



Indiana Partners For Pollution Prevention

25th Annual Pollution Prevention Conference & Trade Show



Sustainability and Supply Chains

The Past Success, Current Status & Future Trends That Will Make The Biggest Impact On Your Organization

By Jit Hinchman

Founder of Supply Chain Adviser
Sustainable Supply Chain Global Ambassador

“Sustainability and Supply Chains”

The Past Success, Current Status & Future Trends
That Will Make The Biggest Impact On Your Organization



AGENDA

1. The Past Success, Latest Sustainability Trends & Current States Around The World
2. How Do Organizations Generate Value From Sustainability Programs?
3. What is Supply Chain Sustainability? What Can You & Your Organizations Do?
4. Pathway to Sustainability

Jit Hinchman, M.Eng, M.Sc, CSCP, CLSS
Founder of Supply Chain Adviser™ LLC.
Sustainable Supply Chain Global Ambassador

The Power of Responsibility & Opportunity

“In 1994, Ray Anderson, the founder & CEO of Interface, was asked to comment on the company’s environmental vision at an internal work meeting. Interface was a large player in the international carpet market, & the reason for the meeting was that the company’s customers & collaborative partners had begun to question how its carpets were manufactured & what influence Interface had on society & the environment (Anderson 2002).

It suddenly occurred to him that the company he had been running for 21 years not only lacked an environmental vision but rather the company was an environmental culprit. It was a revelation to Anderson, & it led to his vision of reducing Interface’s ecological footprint to zero by 2020 (“Mission Zero”). It required an entirely new way of thinking and a completely new business model to turn the company around from being an environmental villain to becoming a leader in sustainability (Anderson 2010).

To achieve this ambitious objective, the company needed to develop new products & had to turn its processes upside down to find new ways of designing, manufacturing & distributing its carpets.

In addition, it aimed to find alternative sources of energy. **Perhaps most fundamentally, Interface changed its business model from one based on selling carpets to end users to a business model based on a so-called product-service system.** It is implied that it leased carpets to its customers, in a way that the company had the responsibility for maintenance, cleaning and so on.

When carpet tiles were destroyed or worn down, Interface replaced them and collected the old tiles for reuse in the production of new carpets. In this way, Interface could sell more services to its customers, while at the same time driving down the cost of input factors for its carpets.” (S. Jørgensen, L. J. T. Pedersen, 2018)

The Past

The U.S. Environmental Major Milestones

1872

March 1, 1872, Yellowstone became the first U.S. National Park

1900

May 1900, The Lacey Act, first U.S. Law to protect native animals from hunted games.

1955

July 1955, Air Pollution Control Act is passed.

1972

October 1972, Clean Water Act is passed.

2017

September 2017, Third Saturday of September, 2017 is the first U.S. National Clean Up Day.



13 / 30 Retman // Getty Images

June 1969: Ohio's Cuyahoga River catches fire

Just months after the Santa Barbara Oil Spill of 1969, Ohio's Cuyahoga River caught fire. In fact, the river was almost always covered in oil slicks and had caught fire at least nine times before. But on June 22, 1969, the fire caught the world's attention and became a symbol of the American environmental movement.

[Pictured: Firemen stand on a bridge over the Cuyahoga River to spray water on the tugboat Arizona in 1952.]



8 / 30 PhotoQuest // Getty Images

July 1955: Air Pollution Control Act is passed

Air pollution caught public attention in the 1940s when smog in Los Angeles stung people's eyes and cut visibility down to three city blocks. After years of federal resistance to air pollution legislation, President Dwight Eisenhower signed the Air Pollution Control Act of 1955, which was the first federal legislation to address air pollution. It provided funds for research and paved the way for later air pollution control legislation.



Donora Smog, 1948

October 30-31, 1948

In Donora, PA, 20 people die and over 600 go to the hospital after sulfur dioxide emissions from a nearby steel and wire plant descend in the form of smog, made worse by a temperature inversion that trapped the sulfuric poison in the valley of the town. The incident will lead to the first U.S. conference on air pollution in 1950, sponsored by the Public Health Service.



A worker sprays DDT to kill mosquitoes.

September 1949

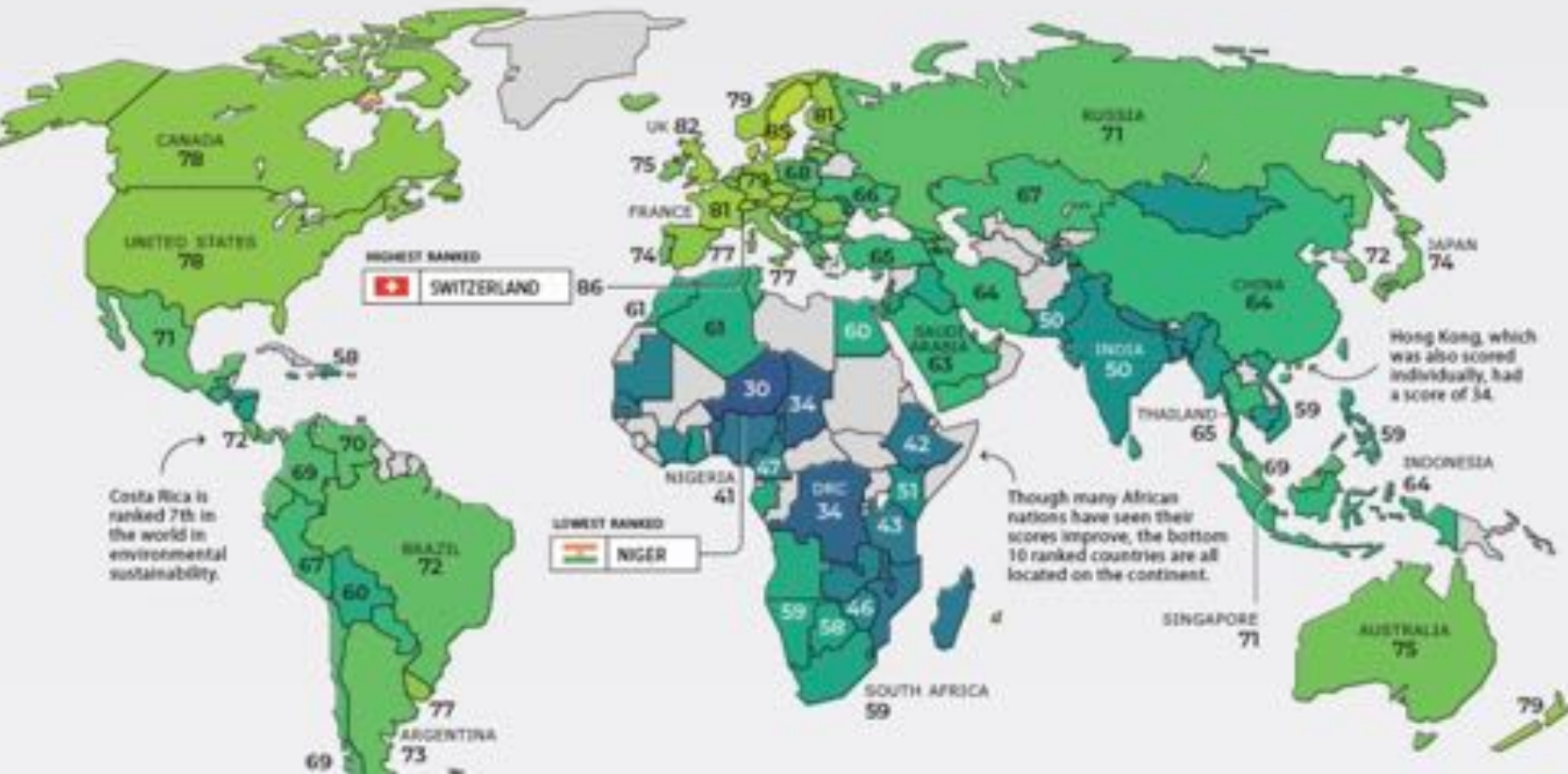
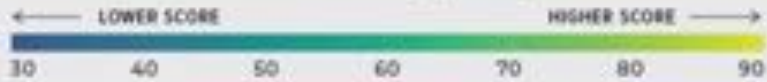
Paul Ehrlich (future author of *The Population Bomb*) enters the University of Pennsylvania and studies zoology. He notes the disappearance of butterflies in New Jersey, which he attributes to the spraying of

dichlorodiphenyltrichloroethane (DDT) during the building of subdivisions. The shrinking population of butterflies leads Ehrlich to think about potential similar repercussions in the human population.

RANKED: THE COUNTRIES WITH THE MOST SUSTAINABLE ENERGY POLICIES

The Present

The World Energy Council's **Energy Trilemma Index** scores countries on their ability to provide sustainable energy through three dimensions:



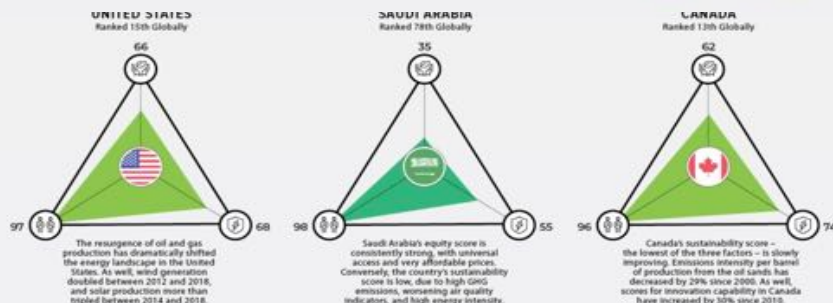
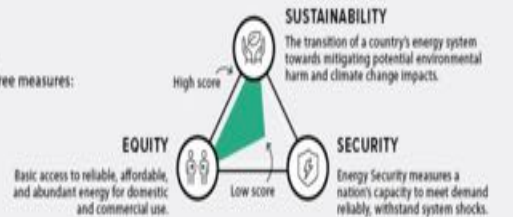
Green initiatives aren't just good for the environment—they're good for economies and humanity too.

By providing benchmarks for environmental policies and regulations, indexes like the Environmental Performance Index (EPI) can be critical to measuring sustainability efforts.

Developed by Yale University, the EPI measures nations across **32 performance indicators**—from climate change mitigation to air quality—revealing the world's most environmentally friendly economies.

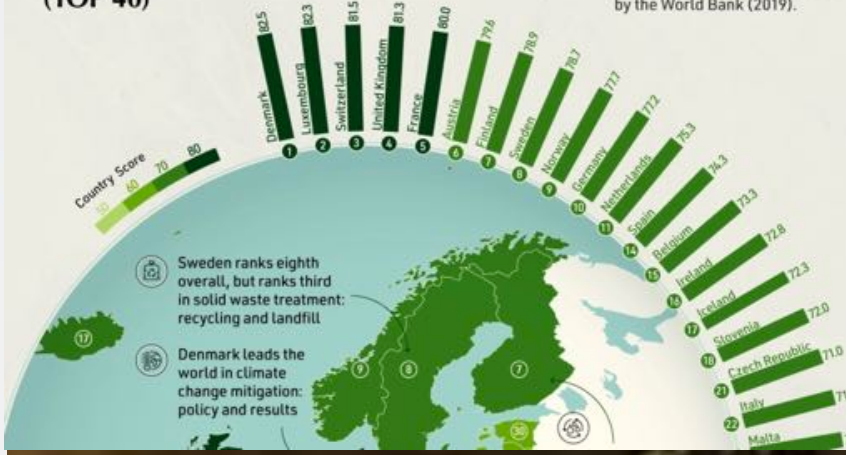
COUNTRY SPOTLIGHT

Trilemma Index scores are calculated using three measures:



Who's the Greenest of Them All? (TOP 40)

The top 40 greenest countries are all categorized as "high income" by the World Bank (2019).

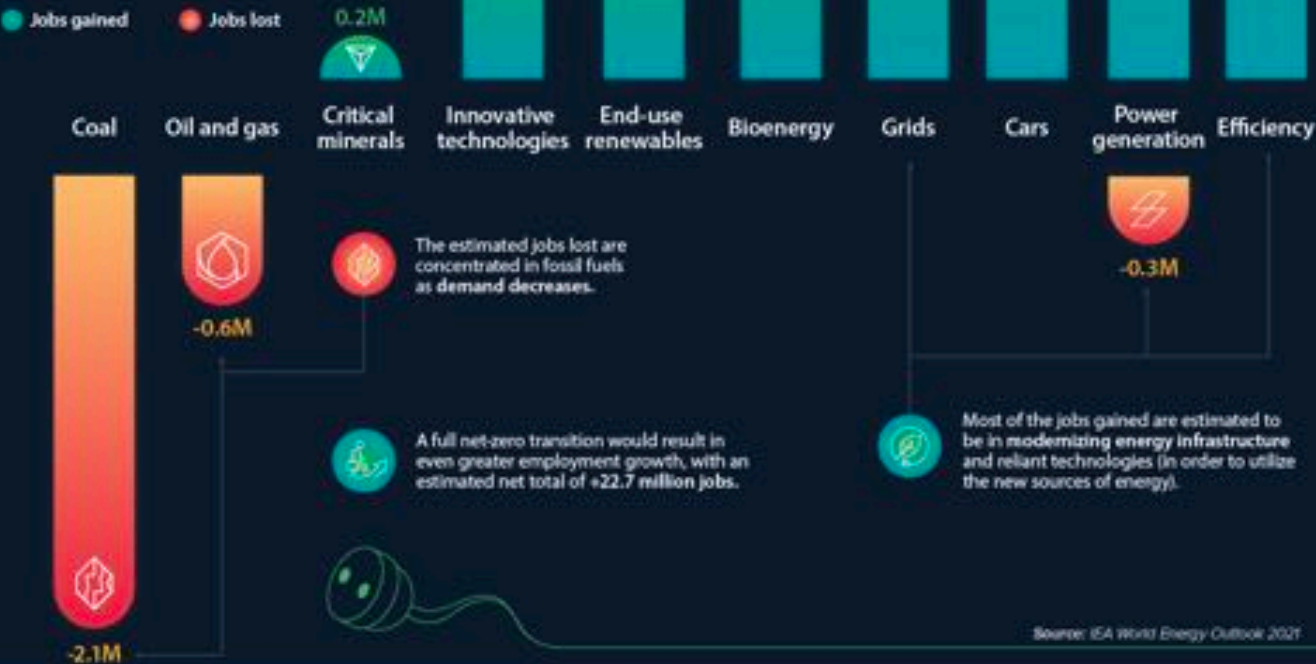


Picture Courtesy: Visual Capitalist

The Clean Energy Employment Shift to 2030

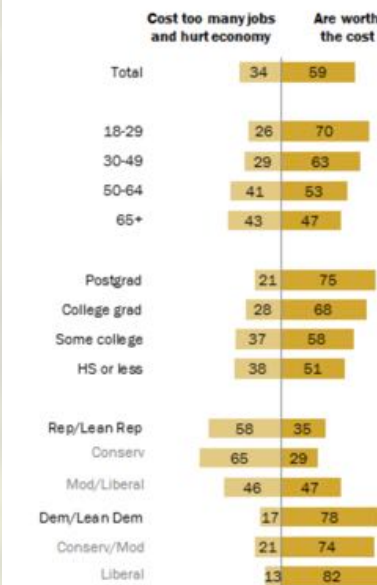
Where will the transition to clean energy create jobs, and where will jobs be lost?

Here are the estimated global employment changes in the clean energy sector and related areas, under announced climate pledges as of 2021.



Partisan, ideological divide on environmental regulations

% who say stricter environmental laws and regulations ...



Note: Don't know responses not shown.
Source: Survey conducted Nov. 30-Dec. 5, 2018.

PEW RESEARCH CENTER

Clean Energy Jobs By Sector (to 2030)

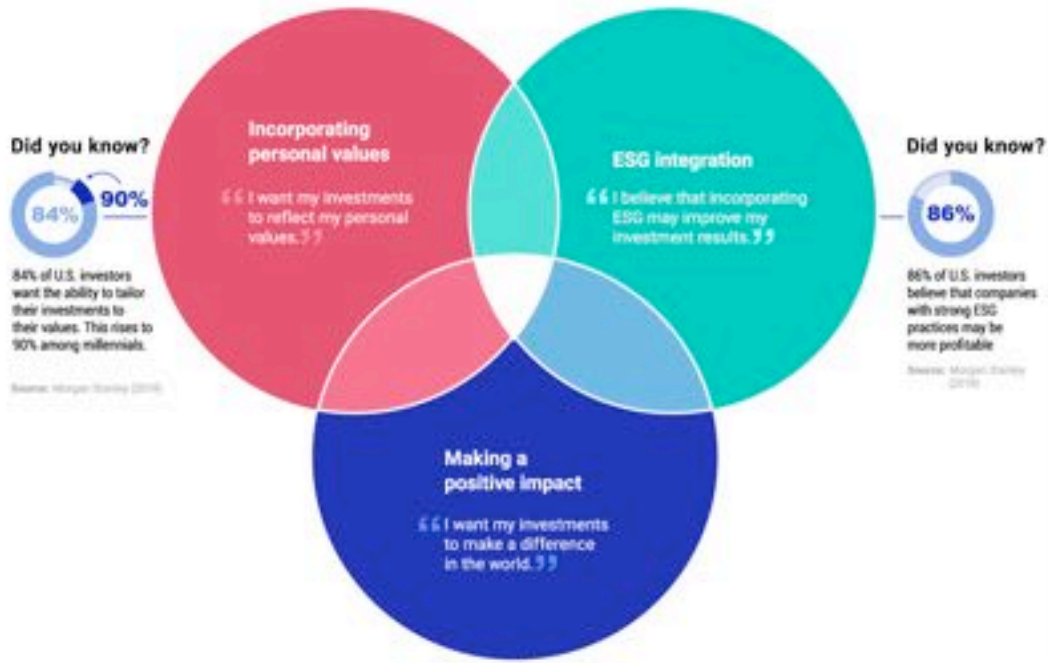
Sector	Jobs Gained	Jobs Lost	Net Job Shift
Efficiency	3.2M	0	3.2M
Cars	2.6M	0	2.6M
Power generation	2.6M	-0.3M	2.3M
Grids	1.6M	0	1.6M
Bioenergy	1.2M	0	1.2M
End-use renewables	1M	0	1M
Innovative technologies	0.9M	0	0.9M
Critical minerals	0.2M	0	0.2M
Coal	0	-0.6M	-0.6M
Oil and gas	0	-2.1M	-2.1M
Total	13.3M	-3.0M	10.3M

The Future

The transitioning period into the bright future requires a strong & responsible leadership in all sectors.

Finding Your Motivation

We've seen three common motivations among investors for using ESG in their portfolios. →



Did you know? Plastic reduction and climate change are the top sustainability themes that investors would like to include in their portfolios.



ESG investing doesn't need to be a one size fits all solution.

With various angles to approach it from, there's likely a strategy best suited to your motivations.

1. The Past Success, Latest Sustainability Trends & Current States Around The World

Latest Trends & Current States

- The ethical & moral calling to address & response to problems in Sustainability & Social Responsibility
- Shift in market demand: Customer preferences, Stakeholder, Investor's Behavior
- Opportunities in Digitization & Technology: Growth & Survival
- Pressures from policies, regulations, & governance: Requirements

2. How Do Organizations Generate Value From Sustainability Programs?

3. What Can You & Your Organizations Do?

4. Pathway to Sustainability

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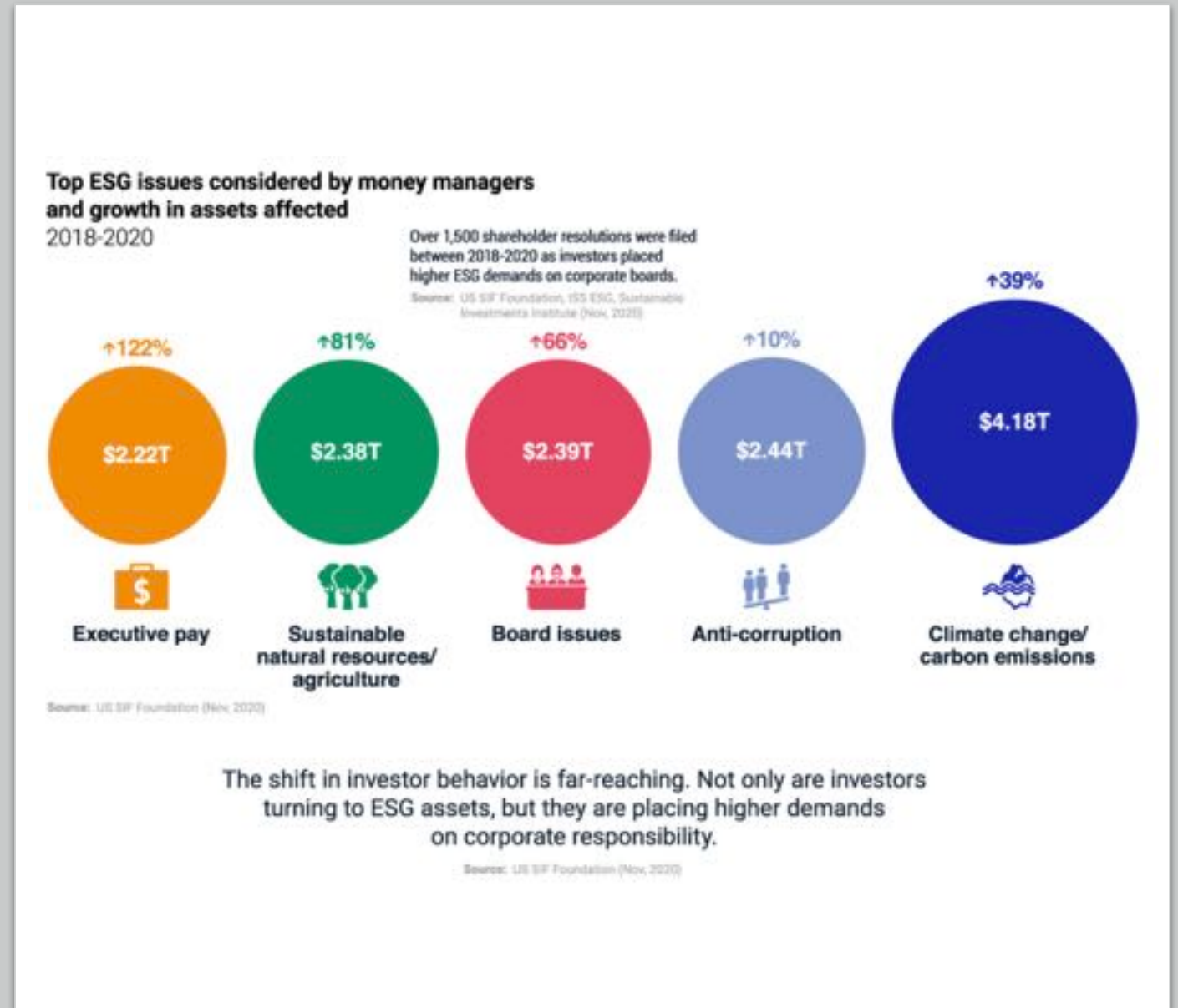
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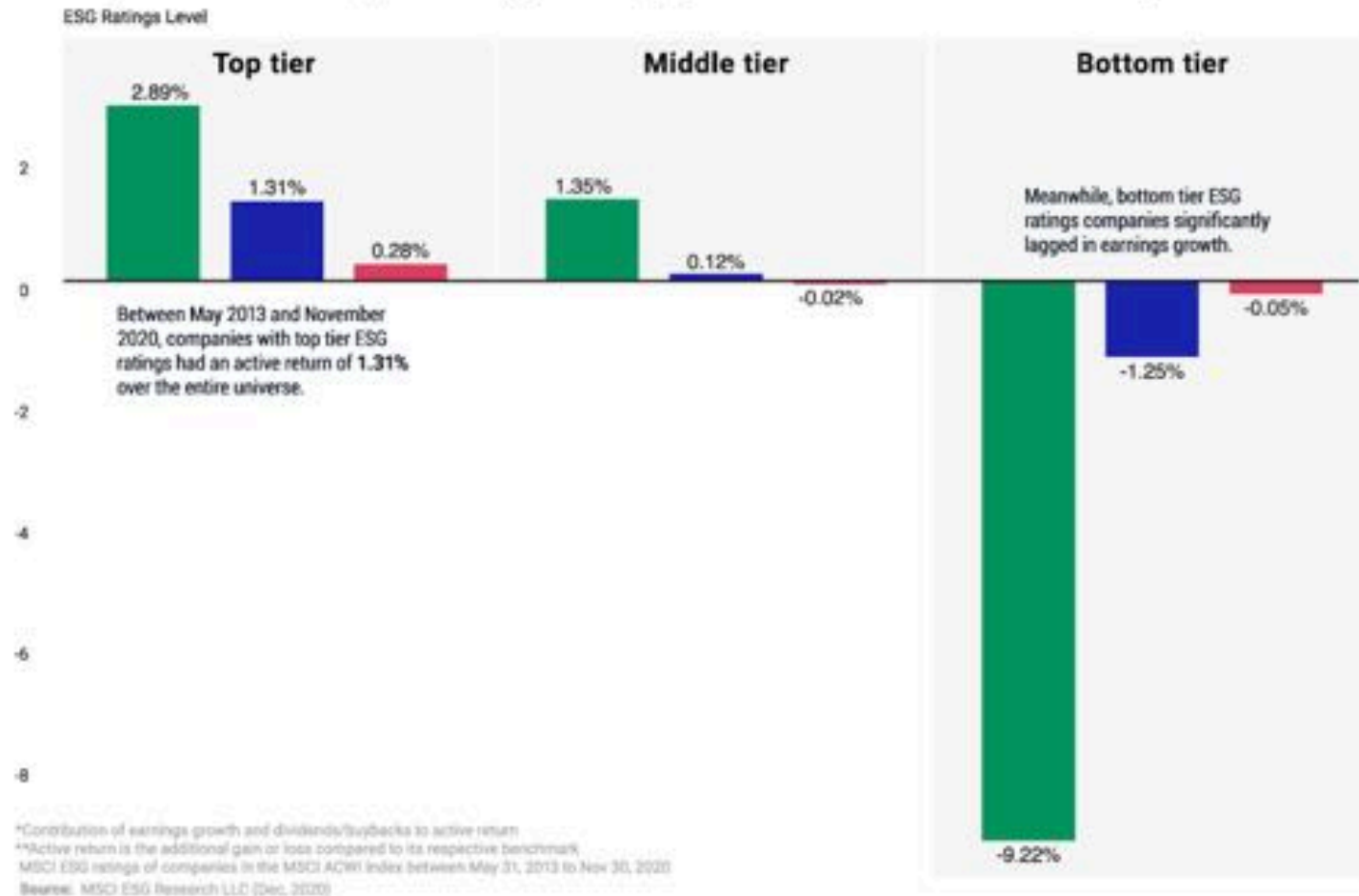
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Worldwide, ESG-focused companies have not only seen higher returns, but stronger earnings growth and dividends.

Decomposition of Returns by ESG Ratings



In fact, a separate study shows that **35%** of investment professionals invest in ESG to improve their financial returns.

Which countries have made a carbon neutral pledge?
This map breaks down pledges by target year and level of commitment.

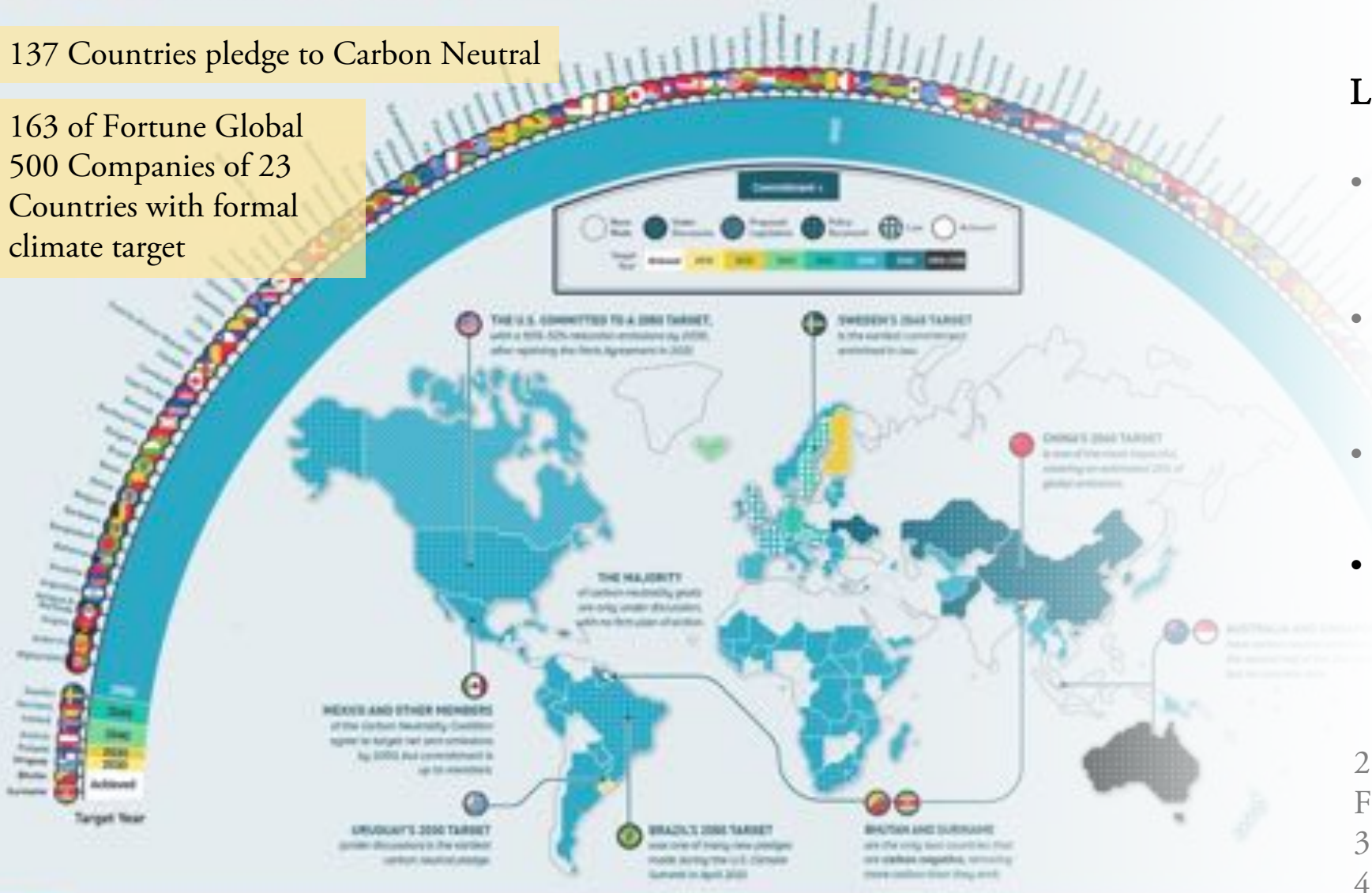
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137 Countries pledge to Carbon Neutral

163 of Fortune Global 500 Companies of 23 Countries with formal climate target



2. How Do Organizations Generate Value From Sustainability Programs?
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1. The Past Success, Latest Sustainability Trends & Current States Around The World
2. **How Do Organizations Generate Value From Sustainability Programs?**
 - **Capture market demand & adapting or creating new business models: Sustainable & Profitable**

“In 2014, the technology company Dell entered into an agreement with the supplier Newlight Technologies—an innovative plastics manufacturer from California, note about Dell’s new supplier was that the plastic it delivered to Dell was certified carbon-negative.

In order to produce the plastic, Newlight captures CO₂ from the chimneys of other companies and uses it as the most important input in its plastic production. In other words, the more plastic Newlight produces, the larger the reduction of CO₂ in the atmosphere. In addition, the plastic produced by Newlight is biodegradable. Newlight can deliver this product because it has developed technology that makes it possible to capture greenhouse gases in the air and turn them into biodegradable plastic.

Newlight plastic is competitive in quality and price, and it is used for everything from plastic chairs to the bags in which Dell packages its lap-tops. This implies that Newlight not only contributes to solve the climate problem, it has also established a business model that could potentially provide it with clients both upstream and downstream in its value chain.

And in 2016, Newlight entered into a comprehensive partnership with IKEA, through which Newlight will supply IKEA with carbon-negative plastic for use in its products. ” (S. Jørgensen, L. J. T. Pedersen, 2018)

3. What Can You & Your Organizations Do?
4. Pathway to Sustainability

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2. How Do Organizations Generate Value From Sustainability Programs?

- Capture market demand & adapting or creating new business models: Sustainable & Profitable

22% of 2,421 respondents say their companies realized modest or significant value from sustainability in the past 5 years.

- Clear Strategic, Purposeful Intent, Priorities, Targets, & KPIs
- Ingrain in the culture: Meeting Customer expectation through products & services, Employee Engagement, Value-chain collaboration

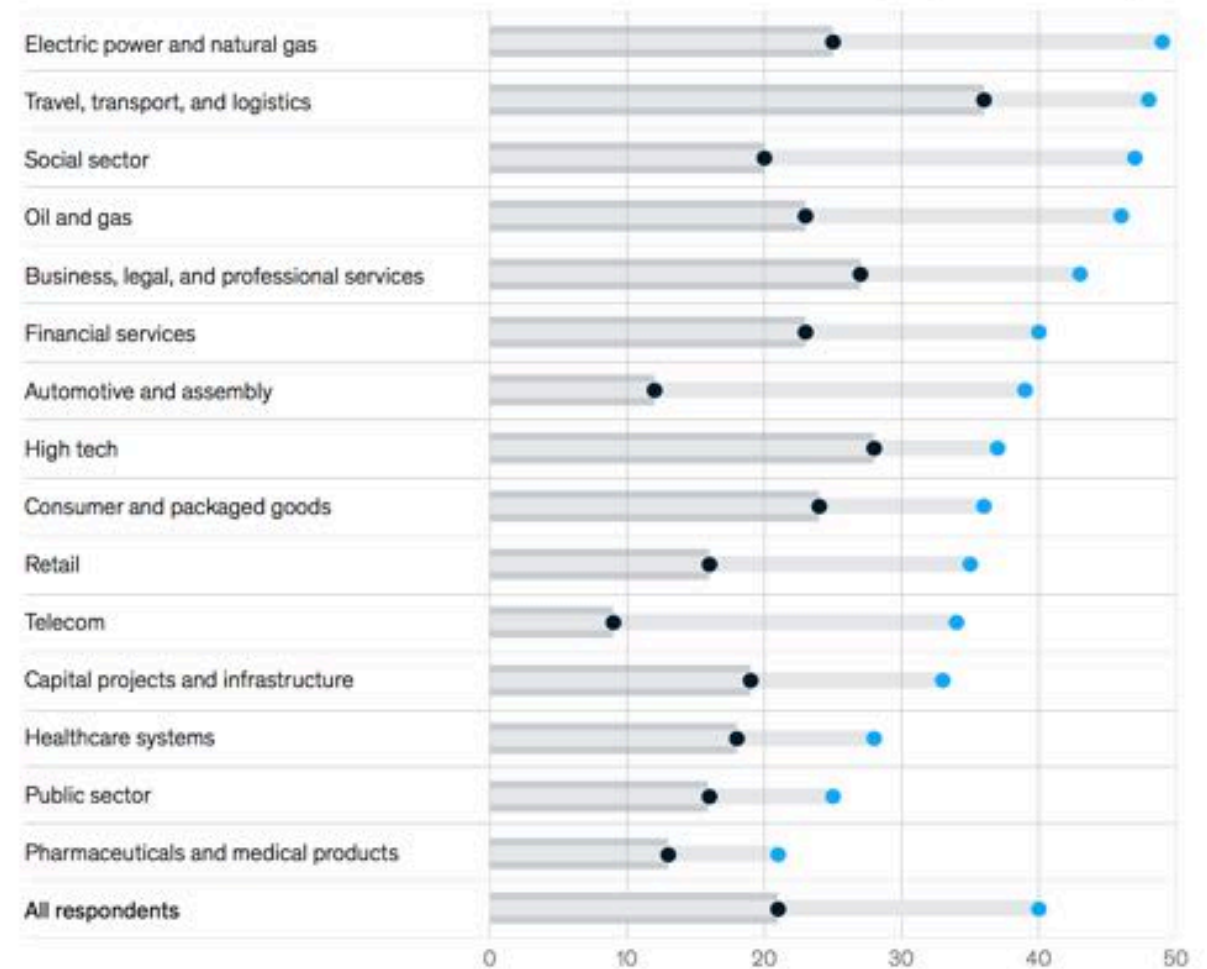
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Forty percent of respondents expect company sustainability programs to generate value in the next five years—nearly double the current share.

Share of respondents who report or expect 'modest' or 'significant' value created from sustainability programs, by industry,¹ %

● In the past 5 years ● In the next 5 years



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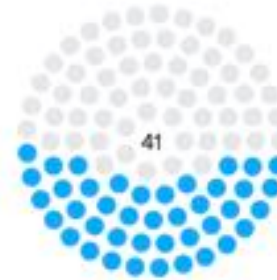
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Value creators are more likely than others to have sustainability programs with clear priorities, defined targets, and key performance indicators.

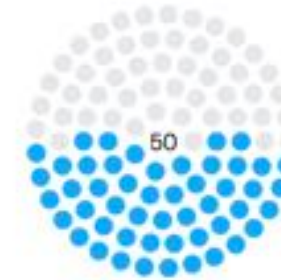
Features of the organization's sustainability program,¹ % of respondents

We have a sustainability strategy with clear, focused priorities



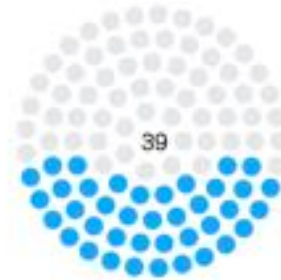
Value creators

We set targets or goals for sustainability initiatives



Value creators

We have key performance indicators for sustainability



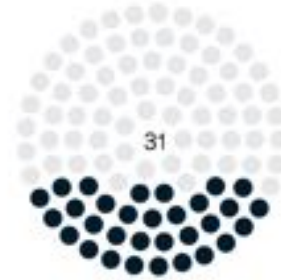
Value creators



All others



All others



All others

¹All categories shown here represent statistically significant differences between companies that create value from sustainability and those that don't; n = 2,421.

Picture Courtesy: McKinsey

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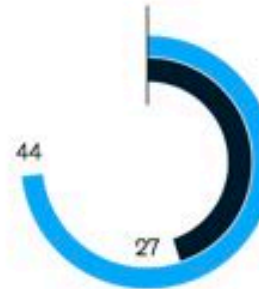
4. Pathway to Sustainability

It's more common for value creators than for others to engage customers on sustainability attributes and update product offerings in response.

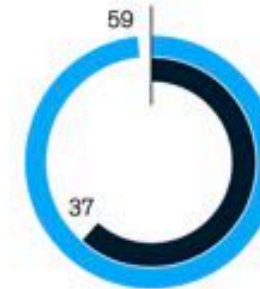
Approaches to engaging customers,¹ % of respondents

● Value creators ● All others

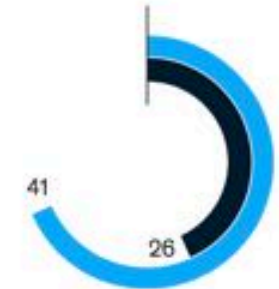
Company seeks customers' inputs on sustainability attributes of products or services



Company markets the sustainability attributes of products or services



Company provides information about the organization's or product's sustainability attributes on packaging



Approaches to managing products,¹ % of respondents

Company has changed product designs to manage sustainability-related impacts



Company is shifting from product-sales model to product-as-a-service model



Company offers one or more dedicated "sustainable" brands



¹All categories shown here represent statistically significant differences between companies that create value from sustainability and those that don't; n = 2,421.

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The term “sustainability” coined in Germany means “sustained yield, handbook of forestry 1713, referring to practice of never harvesting more than the forest can regenerate.

The UN Global Compact reinforced the term “Supply Chain Sustainability: the management of environmental of good governance practices, throughout the lifecycles of goods & services.”

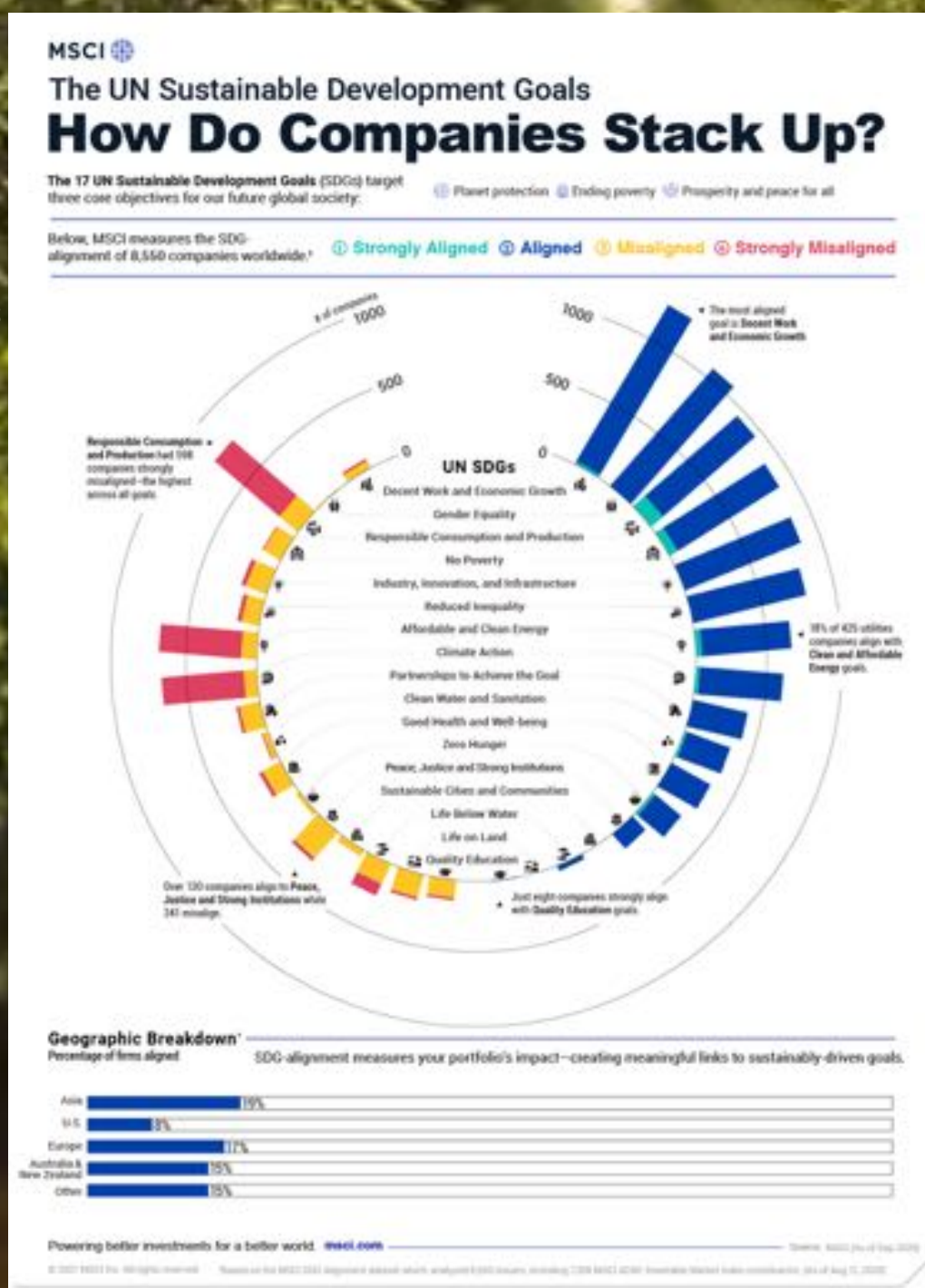
MIT Center of Transportation & Logistics: “Supply Chain Sustainability: the management of environmental & social impacts within & across networks consisting of suppliers, manufacturers, distributors & customers in line with UN Sustainable Development Goals.”

3. What is Supply Chain Sustainability? What Can You & Your Organizations Do?

- Know your **VISION & PURPOSE** in Sustainability & Social Responsibility
- Define what “**SUSTAINABILITY**” & “**SUPPLY CHAIN Sustainability**” means to you & your organization & Translate it into Business Operations, Set **STRATEGIES**
- Set goals, target, plans, resources, measurements (feedback & adjustment) & Evaluate current status & gap analysis
- Create **ROADMAP & Tracking progress**

4. Pathway to Sustainability

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Individual

- Sustainability & Social Responsibility are everyone's business – Jadav Moli Payeng, the Forest Man, a Farmer in India planted 1,360 acres of forest over decades. Yacouba Sawadogo, Farmer in Africa stopped desertification.

Organization

- Decision Between Cost to Transform vs. Cost of Not to Transform
- Set Vision & Purpose, Strategies
- Translate them into objectives, goals, targets, plans, resources (recommended tool of Restart Sustainable Business Model), measurements (feedback & adjustment) & Evaluate current status & gap analysis
- Create ROADMAP & Tracking progress

Social,
Environmental,&
Financial Objectives

Restart Sustainable Business Model

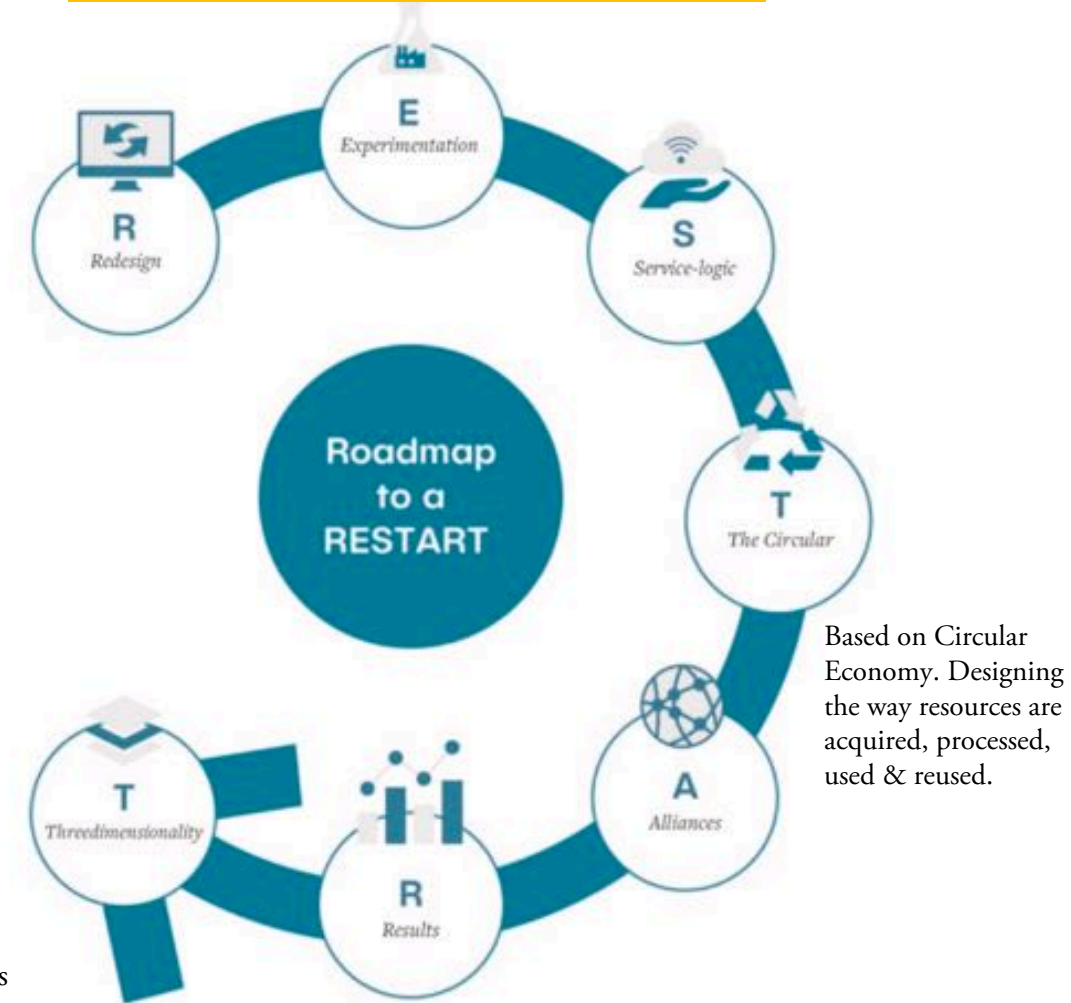


Fig. 4.1 A roadmap to RESTART

Picture Courtesy: S. Jørgensen & L. J. T. Pedersen 2018

Summary

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Where the Strategy & Execution Orchestrate

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THANK YOU!

