEWARD OUR GLOBAL COMMONS

WHY DOES STEWARDING OUR GLOBAL COMMONS MATTER?

HUMANS ARE CROSSING PLANETARY BOUNDARIES

4 OUT OF 7

environmental areas have crossed planetary boundaries and require urgent attention

7 SYSTEMS

require transformation: food, cities, circular economy, energy, biomes, oceans, and finance

US\$12 TRILLION

in annual revenues available in business opportunities linked to the UN SDGs by 2030



WHAT ARE EXAMPLES OF POTENTIAL PRIVATE SECTOR ACTIONS?



1 Rethink **SUPPLY CHAINS**



2 Create **INNOVATIVE MODELS OF COMMODITY PRODUCTION**



3 Develop **NEW URBAN FOOD SYSTEMS**



4 **REFORMULATE PRODUCTS** for resource efficiency



5 Mobilise capital through **NEW FINANCING MECHANISMS**

HOW CAN COMPANIES BEGIN ACTING?

THREE SIMPLE STEPS TO TAKE ACTION

1 DELIBERATE.

Evaluate your environmental footprint and understand where you can have the most impact.

2 DECIDE.

Set science-based sustainability targets and communicate these publicly.

3 DO.

Mobilise strategies and resources, engage with stakeholders, evaluate progress, and report results.



INTRODUCTION

Life on Earth relies on clean air and water, rich biodiversity, healthy forests, lands, and oceans, and a stable climate. These are the “global commons” – the shared resources that ensure a habitable planet on which all communities depend. The global commons regulate the stability and resilience of the Earth and are the foundation of our global economy and modern society.¹ Despite well-intentioned efforts by governments, businesses, and civil society organisations over the past decade, the latest science indicates that the degradation of the global commons has reached unprecedented rates and is overwhelming critical planetary life-support systems.

The Global Commons Alliance, launched in 2019, is an international network that brings together the public sector, private sector, and civil society to mobilise action to reverse these negative trends in climate, biodiversity, oceans, and other Earth ecosystems.² The Alliance is organised into four units:

1

The Earth Commission – A team of scientists to synthesise the latest research on resilience of Earth systems and climatic tipping points

2

The Science-Based Targets Network (SBTn) – A group of international NGOs that help companies and cities translate scientific insights into achievable sustainability goals

3

The Earth HQ – A media portal to communicate the “big picture” of how Earth ecosystems are performing

4

Systems Change – A platform for organisational leaders to build partnerships for long-term sustainability

1. Global Environment Facility [GEF] (2019), “#GlobalCommons”. Available at: <https://www.thegef.org/globalcommons>

2. Global Commons Alliance (2019), “A big plan for a small planet”. Available at: <http://globalcommonsalliance.org/>



Stewardship Asia Centre (SAC) and the Global Commons Alliance together hosted the Stewardship Commons 2019 session in Singapore on June 6, 2019, as a part of Temasek Ecosperity Week 2019.³ The goal of this session was to bring together stewardship and sustainability – two concepts that are inextricably linked but have largely developed in silo from each other. Participants included private sector leaders from a range of industries including agribusiness, consumer goods, financial services, construction and real estate, media and technology, storage and logistics, energy, and management consulting; as well as leading academics and representatives from international NGOs and philanthropies.

This summary report captures the discussion from the Stewardship Commons 2019 session and adds additional insights to complement the dialogue on mobilising private sector action in stewarding the global commons. Chapter 1 discusses the “why”, that is the urgency of action required to steward the global commons; Chapter 2 covers the “what”, that is responsible business ideas of using social, natural and financial capital to enhance wealth and economic progress; and Chapter 3 outlines the “how”, that is the three basic steps that companies can follow to step up as stewards by setting science-based sustainability targets. It is hoped that the progress made by participating organisations in completing these steps will be tracked and shared over the iterative sessions of the Stewardship Commons.

**“IF DONE RIGHT, WE CAN
TURN THE TRAGEDY OF
THE GLOBAL COMMONS
INTO AN OPPORTUNITY.
SAFEGUARDING THE
GLOBAL COMMONS IS
THE WISEST INVESTMENT
THAT CAN BE MADE.”**



*Naoko Ishii,
CEO and Chairperson,
Global Environmental Facility (GEF)*

3. Stewardship Asia (2019), “Stewarding Our Commons”. Available at: <https://www.stewardshipasia.com.sg/event-stewardship-commons>



Chapter 1:

WHY DOES STEWARDING OUR GLOBAL COMMONS MATTER?

Scientists warn that the “planetary boundaries” that have sustained civilisation over thousands of years are being strained, and in some cases, exceeded. Dr. Will Steffen, Senior Fellow at the Stockholm Resilience Centre, shared this latest status update on planetary boundaries during the opening session of the Temasek Ecosperity conference.

Following this, Ong Boon Hwee, CEO of Stewardship Asia Centre (SAC) opened the Stewardship Commons 2019 by building on Dr. Steffen’s update and setting the stage for the session ahead. Naoko Ishii, CEO and Chairperson of the Global Environment Facility (GEF) and Sunny Verghese, Co-Founder and Group CEO of Olam International highlighted the importance of systems change and private sector leadership. They were followed by Professor Peng Gong from Tsinghua University, who emphasised the dangers of “tipping” boundaries in key environmental areas; and Kevin Moss, Global Director of the Business Center at the World Resources Institute (WRI), who contextualised environmental boundaries to operational targets for the private sector. This chapter summarises the speakers’ key talking points and adds additional insights on the transformational business opportunities arising from stewarding the global commons.

HUMAN ACTIVITIES ARE CROSSING PLANETARY BOUNDARIES

Scientific research in recent years has stressed that urgent action is needed to mitigate the harmful human practices that are damaging Earth's ecosystems. In 2018, a landmark report by the UN's International Panel on Climate Change (IPCC) provided a look into the scale of the task required to match the Paris Climate Accord's target of restricting climate change to 1.5 degrees Celsius above pre-industrial levels by 2030.⁴ It cited that there was "no documented historic precedent" for the transition required in our major metasystems over the next 12 years to avoid irreversible and permanent negative changes to our ecosystems from extreme weather events and increasing atmospheric concentration of greenhouse gases (GHG).

Climate science is one among many research areas that is centered on the impact of human activities on our environment. Other research areas include land systems, stratospheric ozone composition, and biodiversity. In recent years, efforts have been made by the scientific community to quantify the previously "uncertain" limits of the Earth System (ES) to withstand harmful

anthropogenic activities. There has also been much effort to contextualise such research into understandable insights for governments and businesses to understand environmental areas requiring urgent attention. The seminal concept of "planetary boundaries" (PB) was developed in 2009 by Dr. Will Steffens and the team at the Stockholm Resilience Centre to define the limits within which human activities can safely operate in nine priority environmental areas.⁵ These areas together regulate the stability and resilience of the ES to provide the conditions upon which humanity depends. Their boundaries have broad scientific and civil society consensus, and have been quantified through numerous global, regional, and local studies. Boundaries are measured by "control variables". For instance, temperature rise is a control variable for climate change, and species loss is a control variable for genetic biodiversity. Working within planetary boundaries would require keeping measurements of these control variables within "safe operating zones", and aligning targets of sustainability initiatives to these measurements. This will ensure sustainable inter-generational transfer of natural assets and sustenance of the conditions that have supported contemporary human society over the past ~12,000 years.



"WE NEED TO MONITOR AND MODEL MORE VARIABLES ON LAND, FRESHWATER, OCEAN, CLIMATE, BIODIVERSITY. IT IS OUR HOPE THAT

THE EARTH COMMISSION WILL MOBILISE MORE SCIENTISTS TO DELIVER SCIENTIFIC ANSWERS TO THE FUTURE CHALLENGES OF OUR GLOBAL COMMONS. BUT WE CANNOT SOLVE THESE PROBLEMS ALONE. WE NEED TO WORK HAND IN HAND WITH ALL OF YOU IN THIS AUDIENCE."

*Prof. Peng Gong,
Chair, Department of Earth System Science &
Dean, School of Science,
Tsinghua University*

Exhibit 1 outlines the planetary boundaries and environmental areas under each status today. There is scientific consensus that genetic biodiversity, biogeochemical loading, land systems, and climate change are the environmental areas that are at the highest risk of crossing the threshold of planetary boundaries, and hence require urgent attention.

Simply safeguarding the remaining global commons is not adequate to sustain the modern global economy. There is a need to inspire the will to fundamentally change our current economic systems to continuously create value and maintain holistic prosperity within our planetary boundaries. Transformational change is required in seven systems to address the challenge of protecting the global commons (Exhibit 2). This is where stewardship plays an important role – to identify these risks and challenges in protecting the global commons, and turn them into opportunities. Knowledge of these risks and opportunities can fuel intent and set a plan in motion for values-driven action.

4. Intergovernmental Panel on Climate Change [IPCC] (2018), Global Warming of 1.5°C. Available at: <https://www.ipcc.ch/sr15/>

5. Will Steffens et. al. (2015), Planetary boundaries: Guiding human development on a changing planet. Available at: <https://science.sciencemag.org/content/347/6223/1259855>

EXHIBIT 1 (PART 1):

ENVIRONMENTAL AREAS THAT ARE “BEYOND THE ZONE OF UNCERTAINTY” OR IN THE “ZONE OF UNCERTAINTY” REQUIRE URGENT ATTENTION

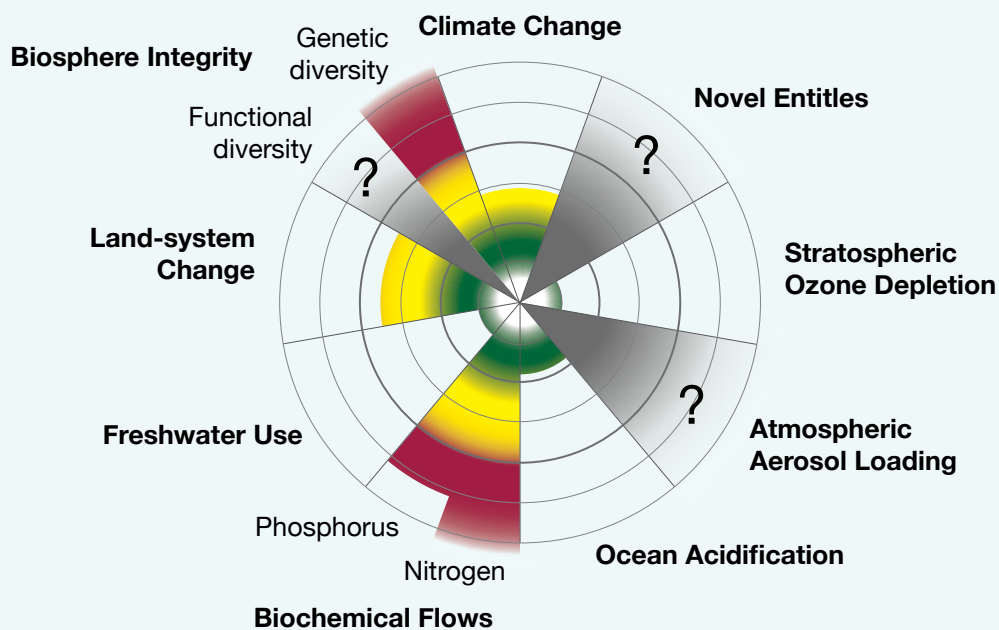
STATUS	DESCRIPTION	ENVIRONMENTAL AREAS
Beyond zone of uncertainty (high risk)	Crossed all safe or uncertain operating limits and environmental area has been permanently destabilised and conditions will no longer sustain human life as over the past ~12,000 years	1. Genetic biodiversity – “6th mass extinction” under way; Earth is now losing 1,000 species per million versus boundary of 10 species per million causing genetic pool losses 2. Biogeochemical loading – Humans now using 60 million tonnes annually (and growing) of phosphate fertilisers in the soil versus boundary of 6.5 million tonnes; similarly using up to 170 million tonnes (and growing) of nitrogen fertilisers as against boundary of 62 million tonnes
In zone of uncertainty (increasing risk)	The zone after crossing the threshold for planetary boundaries, within which there is rapidly increasing risk of causing permanent damage to environment without urgent action	1. Land systems – Agriculture and urbanisation have caused 75% of all land to be “substantially degraded”; this could reach 95% by 2050. 50% of tropical forests have been lost, causing species loss, water cycle disturbance, and release of underground CO₂ 2. Climate systems – Earth is approaching the 1.5°C warming threshold beyond which damaging effects of climate change (e.g. extreme hurricanes, sea level rise, frequent wildfires) will be irreversible
Below planetary boundary (safe zone)	Safe operating space i.e. degree to which human activities are impacting environment will not permanently destabilise area	1. Oceans are in the safe operating zone, although this is rapidly changing as GHGs and damaging aquaculture practices are acidifying ocean ecosystems faster than in previous 300 million years 2. Freshwater systems are in the safe operating zone, but are in danger of depletion and chemical change under pressure from growing populations 3. Stratospheric ozone levels have stabilised since the 1980’s, as the Montreal Protocol banned use of chlorofluorocarbons (CFC) in industrial uses
Boundary not quantified	Further scientific research required to quantify planetary boundary	1. Functional biodiversity i.e. the number of species required to maintain ecosystems 2. Atmospheric aerosol levels i.e. safe levels of haze, pollution, smoke, etc. in the atmosphere 3. Novel entities i.e. the amount of chemical pollution (including synthetics and microplastics) that ecosystems can safely process

EXHIBIT 1 (PART 2):

ENVIRONMENTAL AREAS THAT ARE “BEYOND THE ZONE OF UNCERTAINTY” OR IN THE “ZONE OF UNCERTAINTY” REQUIRE URGENT ATTENTION

CURRENT STATUS OF CONTROL VARIABLES FOR 9 ENVIRONMENTAL AREAS**Status¹**

- Beyond zone of uncertainty (high risk)
- Below boundary (safe)
- In zone of uncertainty (increasing risk)
- Boundary not yet quantified



SOURCE: Steffen et. al. (2015); Literature review; AlphaBeta analysis

EXHIBIT 2:

TRANSFORMATIONAL CHANGE IS REQUIRED IN SEVEN SYSTEMS THAT ARE CRITICAL TO THE GLOBAL ECONOMY AND MODERN SOCIETY

SECTOR		THE PROBLEM TODAY	EXPECTED FUTURE RISKS
Food		Food and agriculture puts the greatest strain of all systems on the global commons.	70% more food required to support global population of 10 billion people by 2050.
Cities		Cities currently emit 70% of the world's GHGs.	In the next 15 years, 70% of all infrastructure will be built in urban areas.
Circular Economy		Global materials use rose 3x from 1970 to 2010 through linear “take-make-waste” approach.	Global waste to grow by 70% between 2016-2050.
Energy		Global energy system is responsible for 68% of GHG emissions.	Electricity demand is expected to increase by 30% by 2040.
Biomes		Competing land uses decimated forests; disturbed biodiversity, carbon storage, and freshwater.	Habitat and livelihood of 1.6 billion people under threat from continued exploitation.
Oceans		Acidification at highest level in 300 million years .	US\$12 trillion exploitable opportunities in exclusive economic oceanic zones to increase damage.
Finance		Negligible portion of US\$300 trillion global private sector assets leveraged for sustainability.	US\$2.5 trillion required annually to achieve SDG targets by 2030.

SOURCE: The Seventh Replenishment of the Global Environment Facility [GEF-7] (2019); Literature review; AlphaBeta analysis

IN PARTICULAR, THE FOOD SYSTEM HAS UNSUSTAINABLY USED THE GLOBAL COMMONS AND IS UNDER THREAT OF COLLAPSE

Of all the systems requiring significant change, the food and agricultural system places the greatest strain on planetary boundaries. Food production is responsible for around 25 percent of GHG emissions, over 70 percent of freshwater use, over 80 percent of tropical deforestation and habitat loss, and a large proportion of biogeochemical loading due to the over usage of chemical fertilisers.⁶ Additionally, 30 percent of all food produced is wasted while 815 million people remain malnourished. Extremely conservative estimates indicate that the annual negative impacts associated with the food system are

US\$6 trillion; in comparison, only US\$2.7 trillion were lost due to the global financial crisis.⁷ Driven by a global population rising to over 10 billion people by 2050 (from 7 billion today) and an increase in the “consuming class” with the purchasing power to demand more food per capita, the world will require a 40 percent increase in food production. Studies have shown that only a radical transformation in food production technologies, halving of food waste, and a significant dietary shift will be sufficient to operate within planetary boundaries for food production by 2050.⁸



“THE GLOBAL FOOD AND AGRICULTURE SYSTEM IS BROKEN.”

*Sunny Verghese,
Co-Founder and Group CEO,
Olam International*

There is a growing recognition that a fundamental transformation of the food system is required. A number of international multi-stakeholder platforms have emerged over the past decade to address this challenge, like the Tropical Forest Alliance (TFA), Climate and Land Use Alliance (CLUA), and a number of certifying organisations and schemes for sustainable commodity production, such as the Roundtable for Sustainable Palm Oil (RSPO) and the Round Table for Sustainable Soy (RTRS).

STEWARDING THE GLOBAL COMMONS IS CRITICAL TO BUSINESS SUCCESS

While the public sector will play a critical role in creating an enabling regulatory and social environment to steward the global commons while pursuing long-term economic progress, the onus will fall on the private sector to do the “heavy lifting”. Moreover, the private sector is expected to embrace this responsibility for three reasons:

- **Limited capacity of other actors:** Economic systems of production that have harmed the environment centre around the “firm”, and the public sector and the civil society have limited control over actual production processes and technological innovation that could lead transformational change.
- **“Paying past bills”:** Harmful production practices perpetuated by the private sector in past decades have largely contributed to environmental degradation. Leading advocates for private sector action such as Olam Co-Founder & Group CEO Sunny Verghese have described that the cost of environmental externalities being incurred by companies in producing the goods and services that they deliver to their customers is not fully accounted for at present. This is because “Mother Nature’s back office” is not fully set up and is therefore not issuing us “invoices” for the benefits that we derive from nature and its ecosystem to produce these goods and services.
- **Intergenerational transfer of resources:** Private sector actors have two key reasons to protect natural resources for future generations – first, they will form the basis for future business value creation, and second, there is a sense of duty to the community in which they operate to mitigate the increasingly harmful consequences of resource exploitation.

Not only can the private sector step up as stewards of global commons, but their participation can also enable them to enjoy a range of potential benefits as summarised in Exhibit 3.

6. Global Environment Facility [GEF] (2019), Seventh Replenishment of the Global Environment Facility.

7. World Bank (2019), “Do the costs of the global food system outweigh its monetary value?”.

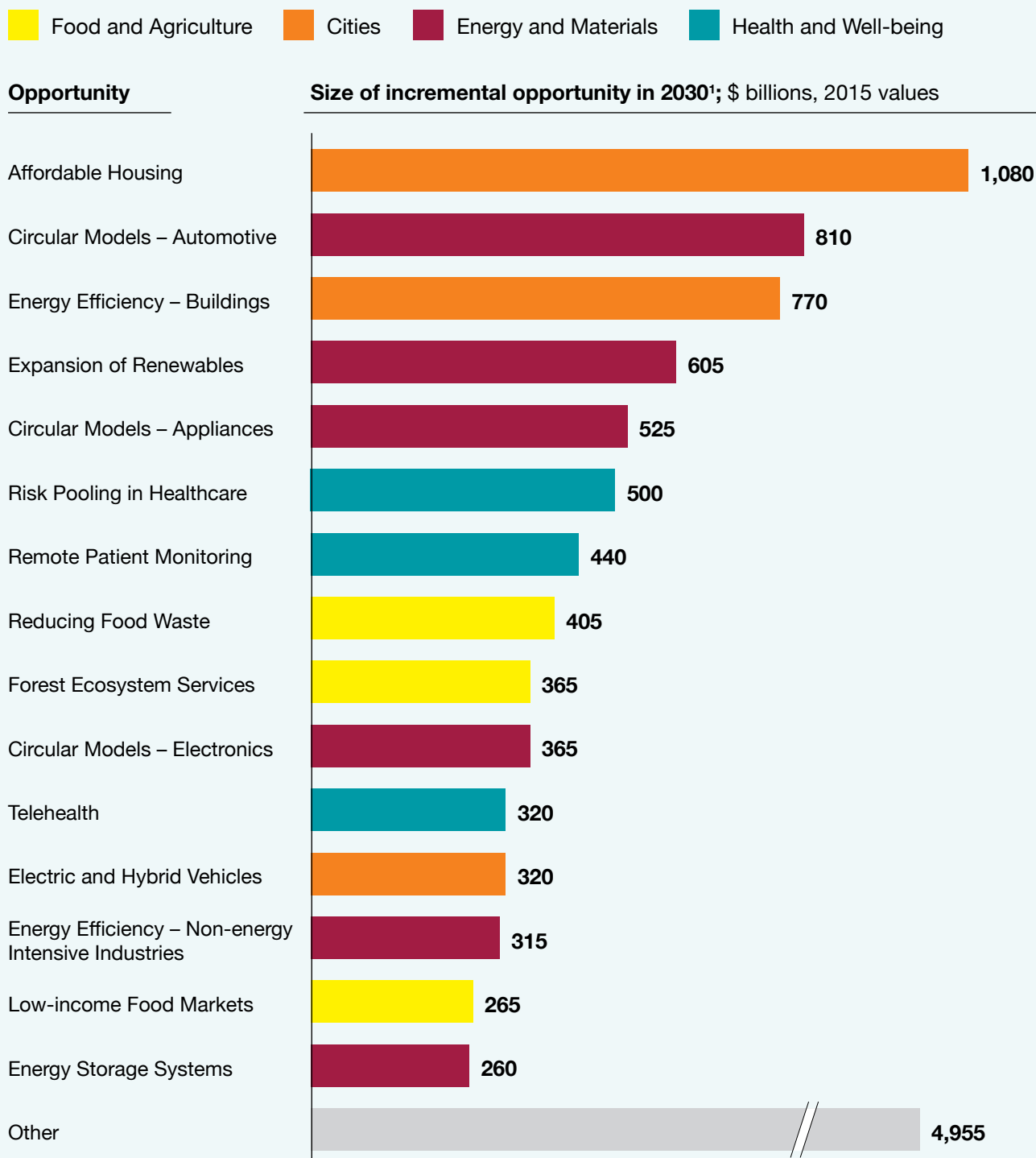
Available at: <https://blogs.worldbank.org/voices/do-costs-global-food-system-outweigh-its-monetary-value>

8. Walter Willett et. al. (2019), Food in the Anthropocene: the EAT-Lancet Commission on healthy diets from sustainable food systems. The Lancet Commissions, Vol. 393, Issue 10170, P447-492. Available at: [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(18\)31788-4/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(18)31788-4/fulltext)

EXHIBIT 3 (PART 1):

THE PARTICIPATION OF THE PRIVATE SECTOR AS STEWARDS OF THE GLOBAL COMMONS CAN SUPPORT A RANGE OF BUSINESS BENEFITS

1. LARGE BUSINESS OPPORTUNITIES



Total annual opportunity from pursuing the 17 Sustainable Development Goals (SDGs) is US\$12 trillion annually by 2030 or 10% of forecasted global GDP

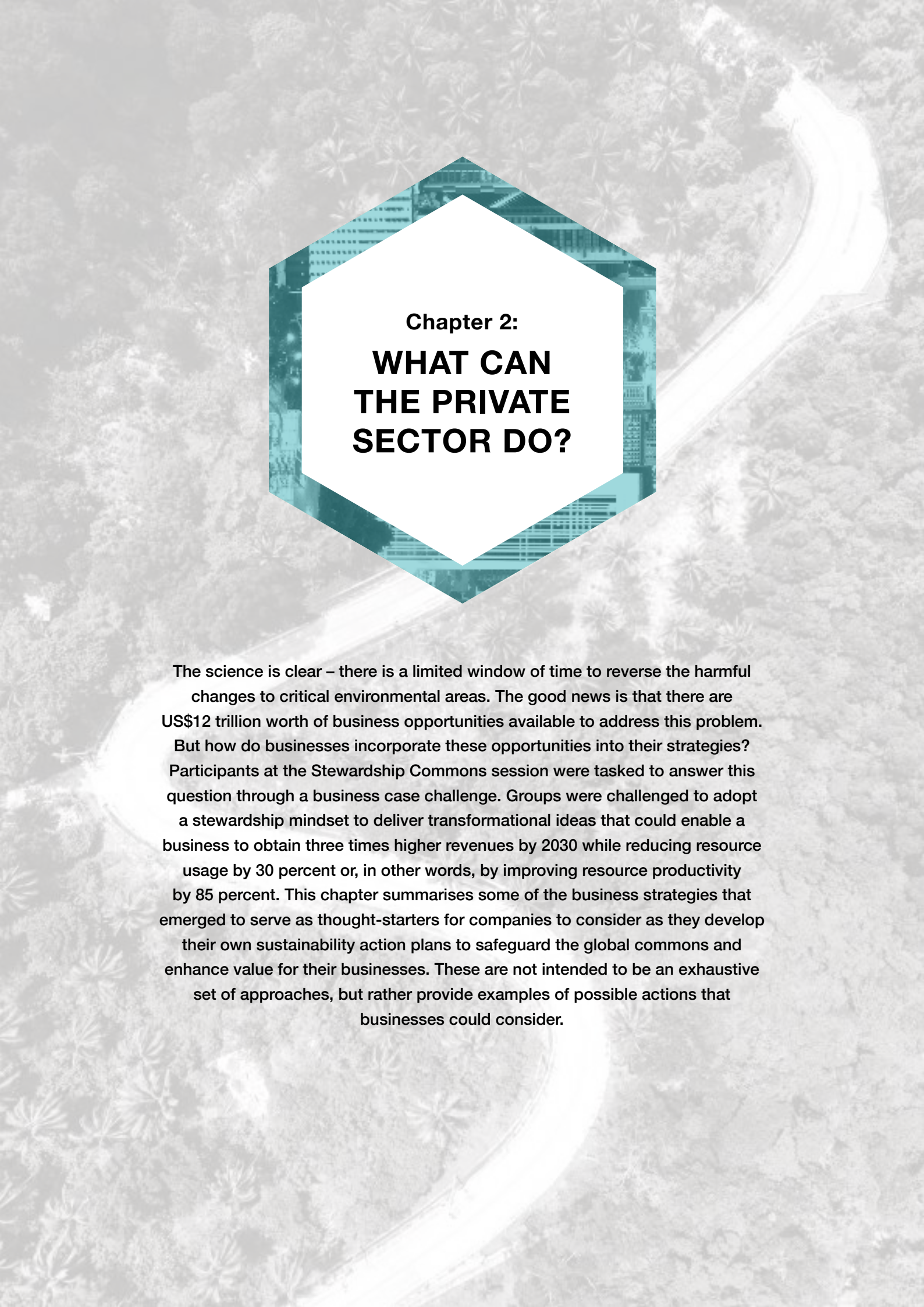
1. Based on estimated savings or projected market sizing in each area. Only the high case opportunity is shown here. Rounded to nearest \$5 billion. SOURCE: Business and Sustainable Development Commission [BSDC] and AlphaBeta (2017); Literature review; AlphaBeta analysis

EXHIBIT 3 (PART 2):

THE PARTICIPATION OF THE PRIVATE SECTOR AS STEWARDS OF THE GLOBAL COMMONS CAN SUPPORT A RANGE OF BUSINESS BENEFITS

2. RISK MITIGATION		
 Divestment from Stranded Assets e.g. investment in clean energy replacing conventional high-carbon power assets	 Management of Supply Chain Risks e.g. investment in urban agriculture systems to manage lower availability of arable land due to degradation and competing uses	 Lower Impact of Extreme Weather Events e.g. through mitigation of climate change
3. EMPLOYEE PRODUCTIVITY		
 Satisfied Employees respond to appropriate socioeconomic incentives to provide 100% productivity	 Engaged Employees respond to autonomy and opportunities to grow their careers, and provide up to 144% productivity	 Inspired Employees are motivated by a shared sense of purpose to stewardship as a business strategy, and provide up to 225% productivity

SOURCE: Business and Sustainable Development Commission [BSDC] and AlphaBeta (2017); Literature review; AlphaBeta analysis



Chapter 2:

WHAT CAN THE PRIVATE SECTOR DO?

The science is clear – there is a limited window of time to reverse the harmful changes to critical environmental areas. The good news is that there are US\$12 trillion worth of business opportunities available to address this problem. But how do businesses incorporate these opportunities into their strategies? Participants at the Stewardship Commons session were tasked to answer this question through a business case challenge. Groups were challenged to adopt a stewardship mindset to deliver transformational ideas that could enable a business to obtain three times higher revenues by 2030 while reducing resource usage by 30 percent or, in other words, by improving resource productivity by 85 percent. This chapter summarises some of the business strategies that emerged to serve as thought-starters for companies to consider as they develop their own sustainability action plans to safeguard the global commons and enhance value for their businesses. These are not intended to be an exhaustive set of approaches, but rather provide examples of possible actions that businesses could consider.

1. RETHINK SUPPLY CHAINS

To minimise risk and drive operating efficiency, businesses can rethink and improve the robustness of their supply chains by enhancing traceability, reducing wastage, and shifting to more sustainable sourcing:

- Enhance traceability:** Increased use of Internet of Things (IoT) and blockchain technology could help to significantly improve transparency and control over supply chains. The International Data Corporation predicts that by 2018, the spread of applications aligned with IoT will lead to a 15 percent rise in productivity for consumer product manufacturers, including food, in terms of innovative delivery and supply chain performance.⁹ Traceability is also crucial for reducing food fraud and verifying whether inputs have been sourced from sustainable production zones. Past work by IDH – the Sustainable Trade Initiative has identified a range of systems for traceability in supply chains (related to sustainable sourcing), direct sourcing from areas with sustainable production, “book and claim” certification systems that provide sustainability finance to farmers, “mass balance” systems that ensure a pre-specified limit to mixing of certified and non-certified produce in the supply chain, “segregation” approaches that separate certified and non-certified produce entirely during downstream product processing, and “landscape approaches” that involve joint agreements between public and private sectors and civil society to achieve broader sustainability goals in at-risk regions.¹⁰
- Reduce wastage:** According to the UN Food and Agriculture Organisation (FAO), total food waste is worth about US\$1 trillion today – roughly US\$680 billion is lost in industrialized countries and US\$310 billion in developing countries.¹¹ Between 20 and 30 percent of food is wasted somewhere along the supply chain, even before allowing for food waste at the point of consumption.¹² The majority of losses in the supply chain occur in developing countries, where poor storage facilities and inadequate transport infrastructure mean that a significant share of food is wasted after harvest. Companies are seeking other innovative ways to reduce food waste through channels such as using improved storage and transportation systems. For instance, Unilever has committed to using hydrocarbon refrigerants to create sustainable “cold chain” to reduce food loss and waste.¹³
- Shift to more sustainable sourcing:** Commitments to sustainable sourcing of commodities can also help to reduce supply chain risk, engage employees, and enhance the company’s value proposition to consumers. The Supply Change platform tracks over 800 companies, and has determined that there are at least 471 companies with commitments to reduce deforestation related to palm oil, cattle, soy, and timber and pulp sourcing.¹⁴ Olam has developed the AtSource sustainable sourcing tool which helps its customers track their commodity supply chains from field to processing, and country of origin to destination market to assist them in meeting their social and environmental targets.¹⁵

9. IDC (March 2016), IoT and digital transformation: A tale of four industries.

10. IDH (2018), European Soy Monitor: Insights on the European supply chain and the use of responsible and deforestation-free soy in 2017. Available at: <https://www.profuno.nl/download/idh1904>

11. Available at: <http://www.fao.org/save-food/resources/keyfindings/en/>

12. FAO (2011), Global food losses and food waste.

13. Reported by The Guardian, July 29, 2014 - <https://www.theguardian.com/sustainable-business/tackling-food-waste-technology-refrigeration-packaging>

14. Supply Change & Ceres (2018), Zooming In: Companies, Commodities, & Traceability Commitments that count, 2018.

Available at: https://www.forest-trends.org/wp-content/uploads/2018/04/doc_5748.pdf & www.Supply-Change.org

15. Olam (2018), AtSource. Available at: <https://www.atsource.io/atsource.html>

2. CREATE INNOVATIVE MODELS FOR SUSTAINABLE PRODUCTION OF DEFORESTATION-RISK COMMODITIES



Commodity production is at the core of land degradation and associated negative impacts – accounting for 82 percent of cumulative deforestation in tropical forest countries between 2010 and 2015.¹⁶ Despite considerable efforts by governments, private sector firms, and civil society organisations, available statistics indicate that sustainable, resource-efficient production of commodities remains low. For instance, only 19 percent of the world's palm oil was certified to be sustainable in 2018.¹⁷ Just 6 percent of the world's soy production in 2018 was compliant with the European Feed Manufacturers' Federation's Soy Sourcing Guidelines (FEFAC-SSG).¹⁸ Experts have noted many challenges to increasing sustainable production, including higher production costs, lack of clear market signals that create a premium for sustainable products, and low engagement of smallholder farmers.

Despite these challenges, there are a number of innovative models being used to support sustainable production of commodities with a high deforestation risk. Bey Soo Kiang, Vice Chairman of RGE (Royal Golden Eagle), which runs a range of palm oil and pulp and paper plantations, discussed an approach that they have piloted to protect local ecosystems in Indonesia. One key challenge in protecting forests is how to protect them from fires in nearby lands or encroachment from illegal production. RGE's approach is the "production-protection model" which involves establishing an outer ring of sustainable production of acacia or eucalyptus plantation around the high conservation value or high carbon stock forest. The ring plantation serves to protect the forest from fires and illegal encroachment. Their approach also includes thoroughfares to allow animals to safely migrate from one conservation forest to another.

16. Includes commodity production and shifting agriculture. The latter is a system of cultivation in which a plot of land is cleared and cultivated for a short period of time, then abandoned and allowed to revert to producing its normal vegetation while the cultivator moves on to another plot. Curtis et al. (2018), Classifying drivers of global forest loss, *Science*, Available at: <https://science.sciencemag.org/content/361/6407/1108.editor-summary>

17. Roundtable for Sustainable Palm Oil [RSPO] 2019, RSPO Impact Report 2018. Available at: <https://rspo.org/key-documents/impact-reports>

18. IDH & IUCN NL (2019), European Soy Monitor - Insights on the European supply chain and the use of responsible and deforestation-free soy in 2017. Available at: <https://www.idhsustainabletrade.com/uploaded/2019/04/European-Soy-Monitor.pdf>

3. DEVELOP NEW FOOD SYSTEMS FOR URBAN ENVIRONMENTS

By 2030, 60 percent of the world's population will live in cities, up from about 54 percent today – adding over 1 billion people to cities over the next 15 years.¹⁹ Asia is at the heart of this urbanisation wave, with more than 550 million people expected to move to cities in Asia-Pacific by 2030.²⁰ This growth in urbanisation will fuel demand for food, but also create supply-side pressures as urbanisation could lead to the loss of an estimated 2 million hectares per year in Asia – three quarters of which would be lost to agricultural land.²¹ As a result, the reform of urban food systems is critical to both providing an increasing urban population with safe, nutritious, and affordable food, and managing environmental risks. Food supply in cities could be transformed by rethinking agricultural production to take advantage of underutilised areas in cities and applying new technologies to transform yield growth, manage environmental risks, and bring production closer to sources of demand. The global business opportunity for urban agriculture is estimated to be US\$40 billion by 2030, roughly half of which is in Asia.²² In Singapore, over 1,000 hectares of underutilised land is available on rooftops, with the potential for urban agriculture.²³ The application of new technologies in urban agriculture can transform yield growth, manage environmental risks, and bring production closer to sources of demand. For instance, studies by the Japan Plant Factory Association (JPFA) has highlighted that indoor vertical farming in Japan can save up to 99 percent of water used in production as compared to traditional farms.²⁴ The Apollo Aquaculture Group in Singapore has created a “high-rise” seafood farming project over six storeys (soon to be expanded to eight), with each storey



housing two ponds, each of which is 135 square metres.²⁵ The facility is capable of producing six times more produce than a traditional aquaculture project in the same space across a single storey. Processes are remotely controlled and carefully managed, including the amount of fish feed dispensed.²⁶

19. United Nations (2016), The World's Cities in 2016.

Available at: http://www.un.org/en/development/desa/population/publications/pdf/urbanization/the_worlds_cities_in_2016_data_booklet.pdf

20. McKinsey & Company (2015), No Ordinary Disruption: The forces reshaping Asia.

Available at: <https://www.mckinsey.com/global-themes/asia-pacific/no-ordinary-disruption-the-forces-reshaping-asia>

21. World Bank (2015), The dynamics of global urban expansion.

Available at: http://siteresources.worldbank.org/INTURBANDEVELOPMENT/Resources/dynamics_urban_expansion.pdf

22. Urban agriculture is defined as the growing of plants and raising of animals within cities and in peri-urban areas. Urban agriculture is possible on rooftops, vertical farming on indoor and outdoor walls, balconies, community gardens, climate-controlled greenhouses, and so on. See RUAF Foundation (2018), “Urban agriculture: what and why?”. Available at: <http://www.ruaf.org/urban-agriculture-what-and-why>

AlphaBeta for the Business and Sustainable Development Commission [BSDC] (2017), Valuing the SDG prize: Unlocking business opportunities to accelerate sustainable and inclusive growth. Available at: <http://s3.amazonaws.com/aws-bsdc/Valuing-the-SDG-Prize.pdf>

23. Stella Liu (2017), Lessons Learned from Growing Food in 100% Urbanised Singapore. Available at: https://d2oc0ihd6a5bt.cloudfront.net/wp-content/uploads/sites/837/2017/06/1_StellaLiu_Lessons-Learned-from-Growing-Food-in-100-Urbanized-Singapore.pdf

24. Microsoft (2018), “Indoor vertical farming in Asia and beyond: Digging deep in data”. Available at: <https://news.microsoft.com/apac/features/indoor-vertical-farming-digging-deep-data/>; and Ozy (2017), “The Robots Are Coming ... For the Farms”.

Available at: <https://www.ozy.com/rising-stars/the-robots-are-coming-for-the-farms/70693>

25. The Straits Times (2017), “‘Floating Ponds’ concept that could see vertical fish farms in parks and on rooftops unveiled”

Available at: <https://www.straitstimes.com/singapore/floating-ponds-concept-that-could-see-vertical-fish-farms-in-parks-and-on-rooftops>; and

Channel News Asia (2019), “From sky farms to lab-grown shrimp, Singapore eyes food future”

Available at: <https://www.channelnewsasia.com/news/singapore/singapore-food-future-sky-farms-lab-shrimps-11579732>

26. The Straits Times (2017), “Next-gen farming concepts on show at exhibition”

Available at: <http://www.straitstimes.com/singapore/next-gen-farming-concepts-on-show-at-exhibition>

4. REFORMULATE PRODUCTS TO IMPROVE RESOURCE EFFICIENCY

Product reformulation using technology to improve form, functionality, or affordability has often resulted in improved resource efficiency, particularly in the case of industries like consumer electronics.²⁷ For instance, information processing chips, data storage, movement sensors, and cameras that are key components in computers, tablets and smartphones have significantly reduced in size with technological advancements, both improving consumer benefits as well as using far less materials with each iteration. Now, product reformulation is considered as a core solution in “doing more with less” for many companies. For instance, Apple has pushed its supply chain companies to utilise better production techniques to improve resource efficiency and reduce the environmental footprint of their products. The iPhone 7 utilised a different way of producing aluminium to use 27 percent less material than the iPhone 6, which helps to reduce the emission of GHGs by 60 percent during production.²⁸

Product reformulation is a potential resource efficiency strategy for many sectors, including food manufacturing. Traditionally, reformulation efforts in the manufactured food sector have largely served the purpose of better nutrition outcomes, through decreasing obesity by amending the composition of foods so that they are healthier (e.g. sugar-free varieties of food).²⁹ Such reformulation is a major policy opportunity for taking a prevention-led approach in health, and could generate business opportunities up to US\$204 billion by 2030. However, an additional opportunity is the reformulation of manufactured food products to reduce usage of inputs with high environmental risk (such as pesticides and fertilisers) or improve the productivity of the existing levels of inputs used. For example, a potential solution presented by a chocolate manufacturer at the

“[PRODUCT FORMULATION] IS WHERE WE HAVE HIGHEST [RESOURCE] CONTROL ACROSS THE VALUE CHAIN.”



*David Chuang,
Director,
IT and Business Development at
Delfi Limited*

session was to reduce the usage of cocoa in chocolate products in favour of increasing the constitution of more environmentally friendly and healthy produce such as oats or nuts. A critical challenge is to ensure that reformulated products can maintain their price competitiveness. Mass-market chocolates cater to price-sensitive consumers and the use of substitute ingredients must maintain this affordability (e.g. wheat fibres). It is also important for reformulated products to cater to consumer tastes and preferences, although technologies that can manufacture near-substitutes of conventional produce are generally expensive. For instance, lab-grown meat products including plant-based burger patties that replicate the molecular structure and taste of beef from companies such as Beyond Meat and Impossible Foods have only recently become accessible to retail consumers, priced at over 70 percent the cost of conventional premium beef.³⁰ Increasing the scale of production and investment in technological advancements is important to reduce costs in the long term.

27. A resource-efficient product is one that uses fewer or different natural resources while functioning similarly to conventional alternatives.

28. CNBC (2017), “Apple pledges to make products like the iPhone from only recycled material and end mining”

Available at: <https://www.cnbc.com/2017/04/20/apple-mining-end-recycled-material-products.html>

29. AlphaBeta (2018), Prevention is the best medicine: Rethinking healthcare in Asia.

Available at: <https://www.ecosperity.sg/content/dam/ecosperity/en/articles/Prevention-is-the-best-medicine-rethinking-healthcare-in-asia.pdf>

30. See Forbes (2019), “Beyond Meat is on a mission to make plant-based meat the affordable choice”. Available at: https://www.forbes.com/sites/janetforgrieve/2019/03/14/beyond-meat-is-on-a-mission-to-make-plant-based-meat-the-affordable-choice/?utm_source=FACEBOOK&utm_medium=social&utm_term=Valerie%2F&fbclid=IwAR3wj0-JDwQYGBsc0dkyzK3qvR1hL4mwvRUr-tuhdOBwP5JB3e_qdJdexBM#66fd77472352; and Vegan World News (2019), “Vegan company Beyond Meat’s plans to lower price could be disastrous for meat industry”. Available at: <https://vegannews.co/vegan-company-beyond-meats-plans-to-lower-price-could-be-disastrous-for-meat-industry/>

5. MOBILISE CAPITAL THROUGH NEW FINANCING MECHANISMS

There is an estimated US\$2.5 trillion annual funding gap in meeting all of the Sustainable Development Goals (SDG) targets by 2030.³¹ The burden of filling this funding gap must not solely fall on the public sector, international financial institutions (e.g. World Bank) or regional development banks (e.g. the Asian Development Bank). Efforts are required to develop new investment models and funding mechanisms that can leverage the estimated US\$300 trillion in assets held globally by the private sector.³² A range of new financing models have emerged to help direct greater private sector investment into sustainability activities, including:

- Sustainability-linked lending.** Commercial banks are increasingly offering lending mechanisms that are linked to sustainability targets. Such instruments can incentivise large and small firms alike to improve resource efficiency, and experts believe that they can both help build brand image for recipient organisations while building public accountability. In 2018, DBS Bank in Singapore provided real estate developer CapitaLand with a **S\$300 million (approximately US\$222 million)** loan with interest rates linked to performance against a range of sustainability indicators such as carbon emissions, energy efficiency and water usage – reportedly the largest credit of its kind in Asia.³³ Rabobank in the Netherlands similarly offered waste processing company AVR a syndicated loan (as the lead bank from a pool of five) in 2019 linked to long-term sustainability targets.³⁴ Interest discounts are built in if targets are met in improved carbon capture and storage and increased plastic recycling. Rabobank, together with the European Investment Bank (EIB) also has a **EUR250 million (approximately US\$295 million)**



31. UNCTAD (2014), World Investment Report 2014 – Investing in the SDGs: An action plan. Available at: https://unctad.org/en/PublicationsLibrary/wir2014_en.pdf

32. Global Environment Facility [GEF] (2019), Seventh Replenishment of the Global Environment Facility.

33. ESG performance will be assessed using RobecoSAM's Corporate Sustainability Assessment (CSA) tool. See The Straits Times (2018), "CapitaLand gets \$300m sustainability-linked loan from DBS". Available at: <https://www.straitstimes.com/business/companies-markets/capitaland-gets-300m-sustainability-linked-loan-from-dbs>; and RobecoSAM (2018), The Corporate Sustainability Assessment at a glance. Available at: <http://www.robecosam.com/en/sustainability-insights/about-sustainability/corporate-sustainability-assessment/index.jsp>

34. Rabobank (2019), "Sustainable finance for a leader in sustainability". Available at: <https://www.rabobank.com/en/raboworld/wholesale/sustainable-finance-for-a-leader-in-sustainability.html>

loan facility with interest rate discounts to support environment-conscious entrepreneurs.³⁵

- Conservation investment.** The Coalition for Private Investment in Conservation (CPIC) indicates that up to US\$300 billion per year can be mobilised in private, return-seeking investment provided there are appropriate opportunities.³⁶ A number of conservation investment funds have proved popular with institutional investors and retail investors alike. This is particularly the case in the renewable energy sector, where rapidly reducing costs of deployment, increasing demand, and a supportive regulatory landscape have enabled green energy companies to thrive and investment funds to access high returns.³⁷ Bonds are particularly popular investment products for fund managers. The US\$8 billion Climate Investment Funds (CIF) plans to raise US\$500 million via green bonds in the US, Europe, and Japan.³⁸ The World Bank recently issued a Sustainable Development Bond, distributed by JP Morgan, that focuses on drawing attention and action to the challenge of plastic waste pollution in oceans.³⁹ Investors with higher risk profiles such as venture capital firms may be attracted by the scaling potential of emerging technologies. For instance, the Clean Energy Finance Corporation in Australia created a **A\$200 million (approximately US\$150 million)** Clean Energy Innovation Fund to invest in early-stage clean energy companies.⁴⁰
- Blended finance.** Blended finance is the strategic use of development finance and philanthropic funds to mobilise private capital flows to emerging markets in support of the SDGs.⁴¹ There are 74 pooled funds and facilities representing US\$25.4 billion in blended finance assets.⁴² Blended finance mechanisms have shown a propensity to leverage more financing than regular development projects. For instance, the Meloy Fund for Sustainable Community Fisheries is a blended fund that incentivises the development and adoption of sustainable fisheries through debt and equity investments in coastal Indonesia and the Philippines.⁴³ It works in partnership with Fish Forever, a global fisheries management programme, and creates monetizable assets for local fishers that are accessible to private funding partners; philanthropic partners provide payouts if targets are met. The Republic of Seychelles recently launched the world's first sovereign blue bond – a new instrument designed to support sustainable marine and fisheries projects.⁴⁴ The bond seeks to raise US\$15 million from international investors (three to begin with), and grants and loans will be managed by the Seychelles' Conservation and Climate Adaptation Trust and the Development Bank of Seychelles. It is partially guaranteed by the World Bank (under the International Bank for Reconstruction and Development or IBRD) and supported by the GEF.

The business strategies highlighted by participants and summarised in this chapter are evidence that stewardship of the global commons and financial value creation for businesses are objectives that can be achieved simultaneously. In fact, as highlighted in Chapter 1, stewardship is a key driver of business opportunities as the modern economy transforms in response to environmental challenges.

35. Rabobank (2018), "Rabobank and EIB expand support for environment-conscious entrepreneurs". Available at: <https://www.rabobank.com/en/press/search/2018/20180727-rabobank-and-eib-expand-support-for-environment-conscious-entrepreneurs.html>

36. CPIC (2019), About. Available at: <http://cpicfinance.com/about/>

37. AlphaBeta (2018), The Great Energy Transition: Challenges and opportunities for transformation. Available at: https://www.ecosperity.sg/content/dam/ecosperity/en/reports/The-Great-Energy-Transition_Challenges-and-opportunities-for-transformation.pdf; and The New York Times (2018), "These funds aim to power their returns with clean energy". Available at: <https://www.nytimes.com/2018/10/12/business/these-funds-aim-to-power-their-returns-with-clean-energy.html>

38. Reuters (2019), "Climate Investment Funds to issue \$500 million green bond this year or next". Available at: <https://www.reuters.com/article/us-bonds-climatechange/climate-investment-funds-to-issue-500-million-green-bond-this-year-or-next-idUSKCN1PLOOM>

39. World Bank (2019), "World Bank launched bonds to highlight the challenge of plastic waste in oceans".

Available at: <http://www.worldbank.org/en/news/press-release/2019/04/03/world-bank-launches-bonds-to-highlight-the-challenge-of-plastic-waste-in-oceans>

40. Clean Energy Finance Corp (2018), Innovation Fund. Available at: <https://www.cefc.com.au/where-we-invest/innovation-fund/>

41. World Economic Forum (n.d.), Blended Finance Vol. 1: A primer for development finance and philanthropic funders.

Available at: http://www3.weforum.org/docs/WEF_Blended_Finance_How_To_Guide.pdf

42. OECD and World Economic Forum (2016), Insights from Blended Finance Investment Vehicles and Facilities.

Available at: http://www3.weforum.org/docs/WEF_Blended_Finance_Insights_Investments_Vehicles_Facilities_report_2016.pdf

43. The Meloy Fund (2019), "About the Fund" Available at: <https://www.meloyfund.com/about>

44. World Bank (2018), "Seychelles launches world's first sovereign blue bond".

Available at: <https://www.worldbank.org/en/news/press-release/2018/10/29/seychelles-launches-worlds-first-sovereign-blue-bond>



Chapter 3: **HOW CAN COMPANIES BEGIN ACTING?**

There are many opportunities for companies to act on their obligations to steward the global commons. But how do companies make it happen? This chapter outlines three immediate, simple steps for any business to follow to develop their sustainability strategy and ultimately help preserve natural capital. These actions can be conducted over a period of one year each.



**“*DELIBERATE, DECIDE, DO* – THESE ARE A FEW
BASIC STEPS THAT ALL COMPANIES CAN FOLLOW
TO TRANSLATE INTENT INTO IMPACT.”**

*Ong Boon Hwee,
CEO,
Stewardship Asia Centre*

1. DELIBERATE – EVALUATE YOUR FOOTPRINT AND UNDERSTAND YOUR RISKS

Business have long faced challenges in protecting or enhancing our shared natural assets, despite well-intentioned efforts to do so. Every company operates differently. Prior to developing sustainability strategies and setting targets, it is imperative for companies to first understand their unique environmental footprint. This will equip companies with the necessary information on actual resource usage to set their own performance goals and targets. There are three common questions to address as part of this process:

- **What should be measured?** Objective metrics should be used to assess how a company's resource usage translates to environmental footprint. For example, one such metric could be the company's "carbon footprint" – which considers emissions for the six GHGs identified by the Kyoto Protocol as key to environmental damage.⁴⁵ A range of estimations and calculators for carbon footprint of different products, services, and processes are widely available online for organisations to leverage. Measurements should be taken over a consistent period of time, i.e. monthly, quarterly, or annually, in order to facilitate performance comparison.
- **How should measurement be structured?** Companies should determine the coverage of measurement activities, covering either a broad range of tasks or a detailed set of tasks for specific products or processes. For instance, companies can opt to measure carbon emissions from an organisational standpoint, which includes emissions from all activities across an organisation, including energy usage by buildings (e.g. assessment through the LEED or Leadership in Energy and Environmental Design certification), industrial processes, vehicles, and so on. An example of such a framework is the Alliance for Water Stewardship (AWS) Standard, which covers detailed steps to help companies gather data on their water usage from a "site" perspective to understand their risks, environmental impacts, and potential opportunities.⁴⁶ Companies could alternatively opt to measure from the perspective of product lifecycles, covering the emissions or resource usage across the lifetime of a product or service from extraction of raw materials to disposal of end-product. For instance, Olam measures lifecycle carbon usage by commodity to understand changes in emissions, and uses this data to structure overall organisational plans for emissions reduction.⁴⁷
- **Who should be involved?** Everyone! Commitment should come from company leadership in making the business case for stewardship, committing the necessary resources, and providing managers with the requisite authority to pursue conservation. Employees at all levels should be involved to get an accurate idea of resource usage and environmental impact. Most importantly, all business partners should also be consulted to understand resource usage across all stages of company product value chains (including supply chain and downstream usage and disposal of products). Companies may also need to leverage expertise from expert organisations such as the World Resources Institute (WRI), WWF, or Proforest that can develop bespoke environmental measurement tools.

45. Carbon Trust (2019), Carbon footprinting guide.

Available at: <https://www.carbontrust.com/resources/guides/carbon-footprinting-and-reporting/carbon-footprinting/>

46. Alliance for Water Stewardship [AWS] (2019), International Water Stewardship Standard version 2.0.

Available at: https://a4ws.org/wp-content/uploads/2019/03/AWS_Standard_2.0_2019_Final.pdf

47. Edie (2017), "Olam International pairs sustainability and financial reporting for the first time"

Available at: <https://www.edie.net/news/7/Olam-International-pairs-sustainability-and-financial-reporting-for-the-first-time/>

2. DECIDE – SET SCIENCE-BASED TARGETS AND PUBLICISE THEM

Once companies have a deeper understanding of their environmental footprint and their degree of control over each stage of production or operation, they must set specific targets to reduce their environmental impact and operate within planetary boundaries. There are three steps in this process:

- **Develop science-based targets (SBTs).** Targets to reduce environmental footprint must also be grounded in science to combat verified environmental challenges and measure impact appropriately. The Earth Commission under the Alliance for the Global Commons is one organisation that assesses environmental risks, identifies metrics, and defines target ranges for GHG emissions to limit impact on climate change (e.g. to well below 2°C by 2030), to support development of specific targets for businesses to operate within these boundaries. The Science-Based Targets initiative (SBTi), an alliance of international non-governmental organisations (NGOs), then helps business set “science-based

targets” (SBTs) using a set of tools, training, and other resources accounting for their unique environmental footprint and operational boundaries for GHG emissions to limit climate change.⁴⁸ Exhibit 4 details the framework developed by SBTi to help companies set science-based targets. Companies have a range of methods and industry collaboration models available to help them set their targets. Transformational initiatives often require such collaboration with different organisations, with governments, and potentially even competitors. For instance, the Global Alliance on Vaccines and Immunisation (GAVI) has vaccinated half a billion children since 2000, saved seven million lives, and achieved US\$80-100 billion in economic benefits.⁴⁹ As of July 2019, 590 companies (including 146 from Asia) have committed to setting science-based targets or have approved targets in place.⁵⁰ This includes 79 companies from Japan and three from Singapore. For instance, the Singtel group in Singapore has set a target to reduce GHG emissions by 40 percent by 2030 from 2015 levels, targeting direct emissions from owned property and assets, indirect emissions from consumption of electricity, and other emissions from extraction, production, and consumption across the value chain of their operations such as in purchased materials and fuels, transport-related activities from assets not directly owned, and so on.⁵¹



“THE URGENCY OF THE CHALLENGE WE FACE TO FEED AND PROTECT ALL MEMBERS OF OUR GLOBAL COMMUNITY EQUITABLY REQUIRES

BOLD LEADERSHIP. WE NEED COMPANIES TO MOVE FROM DOING BETTER TO DOING ENOUGH. FROM FEASIBILITY-BASED APPROACHES TO SCIENCE-BASED APPROACHES THAT KEEP US WITHIN THE SAFE OPERATING SPACE OF THE PLANETARY BOUNDARIES.”

*Kevin Moss,
Global Director, Business Center at the
World Resources Institute (WRI)*

- **Identify initiatives to reach targets.** Once targets are established, specific interventions should be developed across the company value chain to translate targets to initiatives. Value chain areas include raw material production or extraction, refining, transportation, manufacturing, packaging, distribution, consumption, and disposal. Initiatives should account for considerations such as resource allocation (e.g. budget, labour, etc.) and alternative business opportunities available. For instance, in manufacturing, interventions could include adopting circular production models to utilise production waste or installing energy efficient production processes.

48. Science-based targets provide companies with a clearly defined pathway to future-proof growth by specifying how much and how quickly they need to reduce their greenhouse gas emission. See Science Based Targets initiative [SBTi] (2019), “What is a science-based target?” Available at: <https://sciencebasedtargets.org/what-is-a-science-based-target/>

49. Global Alliance on Vaccines and Immunisation [GAVI] (2018), Report of the Chief Executive Officer.

Available at: <https://www.gavi.org/about/governance/gavi-board/minutes/2018/28-nov/minutes/02---ceo-s-report-and-2016-2020-strategy/>

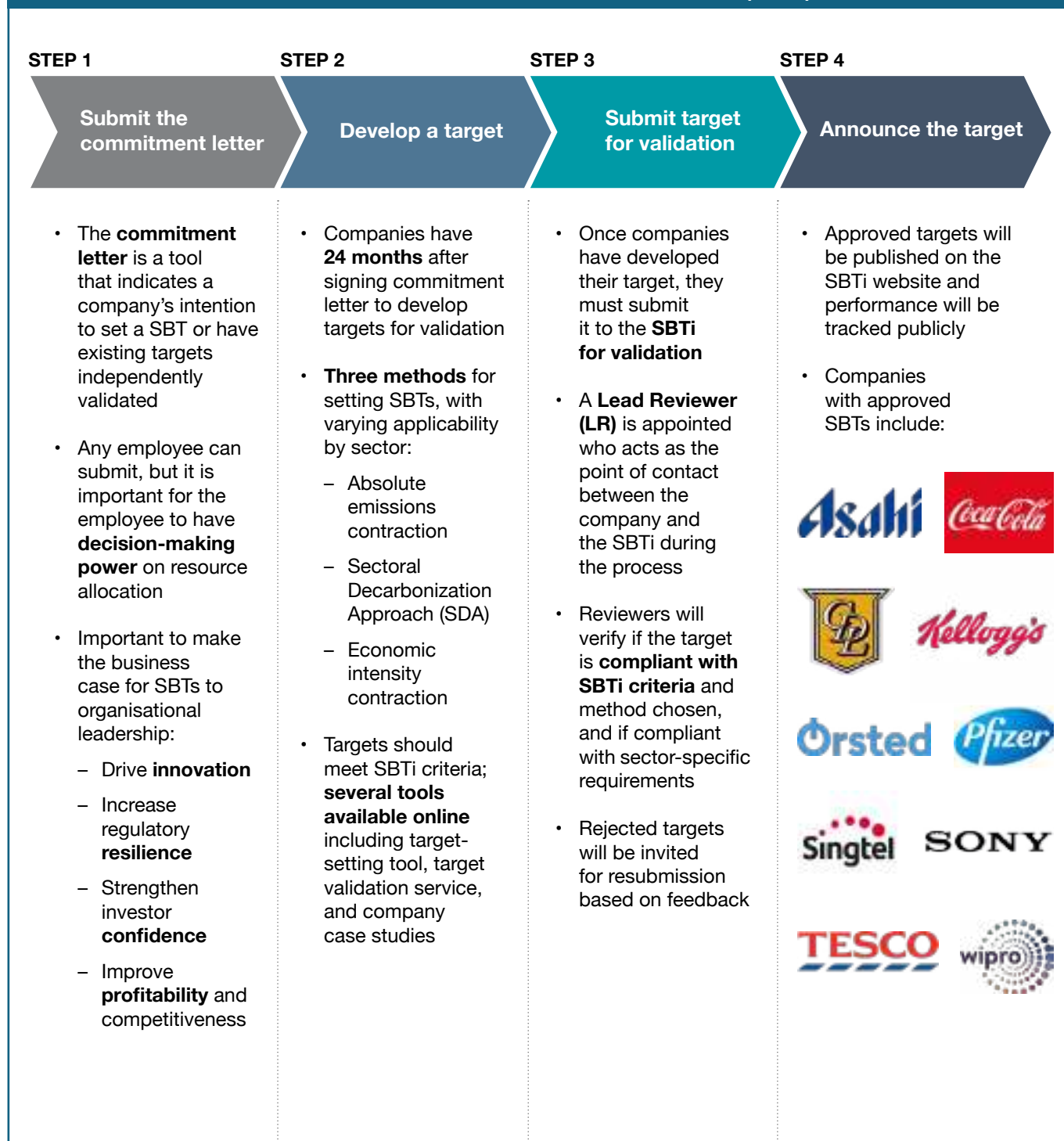
50. Detailed company case studies are available at: Science Based Targets initiative [SBTi] (2019), Case Studies.

Available at: <https://sciencebasedtargets.org/case-studies-2/>

51. Science-Based Targets initiative [SBTi] (2019), Companies Taking Action. Available at: <https://sciencebasedtargets.org/companies-taking-action/>. To understand emissions’ scope, please see Science-Based Targets initiative [SBTi] (2019), Frequently Asked Questions – Science-based target initiative criteria: What are the emissions scopes? Available at: <https://sciencebasedtargets.org/faq/>

EXHIBIT 4:

THERE ARE FOUR STEPS TO SETTING SCIENCE-BASED TARGETS

PRIVATE SECTOR PROCESS FOR SETTING SCIENCE-BASED TARGETS (SBTS)¹

1. Detailed step-by-step guide for setting science-based targets (and links to online tools) available at the website linked to this QR code:
 SOURCE: Science-Based Targets initiative (SBTi); AlphaBeta analysis



- **Communicate plans.** Once targets are set, they should be communicated publicly. Studies have shown that this can create a shared sense of mission among employees, civil society, and consumers alike, build accountability towards targets, and help research agencies understand progress in company commitments towards

sustainability. Walmart's Project Gigaton is envisioned to go one step further – encouraging suppliers to commit to their own emissions reduction programmes.⁵² Similar programmes could be implemented by large regional conglomerates with extensive supply chains.

3. DO – EXECUTE PLANS AND MONITOR PROGRESS

The last step on the stewardship and sustainability agenda is to execute the plans developed in Step 2. The hard work does not end here – there are four things to keep in mind:

- **Ensure resource availability.** Research has highlighted that the lack of resources and competing priorities are the top barriers to the successful implementation of sustainability programmes.⁵³ Top-level leadership involvement is critical to ensure that commitments are supported with the resources required.
- **Monitor and adjust.** It is imperative to continue to measure a company's environmental footprint to facilitate a quantitative understanding of the impact of interventions over time. If progress is not as expected, plans should be adjusted accordingly.
- **Report progress.** Reporting of science-based targets implementation must be integrated into regular business reporting standards to reflect the interdependency of economic, social, and environmental performance. Reporting is an accountability-based commitment tool to help companies embed stewardship as a value in their long-term business strategies. New reporting frameworks and methodologies need to be developed, as previous corporate governance codes incorporating measures of sustainability performance have proven inadequate due to their

focus on compliance. For instance, despite increased reporting through environmental, social and corporate governance (ESG) codes in recent years, there has been negligible traction regarding climate change in the private sector. New reporting tools could integrate ESG considerations meaningfully into regular frameworks such as profit and loss statements (P&Ls), resulting in business strategies that extend beyond financial and economic profit. For instance, Olam has suggested that a revised accounting system could measure the performance of human capital, natural capital, social capital, intangible capital, and intellectual capital to comprehensively account for the externalities of business operations and associated targets.⁵⁴ SAC is developing one such framework – a Stewardship Driven Performance Framework in close collaboration with private sector partners, in addition to helping organisational leaders embed stewardship as a key long-term business strategy and corporate value.

- **Share progress.** Companies will generate a wealth of information on challenges and success stories in fulfilling their sustainability commitments. It is important for these experiences to be shared through platforms such as the Stewardship Commons, so as to enable the discussion of opportunities for collaboration with corporate leaders, policymakers, and experts in advancing the sustainability agenda.

Addressing climate change, ensuring resource security and safeguarding the global commons are key to maintaining long-term prosperity. Unprecedented action is required from the private sector to address these challenges urgently and effectively.

52. Walmart Sustainability Hub (2019), Project Gigaton. Available at: <https://www.walmartsustainabilityhub.com/project-gigaton>

53. Bain and Company (2017), Achieving breakthrough results in sustainability.

Available at: <https://www.bain.com/insights/achieving-breakthrough-results-in-sustainability>

54. CNBC (2019), "CNBC Transcript: Sunny Verghese, Co-founder and CEO, Olam International; Nanette Medved-Po, Founder, Generation Hope and Friends of Hope; Delman Lee, President and CTO, TAL Group" Available at: <https://www.cnbc.com/2019/04/12/cnbc-transcript-sunny-verghese-co-founder-and-ceo-olam-international-nanette-medved-po-founder-generation-hope-and-friends-of-hope-delman-lee-president-and-cto-tal-group.html>



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