Business Models for Circular Economy

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Objectives

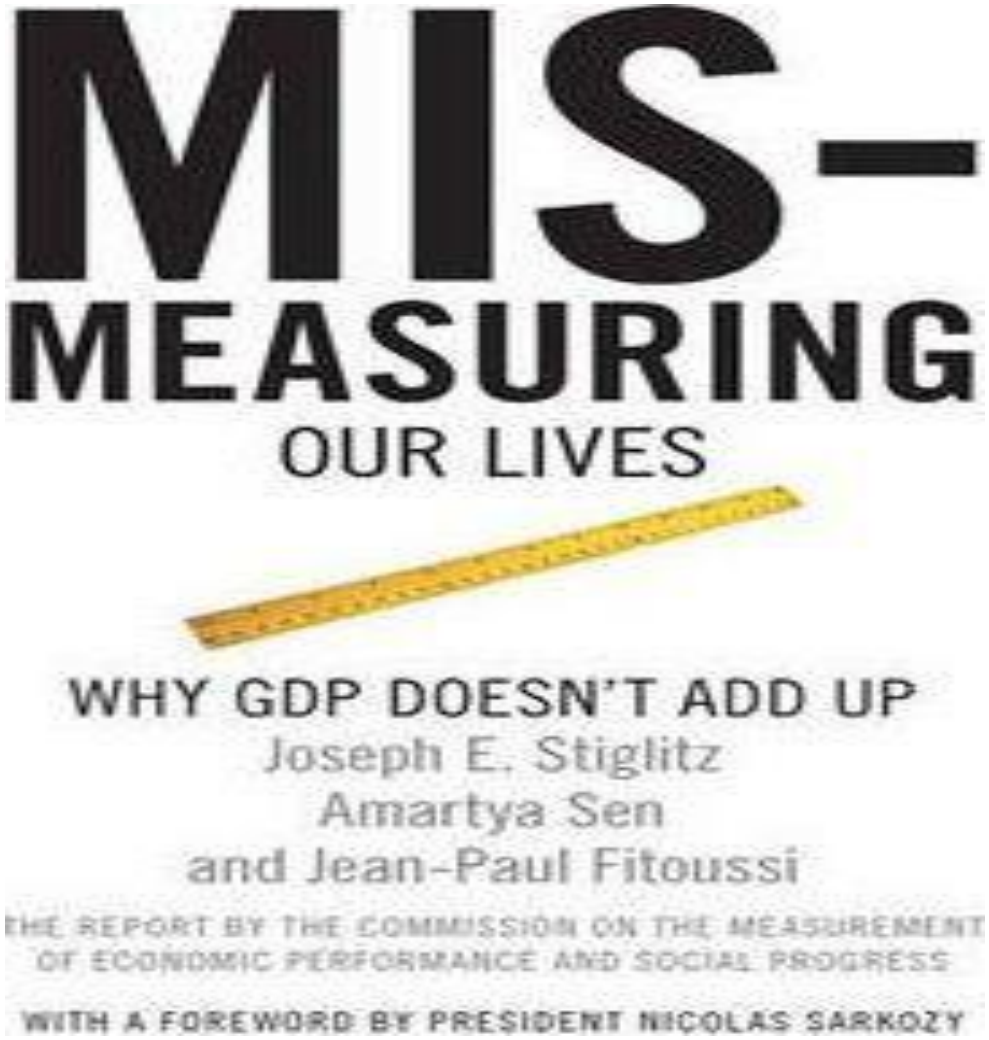
- To assess different business models for circular economy (CE)
- To evaluate the business case for CE, and
- To examine the challenges and opportunities for implementing the business case
- To understand the corporate social responsibility (CSR) for CE

Overview

- The business case for CE
- 5R principles- Reduce, Reuse, Recycle, Redesign and Rethink
- Innovative business models - resource recovery, sharing platform, product life extension, product as service and circular supplies
- The changing paradigm of CSR for CE

To begin with….

- What is development?
- Is development about growth and/or progress?
- How do you measure that growth?
- Is GDP the right measure?
- Have we been ‘Mismeasuring Lives’?



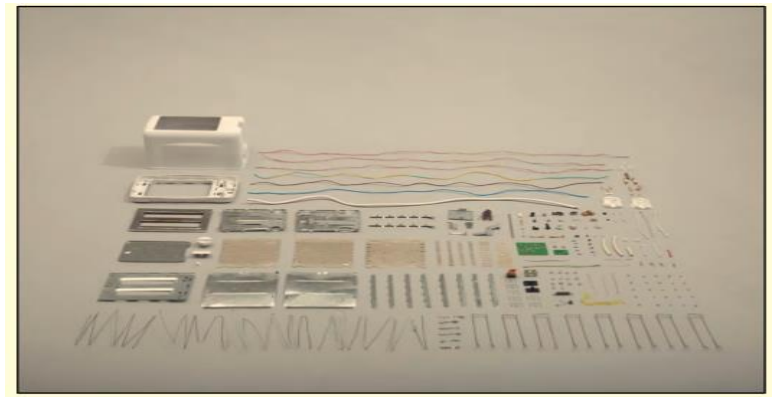
"We will not change our behavior unless we change the ways we measure our economic performance."

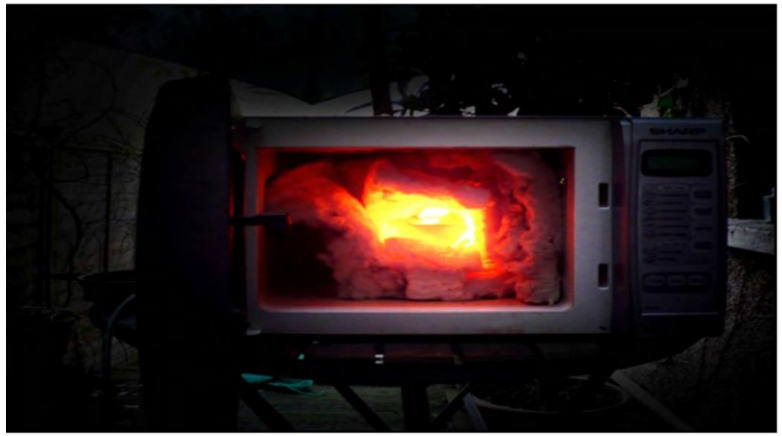
-Nicolas Sarkozy

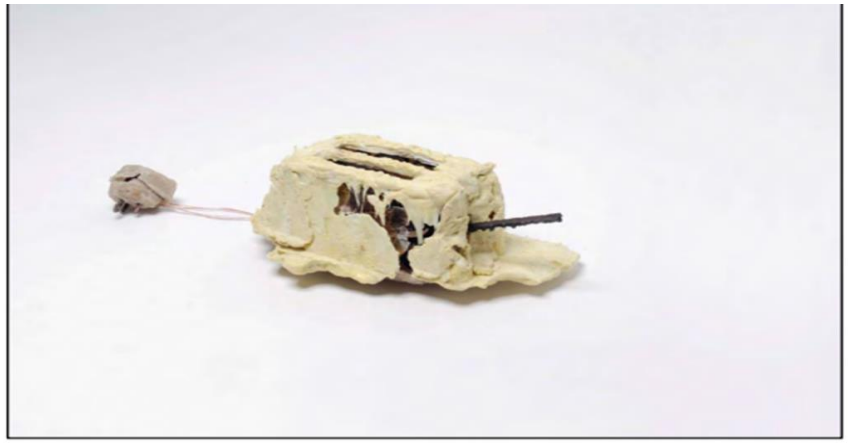
Sachs (2015)

Our modern economies have proceeded from *rural to urban*, from *agricultural to industrial* and service-oriented, from high to low fertility rates, and from high to low child mortality. Life expectancy has soared, public health has improved and educational attainment has increased steeply. Nonetheless, *inequalitie*s between the urban and rural worlds and incomes have soared, and the economic take-off has been accompanied by *massive pollution* of the physical environment.


The toaster project
Thomas Thwaites







What does it imply?

- What this points towards is the idea that development is not an increase in output by an individual firm; it is the emergence of a system of economic, financial, legal, social and political institutions, firms, products and technologies, which together provide the citizens with the capabilities to live happy, health and fulfilling lives!

Sustainable Development

Meets the needs of the present without compromising the ability of future generations to meet their own needs

Brundtland Report (WCED, 1987)

The Challenge

*“*Our biggest challenge in this new century is to take an idea that seems abstract – sustainable development – and turn it into a reality for all the world’s people.”

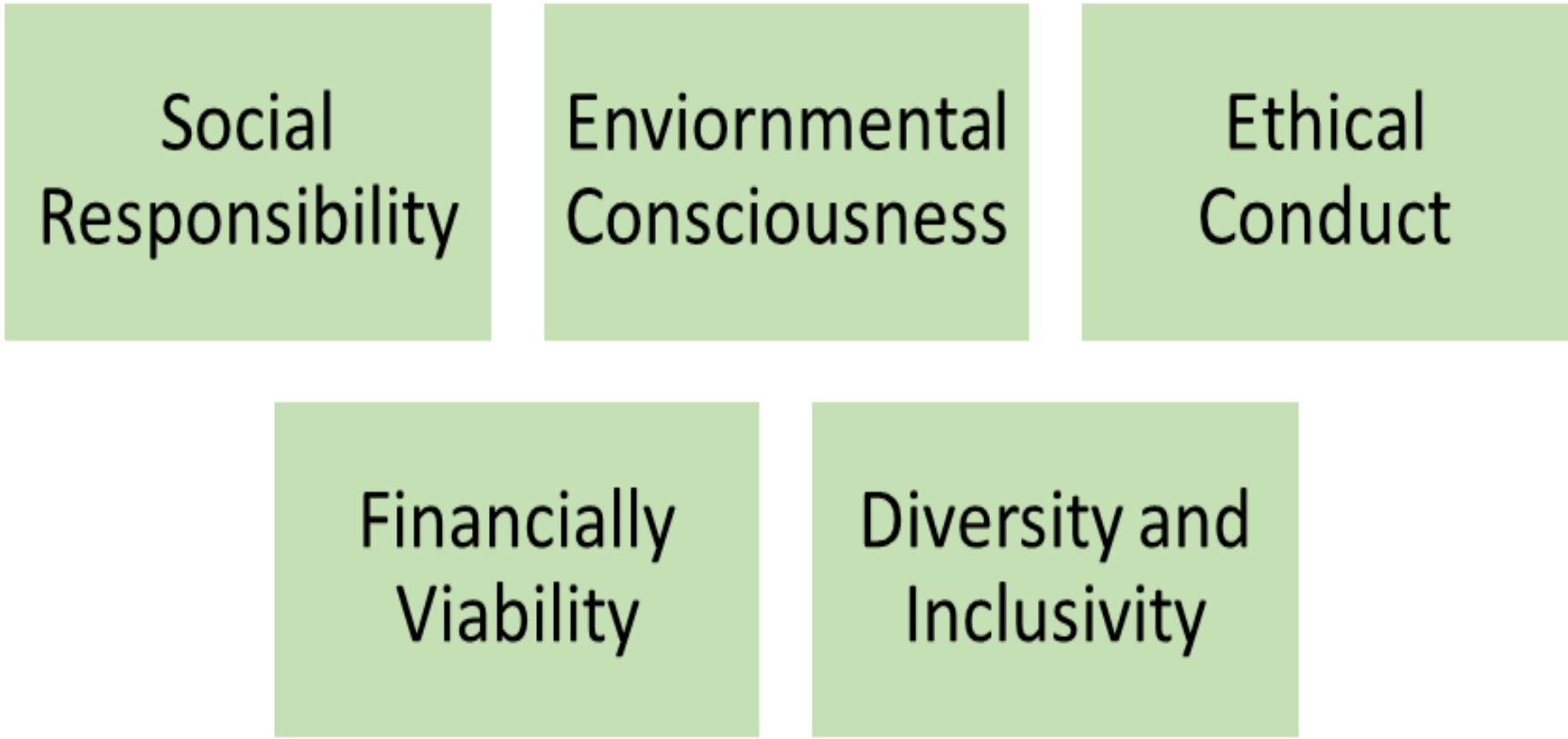
– Kofi Annan, UN Secretary-General

Agenda for sustainable development by 2030

How do we move towards Sustainable Development Goals?

- Green
- Environmental Friendly
- Eco-Friendly
- Sustainability
- Responsibility
- Low Carbon
- **Circular Economy**

Pillars of Sustainable Development



Circular Economy

- According to the UNEP Innovative policy for Low Carbon Lifestyles and Circular Economy Issue Brief, “A circular economy is one in which energy is renewable and all raw materials are recycled endlessly in production or returned harmlessly to the natural environment.”

- Kircherr et al. (2017) coded 114 CE definitions on 17 dimensions and concluded that the circular economy is mostly defined as a combination of reduce, reuse and recycle activities, and often it is not highlighted that CE “necessitates a **systemic shift**.”

Why focus on business?

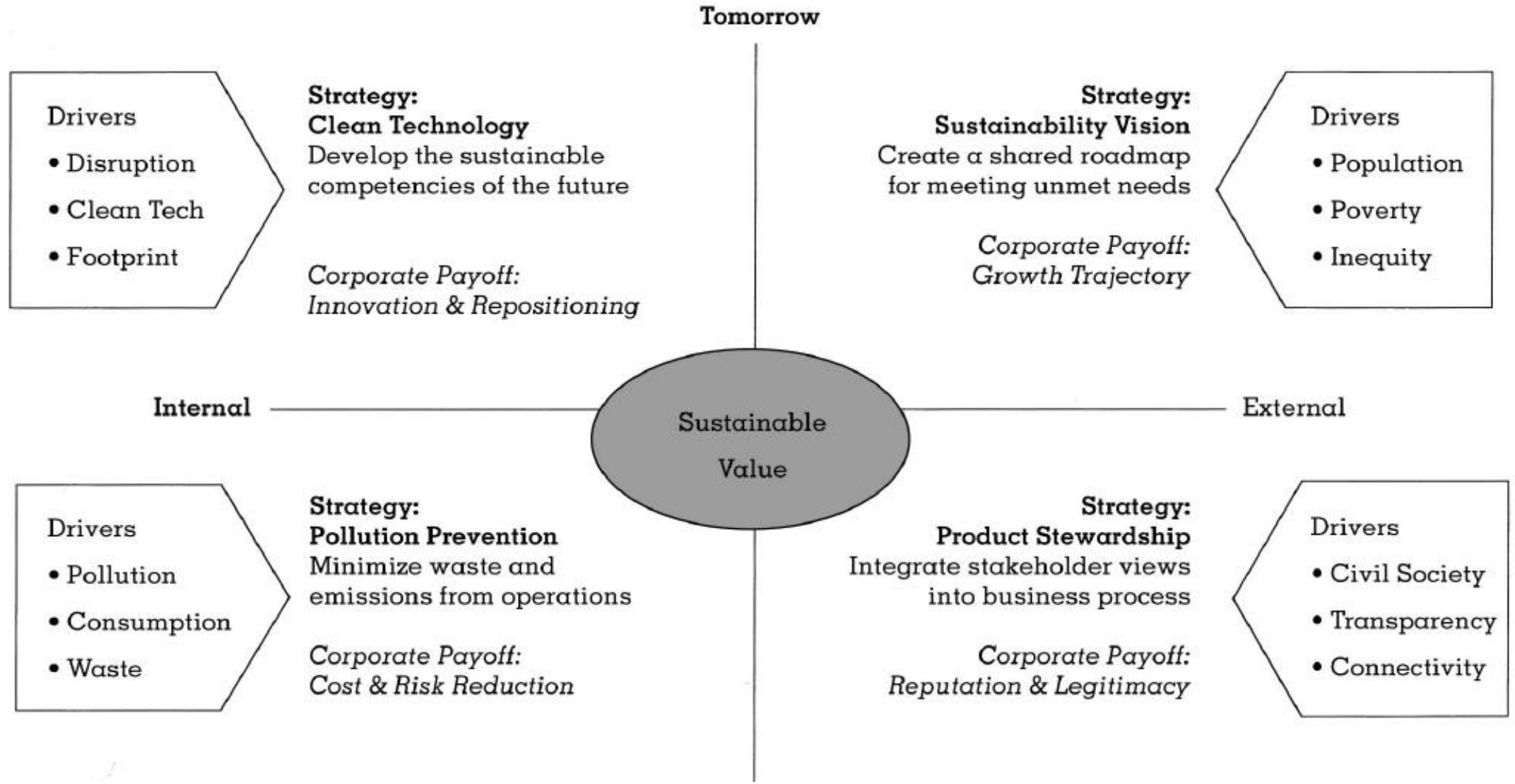
- Primary Stakeholder- Scale and Sphere of Influence

- According to Elkington and Johnson (2018), the world needs breakthrough business models and not breakthrough technology to solve the most pressing problems of humanity.

  Example: Solar Rooftop Installations

Is there a business case for Circular Economy?

Sustainable Value Framework



Evidence

The scholarly literature in this regard is a very complex one!

- Marsh and Walsh (2003) - no evidence
- Eccles (2013) - evidence exists

Fundamental Questions??

-Is there a scope for any business case?

-Is it only greenwashing?

-Is the public sector more accountable or better equipped?

Fact of the matter.....

- Such investments are not immediately profitable (Bresnahan, 2012; Christensen, 1997)

- So the business case cannot rest on short term returns or cross-sectional analysis!

The Business Case for Circular Economy

- The Goal of Shareholder’s Wealth Maximization
- Rising Awareness among Stakeholders
- Operational Efficiency
- Policy and Regulatory Framework
- New Business Opportunities
- Niche Segment Marketing

Examples

- Nike – local water ways pollution- huge sustainability group with 135 employees- aggressive targets

- Greenpeace's accusation of McDonalds about damaging Amazon forests and the consequent substantial investment by the company in preservation and revisiting of its sourcing norms

- Coca Cola accused by Indian activists of depleting local water suppliers; major initiatives launched

Examples

- Johnson Controls (14 bn revenues in 2012)
- Schneider Electric (35 percent revenues from sustainable business solutions)
- IBM savings of 477 mn between 1990-2012
- Jain Irrigation (41% compounded growth rate between 2005-2010)
- Walmart (reduced waste by more than 80% in a particular year; announced 100% renewable energy by 2020)

Examples

- Small numbers but sizeable businesses

- Patagonia
-Stonyfield Farm
-Panera Bread
-Toyota (Prius)
-Whole Foods
-Tridos Bank

Gravity of the Matter…

- The transition is fundamentally disruptive!
- It is a major shift from exploitation to exploration!
- It is about challenging the status quo and change management!

Phases

- Phase 1

Business vision and governance structure identification

- Phase 2

Systems, processes and projects for CE

Data capturing and monitoring

- Phase 3

Balanced scorecard

Sustainability/Citizenship report

Brand Equity

Levels of Integration

5R Principles: The basics of CE for Business Organizations

- Recycle
- Reduce
- Reuse
- Recycle
- Rethink

Recycle

- Recycling has grabbed the most attention.
- It is the process of converting waste material into new products/materials for various uses.
- Since recycling is about reusing the otherwise to be discarded materials, it also contributes to reducing consumption.
- Materials including glass, paper, metal etc. as well as biodegradable waste can be recycled. But it’s a complete economic system.

Recycle : Case 1

- Adidas

A 2015 study estimated that approximately eight million metric tons of plastic waste is released into the ocean every year. The Adidas X Parley shoes made from ocean plastic not only help in recycling this waste, but also provide a market opportunity to Adidas.

Recycle : Case 2

- Phinix

Phinix, a textile upcycling start-up, started by Pamela Nicole Mejia from Philippines works by collecting textile waste and converting it into fashion accessories, footwear, and other lifestyle items rather than discarding all these materials in landfills. The company prefers to use the term – upcycling, which is an endeavor to suggest that recycling adds value to the products.

Reduce

- The principle of reduction is based on a careful analysis of current policies and practices for running the business, as well as adopting innovative methods for optimally utilizing resources.

- Supported by a visionary leadership committed to sustainability, business organizations can focus on reducing consumption of raw materials, and energy to boost the circular economy.

Reduce : Case 1

- Interface

The revolutionary carpet giant, Interface, has reduced its carbon consumption by 90% and water consumption by 95% by committing itself to the cause of circular economy between 1996 - 2014. The company now barely uses any water in the manufacturing process. Across Europe, approximately 95% of its energy consumption is from renewable sources. The company has invested in R&D activities and institutionalized cutting-edge technologies under the able leadership of sustainability icon – Ray Anderson, to achieve this feat.

Reduce: Case 2

- FoodPanda

Popular food delivery service in Thailand, through the efforts of Pratvadee (Bonnie) Sananvatananont, plans to introduce an application for people ordering food through their application to ‘opt-out’ for plastic cutlery while placing the order. The analysis is if this happens for 10 percent of the orders, it will save more than 2,50,000 sets of plastic cutleries. She is the winner of the UNEP Low Carbon Lifestyles Sustainability Challenge.

Reuse

- The Reuse principle is based on imagination and inspiration for re-using products, which otherwise would have been discarded.

- Reuse initiatives help save cost and increase span of investment by increasing the life of products.

- Many business organizations are coming up with new, innovative ways of reusing their resources.

Reuse: Case 1

- Anthill Creations

Anthill Creations is a start up based in Bengaluru, India started by a group of alumni of the Indian Institute of Technology. The company uses scrap tyres to build playgrounds for children of underprivileged families. The company has completed 9 projects in four different Indian cities by utilizing more than 830 tyres.

Reuse : Case 2

- Karma

Karma is an application-based business organization that sells food waste. Instead of discarding food waste, organizations like coffee houses and restaurants can sell their food through Karma’s application to other restaurants and grocery stores. This creates a win-win situation for all the parties involved. The firm is based in Stockholm with plans of expansion on the cards. As they claim, more than 1500 retailers sell food through their app to more than 40,000 users.

Redesign

- This principle entails an endeavor for CE that’s restorative and regenerative through redesigning products, polices and business models.

- However, it is not an easy job and necessitates getting the basics right, looking at simplified versions of designing, learning from others and creating a network of pioneers for getting it started.

- The circular Design Guide is a storehouse of information in this regard created by the Ellen MacArthur Foundation.

Redesign : Case 1

- Ecovative

Ecovative is a company that produces fully compostable packaging material as opposed to packaging made of synthetic material. This eco-friendly material is made from mycelium that grows in and around agricultural by-products. It is not expensive and can take any desired shape. After use, it can be composted with ease at home.

Redesign : Case 2

- Fashion for Good

Fashion for Good is an accelerator that supports new generation start-ups working for CE. The offerings include a wide variety of innovations from bio-based dyes, fibres made from banana trees to usage of softwares for closet management. One such start-up has created dyes and fibers from microorganisms.

Rethink

- The principle of ‘Rethink’ for circular economy strives for creative thinking in organizations and implementing the creative thinking through innovations that change the ‘business as usual’ scenario.

- Different organizations have slowly started to rethink for not only saving the planet, but for direct economic benefits for business while reducing negative externalities.

Rethink : Case 1

- Rolls-Royce

Rolls-Royce ‘power by the hour’ offering is a significant example of how businesses can re-think to boost CE. This trademark system, invented in 1962, provides complete engine and accessory replacement service on a fixed cost per flying hour basis. In 2002, the company launched ‘Corporate Care’ and added a range of additional services including the facility to lease engine access during off-wing maintenance. According to the company, this initiative has resulted in a huge customer base of the company including more than 500 airlines, 4000 operators, 160 armed forces, 4000 marine customers in over 80 countries.

Rethink : Case 2

- Patagonia

Patagonia Inc. is an American clothing company that sells sustainable outdoor clothing. The company runs the country's largest outdoor repair shop for clothing. The philosophy of the company is to manufacture, repair and recycle products such that they last a lifetime. The company has also launched an e-commerce platform for its Worn Wear Initiative to sell used Patagonia clothing as well as provide information to the customers on 'how to repair' and so on.

Innovative Models for CE

- Resource Recovery
- Sharing Platform
- Product Life extension
- Product as service
- Circular supplies

Resource Recovery

- In this model, the focus is on recovery of all the resources employed in the business model.
- Using new technologies, the businesses try to eliminate any material leakage and maximize economic value of their resources.
- This is suitable for organizations that trade in volumes and are working with materials which can be recovered cost-effectively.

Example

Hewlett Packard, the leading information technology company, has a system whereby they reprocess the ink and toner cartridges sold. According to their team, no part of any HP cartridge ever ends up in a landfill. They recycle the plastic recovered from the cartridges and put it back into the system, thereby closing the loop.

Sharing Platform

- This business model involves a focus on increasing collaborative consumption by facilitating sharing of resources, products and services.
- This model maximizes usage and reduces cost.
- The companies where core business proposition is derived from sharing of a resource, can derive value from this model.

Example

Flyrobe is an example of sharing platform. It is a company based in India that runs an online fashion rental service. The company provides high end clothing including brands like Zara and French Connection to be rented at nominal prices, instead of buying these products.

Product Life extension

- This business model is based on extending the lifecycle of the products so that they are used for a longer period through repair, remanufacturing, upgrading, remarketing and so on.

- This could also provide an additional source of revenue to the company.

- This model can be useful for capital intensive companies.

Example

- The modular toothbrushes available in the market are an example of product where the intension is to extend life. Instead of buying a new toothbrush, the customers can replace only the head of the toothbrush when the bristles become damaged.

Product as service

- This business model promotes offering the product as a service rather than encouraging the customers to buy and own the product. This works well for companies which sell a unique product and own a high capital share such that there is stable demand for their product in the market.

Example

The OPEX model for solar rooftop solutions is an example of Product as a Service business model. In this model, the investor or the project developer invests and owns the solar rooftop. The consumer pays for the energy consumed from the solar project at an agreed tariff for an agreed tenure, according to a contract signed between the company and the customer.

Circular supplies

- In this model, the company is based on production and consumption system that utilizes only renewable or biodegradable inputs and no waste is generated in the system. This is a dire need for sectors that have major contribution to business environmental footprint. It works on the principles of minimizing waste and maximizing efficiency.

Example

Nike’s Reuse a Shoe Programme

Leading sportswear company Nike has created a mechanism to build playgrounds from worn out athletic shoes collected by the company and then ground for the purpose of building grounds. The total area of playgrounds already built by the company is more than 600 millions square feet.

Enablers for Business Models for CE

- Top Management Commitment
- Education and Training of Managers
- Building Partnerships for Systemic Change

Corporate Social Responsibility, Creating Shared Value and Circular Economy

Definitions

"Corporate Social Responsibility is a commitment to improve community well being through discretionary business practices and contributions of corporate resources."

-Philip Kotler

"Operating a business in a manner that meets or exceeds the ethical, legal, commercial and public expectations that society has of business."

- Business for Social Responsibility

Evolution of CSR

- Bowen (1953)
- Davis (1967)
- Friedman (1970)
- Johnson (1971)
- Committee for Economic Development (1971)
- Carroll (1979)
- Freeman (1984)
- Carroll (1991)

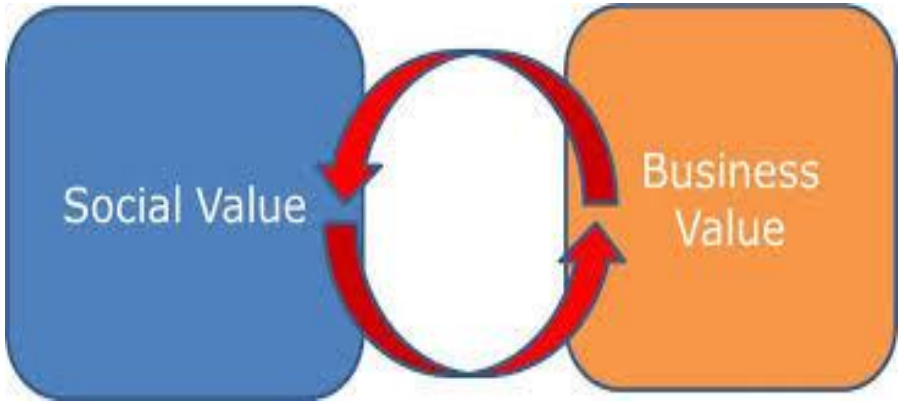
CAROLL'S PYRAMID

Source: Carroll (1991)

Creating Shared Value

Proponents

- Michael E. Porter and Mark R. Krammer in Harvard Business Review in 2011



The Concept

- Role of business
- Flaws in CSR
- Moving beyond trade-offs
- Shared Value

“Business as business and not as a charitable donor is the most powerful force for addressing the issues we have.”

Implementation

GE, Adidas, Thomson Reuters, Vatsalya, Heinz

Resource Use, Distribution, Employee Productivity

- Reconceiving products and markets
- Redefining productivity in value chain
- Enabling Cluster Development

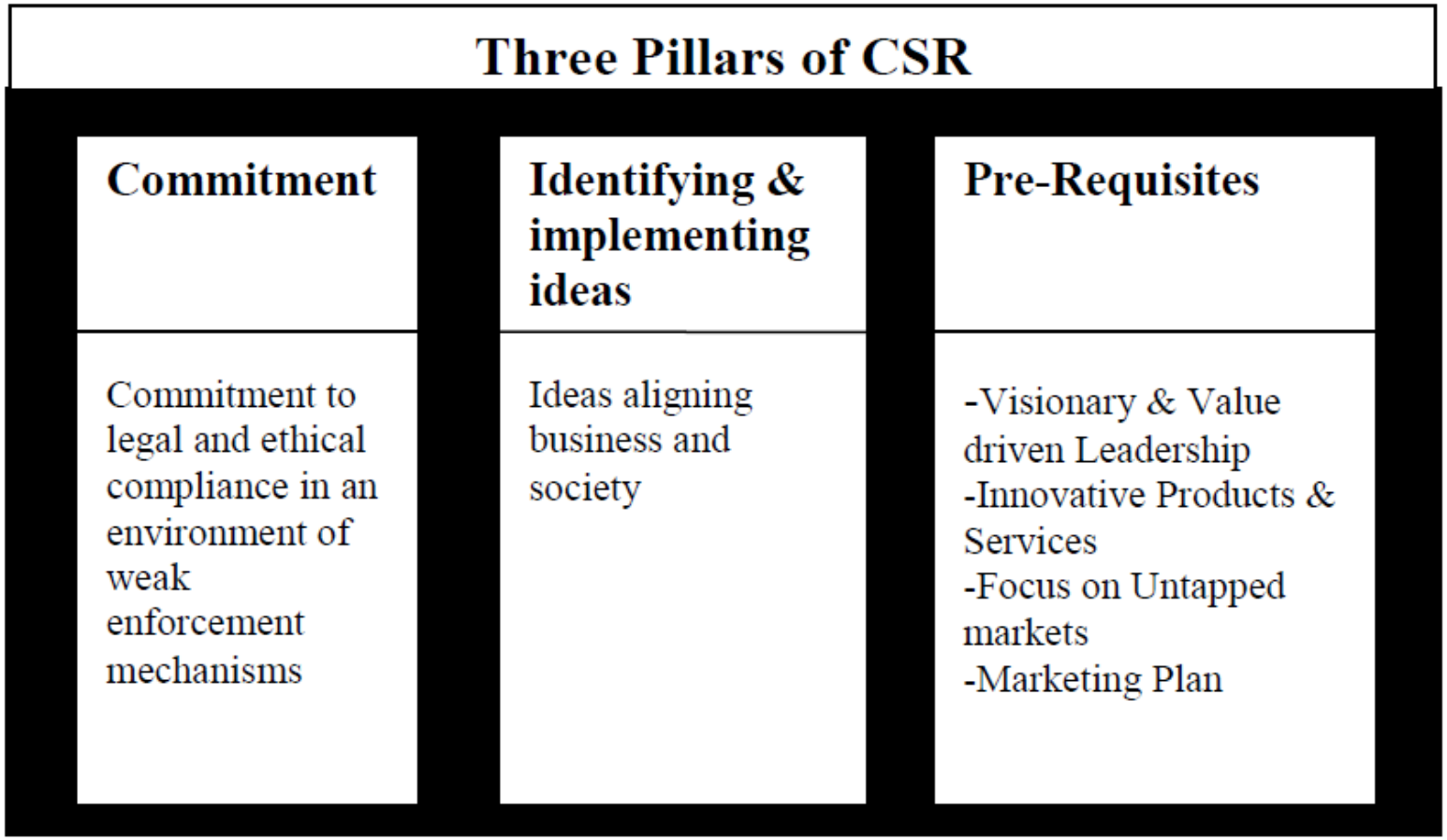
Southwire, Nestle, Yara

KEY IDEA: LOOK FOR OPPRTUNITIES

Where lies the difference?

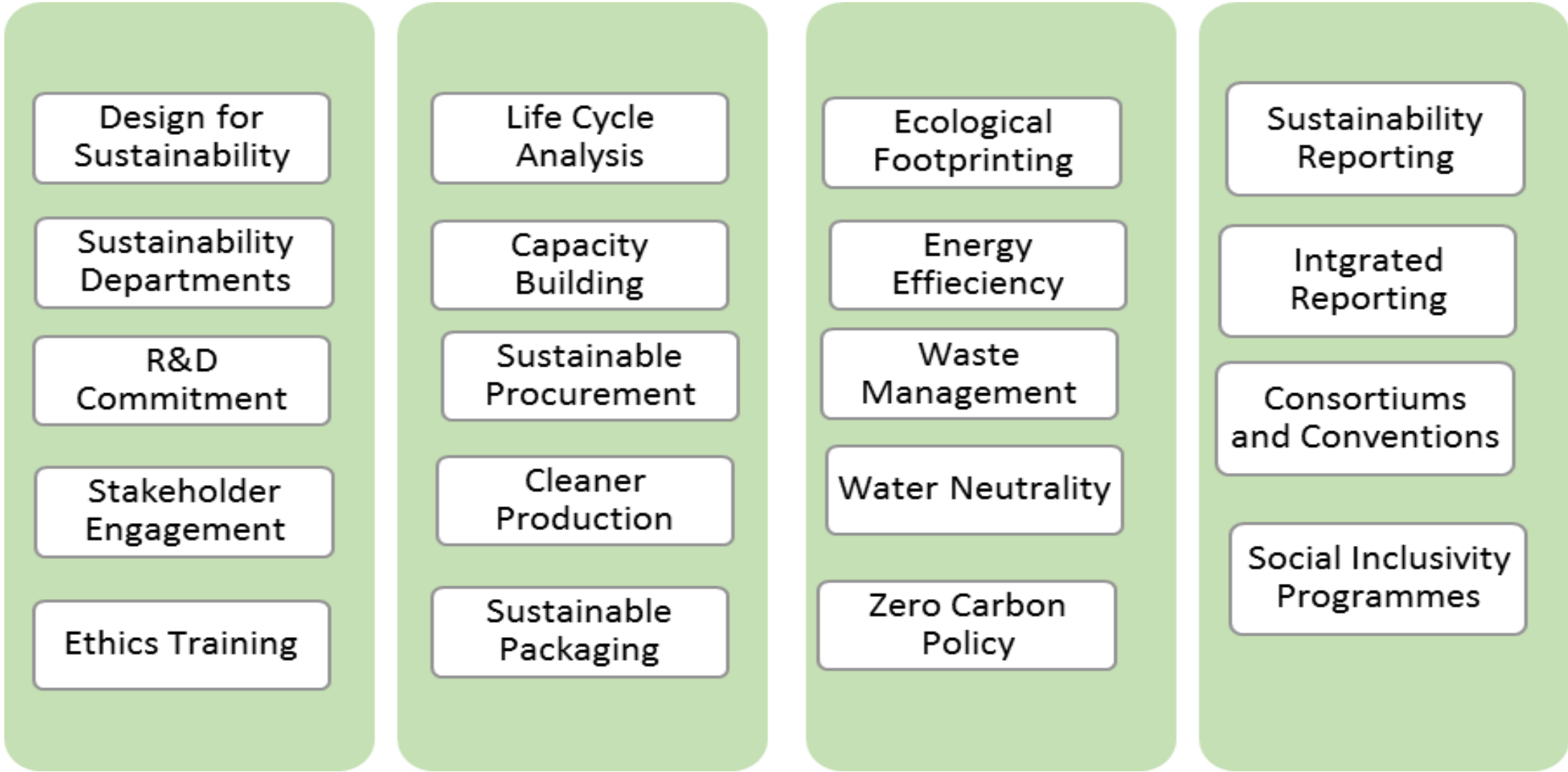
- Corporate Social Responsibility
- Creating Shared Value
- Circular Economy

Leveraging CSR for CE



Some Recent Business Trends

Key Trends


Design for Sustainability
Sustainability Departments
R&D Commitment
Stakeholder Engagement
Ethics Training
Life Cycle Analysis
Capacity Building
Sustainable Procurement
Cleaner Production
Sustainable Packaging
Ecological Footprinting
Energy Effieciency
Waste Management
Water Neutrality
Zero Carbon Policy
Sustainability Reporting
Intgrated Reporting
Consortiums and Conventions
Social Inclusivity Programmes

Sustainability Reporting

Background

- Sustainability reporting is an organization's practice of reporting publicly on its economic, environmental, and/or social impacts, and hence its contributions – positive or negative – towards the goal of sustainable development in accordance with a globally-accepted standard.

Background

- The Reports create a common language for organizations and stakeholders, with which the impacts of organizations can be communicated and understood.

- The information made available through sustainability reporting allows internal and external stakeholders to form opinions and to make informed decisions about an organization's contribution to the goal of sustainable development.

KPMG Survey of Corporate Responsibility Reporting 2017

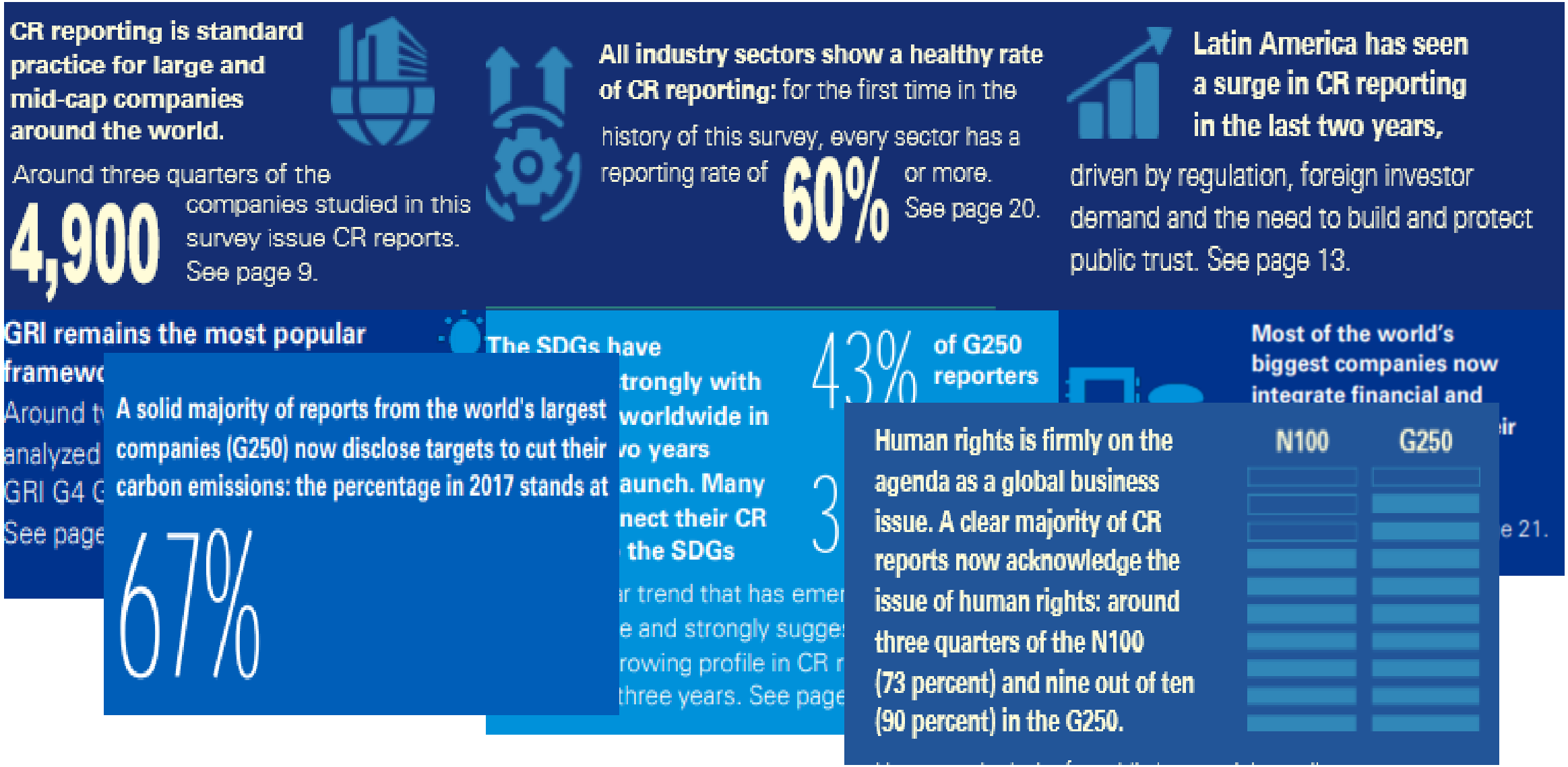
Research Samples

- N100 refers to a worldwide sample of 4,900 companies comprising the top 100 companies by revenue in each of the 49 countries researched in this study.
- G250 refers to the world's 250 largest companies by revenue based on the Fortune 500 ranking of 2016.

Questions

- How many companies acknowledge climate change as a financial risk?
- How many companies link their corporate responsibility activities to the UN's Sustainable Development Goals?
- How many companies acknowledge human rights as a business issue?
- How many companies have set targets to reduce their carbon emissions?
- How many companies include corporate responsibility information in their annual financial reports?

Some Findings



Implications

- Get ready for more reporting regulation
- Reporting integration is the new normal and “nonfinancial” is the new financial
- It is all about impact not just statistics

Also known as…

- Non-financial reporting
- Triple bottom line reporting
- Corporate social responsibility (CSR) reporting
- Business Responsibility Reporting (BRR)
- Integrated Reporting

Major providers of SR guidance

- GRI (GRI's Sustainability Reporting Standards)
- The Organisation for Economic Co-operation and Development (OECD Guidelines for Multinational Enterprises)
- The United Nations Global Compact (the Communication on Progress)
- The International Organization for Standardization (ISO 26000, International Standard for social responsibility)

Global Reporting Initiative

- GRI is an independent international organization that has pioneered sustainability reporting since 1997.
- The GRI Standards are developed with true multi-stakeholder contributions and rooted in the public interest.

Global Reporting Initiative

- Based in Amsterdam, the Netherlands

- https://vimeo.com/122403072
- https://vimeo.com/123062991

✖ Reset filters

Type organization's name

Size	Sector	Country	Region	Report Type	Report Year
No selection	Automotive	India	Asia	No selection	No selection

Summary

29 Organizations found (showing 10 of 29)

82 Reports found

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ORG Name	Size	Sector	Country	Region	Reports
Apollo Tyres	MNE	Automotive		Asia	2017 - Non - GRI 2016 - Non - GRI 2015 - Non - GRI 2014 - Non - GRI 2013 - Citing - GRI 2012 - GRI - G3
Ashok Leyland	Large	Automotive		Asia	2017 - GRI - G4 2008 - Non - GRI 2005 - Non - GRI
Bajaj Auto	MNE	Automotive		Asia	2017 - Non - GRI 2016 - Non - GRI 2015 - Non - GRI 2014 - Non - GRI 2013 - Non - GRI
Balkrishna Industries Limited	MNE	Automotive		Asia	2017 - Non - GRI
Bosch Ltd.	Large	Automotive		Asia	2017 - Non - GRI 2016 - Non - GRI 2013 - Non - GRI

How to prepare a sustainability report?

- G4 Guidelines
- GRI Standards

Background

- The GRI Standards help an organization prepare a sustainability report based on the Reporting Principles and focuses on material topics.

- Preparing a report in accordance with the GRI Standards demonstrates that the report provides a full and balanced picture of an organization's material topics and related impacts, as well as how these impacts are managed.

Background

- A report in accordance with the GRI Standards can be produced as a stand-alone sustainability report, or can reference information disclosed in a variety of locations and formats (e.g., electronic or paper-based).

- Any report prepared in accordance with the GRI Standards is required to include a GRI content index, which is presented in one location and includes the page number or URL for all disclosures reported.

See clause 2.6 in this Standard and Disclosure 102-55 in GRI 102: General Disclosures.

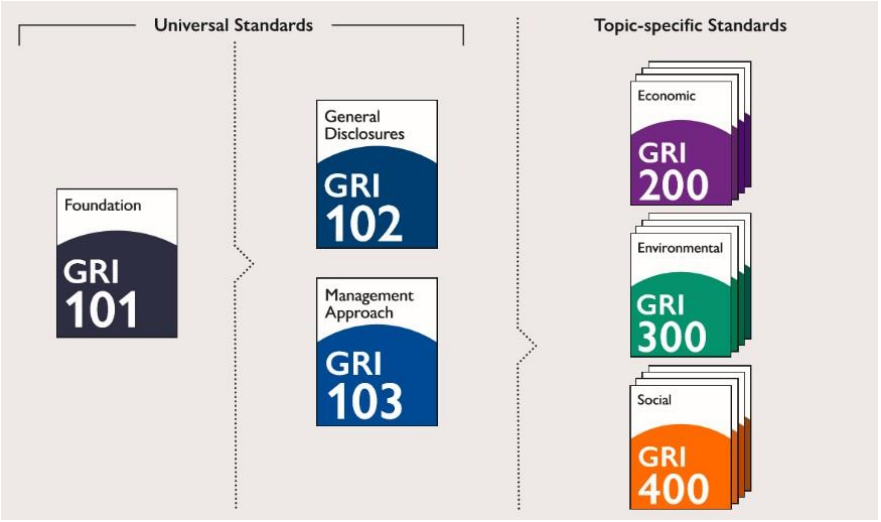
Click here for a short animation video on the GRI Standards

About the Standards

- The GRI Standards **incorporate the key concepts and disclosures** from the *G4 Guidelines* and *G4 Implementation Manual*, but with a **new and improved structure and format.**
- The Standards are issued by the **Global Sustainability Standards Board** (GSSB), GRI's independent standard-setting body.

G4 Guidelines and G4 Implementation Manual

NEW **Set of modular GRI Standards**

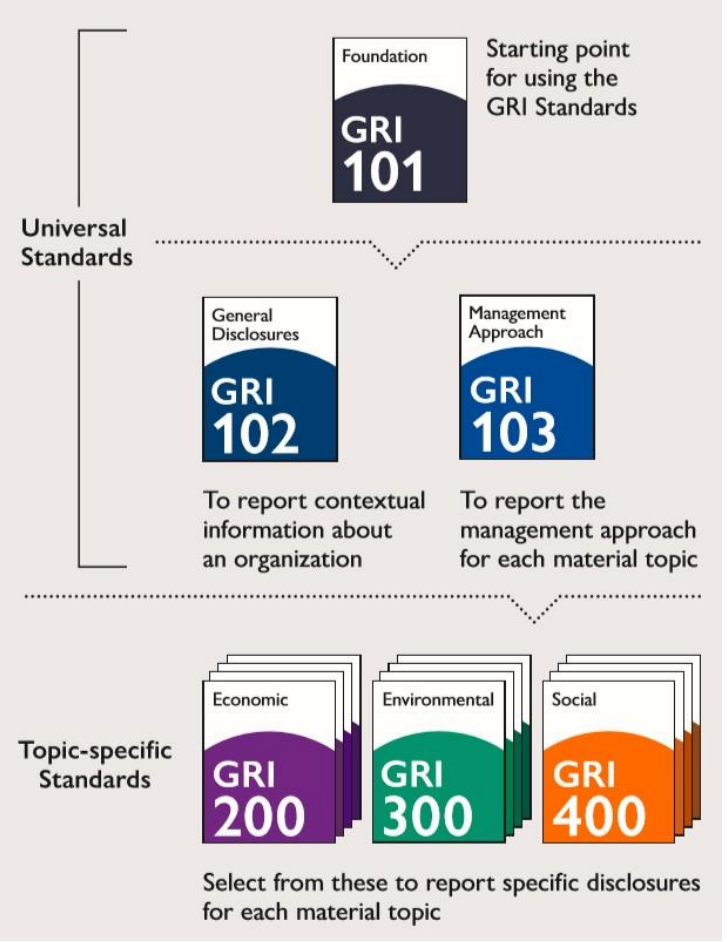


Navigating the new modular structure

The set of GRI Standards includes:

- **3 universal Standards**, applicable to all organizations
- **33 topic-specific Standards**, organized into Economic, Environmental, and Social series

Organizations select and use only the relevant topic-specific Standards, based on their **material topics**



More detail on the universal Standards

GRI 101: Foundation

GRI 102: General Disclosures

GRI 103: Management Approach

GRI 101: Foundation

- Foundation is the starting point for using the set of GRI Standards.

- GRI 101 sets out the Reporting Principles for defining report content and quality, includes requirements and describes how the Standards can be used and referenced.

- GRI 101 also includes the specific claims that are required for organizations preparing a sustainability report in accordance with the Standards, and for those using selected GRI Standards to report specific information.

GRI 102: General Disclosures

This is used to report contextual information about an organization and its sustainability reporting practices.

This includes information about an organization's profile, strategy, ethics and integrity, governance, stakeholder engagement practices, and reporting process.

GRI 103: Management Approach

- Thi is used to report information about how an organization manages a material topic (those covered GRI Standards series 200, 300, and 400) and other material topics.

- It allows the organization to provide a narrative explanation of why the topic is material, where the impacts occur (the topic Boundary), and how the organization manages the impacts.

Topic Specific Standards

- To prepare a report, an organization applies the Reporting Principles from GRI 101: Foundation to identify its material economic, environmental, and/or social topics. These topics determine which topic-specific Standards the organization uses to prepare its sustainability report.

- Selected topic-specific Standards, or parts, can also be used to report information, without preparing a sustainability report.

- 200 series (Economic topics); 300 series (Environmental topics); 400 series (Social topics)

Format

Number and title of disclosure

Reporting requirements

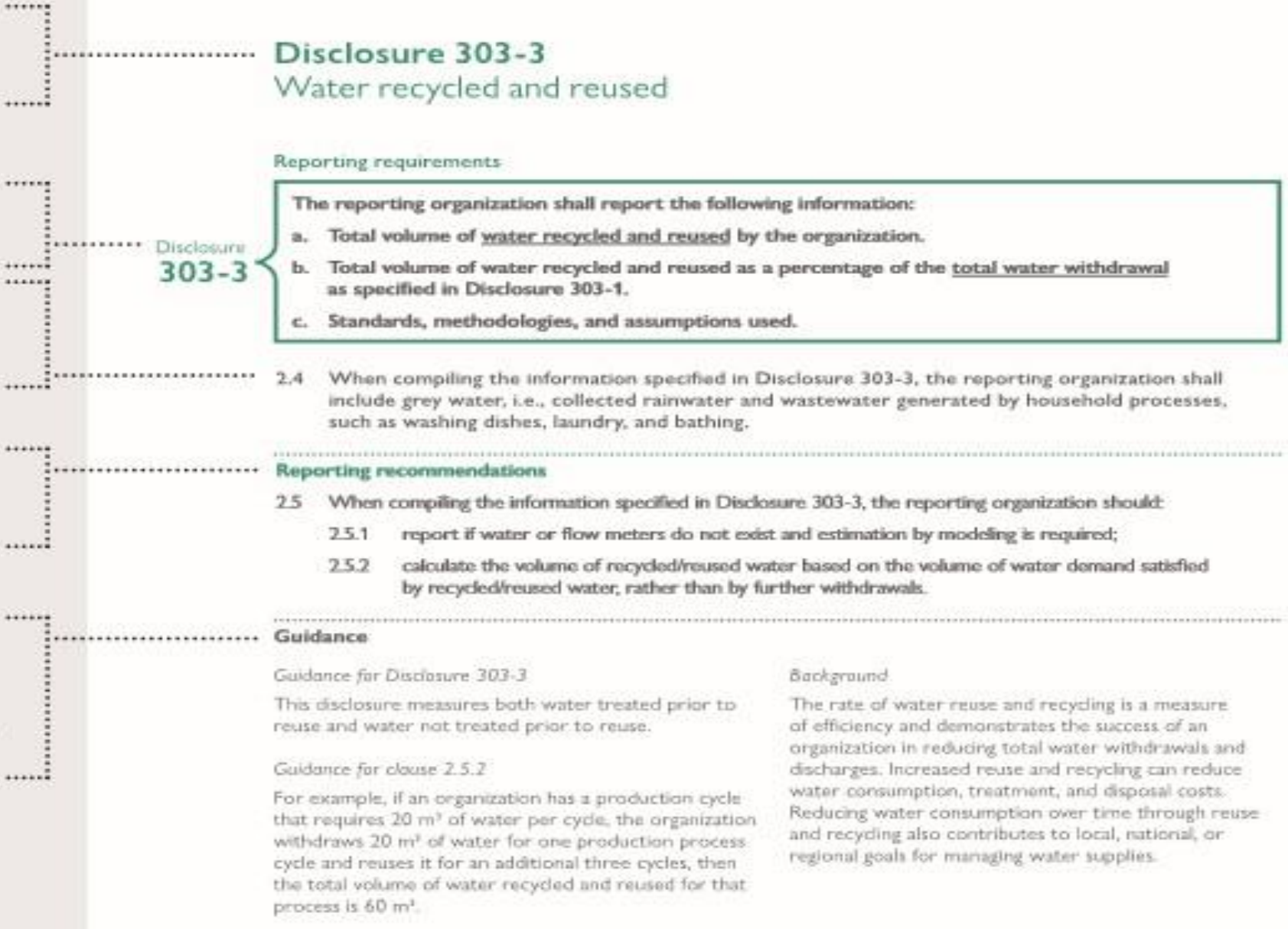
- The disclosure itself has the required information to report
- Some disclosures have additional requirements on how to compile this information

Reporting recommendations

Actions that are encouraged, but not required

Guidance

Typically includes background information, explanations and examples



Disclosure 303-3
Water recycled and reused

Reporting requirements

Disclosure 303-3

The reporting organization shall report the following information:

a. **Total volume of water recycled and reused by the organization.**

b. **Total volume of water recycled and reused as a percentage of the total water withdrawal as specified in Disclosure 303-1.**

c. **Standards, methodologies, and assumptions used.**

2.4 When compiling the information specified in Disclosure 303-3, the reporting organization shall include grey water, i.e., collected rainwater and wastewater generated by household processes, such as washing dishes, laundry, and bathing.

Reporting recommendations

2.5 When compiling the information specified in Disclosure 303-3, the reporting organization should:

2.5.1 report if water or flow meters do not exist and estimation by modeling is required;

2.5.2 calculate the volume of recycled/reused water based on the volume of water demand satisfied by recycled/reused water, rather than by further withdrawals.

Guidance

Guidance for Disclosure 303-3

This disclosure measures both water treated prior to reuse and water not treated prior to reuse.

Guidance for clause 2.5.2

For example, if an organization has a production cycle that requires 20 m³ of water per cycle, the organization withdraws 20 m³ of water for one production process cycle and reuses it for an additional three cycles, then the total volume of water recycled and reused for that process is 60 m³.

Background

The rate of water reuse and recycling is a measure of efficiency and demonstrates the success of an organization in reducing total water withdrawals and discharges. Increased reuse and recycling can reduce water consumption, treatment, and disposal costs. Reducing water consumption over time through reuse and recycling also contributes to local, national, or regional goals for managing water supplies.

Management Education for Sustainable Development

	Existing structures	New structures
Narrow curriculum	*Piggyback* Integration of sustainability within existing structures by adding sustainability to individual sessions of courses or modules.	*Digging deep* Integration of sustainability through new standalone modules.
Broad curriculum	*Mainstreaming* Integration of sustainability within existing structures but with the emphasis on a broader, cross-curricular perspective (entire curriculum).	*Focusing* Integration of sustainability through new cross-disciplinary offerings such as sustainability related courses, which are required for all business school students and new programs.

BOX 21.1 KEY CONSTRAINTS IN INTERNALIZING SUSTAINABILITY IN MANAGEMENT PROGRAMS IN INDIA

- Sustainability in management education is a very new concept in a developing and emerging economy like India, and the market is yet to develop.
- There is an inherent demand–supply mismatch between the courses.
- The funding that is presently available for such programs is inadequate.
- Institutional policies are not conducive to appreciating sustainability related courses and often disincentivize faculty from pursuing the teaching of sustainability related courses.

Thank You