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The Chairperson's Guide to Decarbonization

Understanding the decarbonization roadmap

BRIEFING PAPER

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Contents

3	1 Role of boards in developing a robust climate mitigation strategy
5	2 Rising pressure on organizations to respond to, and mitigate, climate change impacts
7	2.1 Case study 1
8	3 Decarbonization
8	3.1 Case vignette
9	3.2 Case study 2
11	4 Why reduce emissions?
13	Contributors
14	Endnotes

This guidance is part of an ongoing series of thought leadership designed to enhance climate competence and steward climate action by board directors internationally.

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1

Role of boards in developing a robust climate mitigation strategy

Key questions

<p>What is more important for your company in the near and long term: to minimize the impact of climate on your business (adaptation), or mitigate the impact of your business on climate (mitigation)? Both are necessary, but what are the relative impacts and trade-offs?</p>	<p>How climate-competent is your board? Is there a good understanding of Scope 1, 2 and 3 emissions? What immediate and continuous education is required?</p>	<p>Have you considered short and long-term impacts and opportunities of alternate abatement pathways? Are you looking at the most strategic way to trade off short-term cost with longer-term decarbonization?</p>
	<p>Is the board comfortable that emissions targets are based on scientific principles acceptable to stakeholders?</p>	<p>Does your personal legacy include climate action and if so, how does this fit into your role in the collective decision-making on the board?</p>

Why do all companies need to reduce emissions?

All businesses are exposed to the effects of climate change. Climate change impacts are nonlinear, and even at only 1.5°C of warming – consistent with the goals of the Paris Agreement – the physical risks to some natural, social and economic systems could be extreme. In fact, some of these effects are already being witnessed.

Humans have never experienced sustained global mean surface temperatures at or above 2.5°C higher than the 1850-1900 average, which last occurred over 3 million years ago. Absent rapid emissions reductions, the world will likely meet or exceed that level of warming well before century's end.¹

As physical risks continue to increase, transition and liability risks for economies and companies also rise. Furthermore, companies are increasingly held responsible for emissions along their entire value chain. Whatever value chain your company is in, the end product will need to be carbon neutral and so your contribution to that outcome will come under the spotlight.

Ultimately, it is the responsibility of the board of directors to provide oversight of decarbonization to minimize the impact of the business on the climate and adapt the business to minimize the detrimental impacts of climate change upon operations.

Call to action

Directors are responsible for considering foreseeable risks and opportunities, which requires assessment of the materiality of impact. As every value chain and company will be affected by climate change, so should every company have assessed their climate risk and opportunity and put

in place a roadmap to decarbonization. An effective decarbonization plan can both mitigate the risk and capture the emerging opportunities. Market expectations, fiduciary duties and stewardship obligations require us all to act urgently.



Global temperatures are rising and having devastating impacts on economies

Average global temperature over the past decade was approximately 1.07°C above pre-industrial levels (1850-1900).² Global surface temperature will continue to increase until at least the mid-century under all emissions scenarios considered by the Intergovernmental Panel on Climate Change (IPCC).

Warming is *very likely* to be 1.9°C this century, even in the low-emissions scenario, and 2.1°C to 3.5°C in the intermediate scenario.

The IPCC's recent report on impacts, adaptation and vulnerability confirms that humanity must seize a "brief and rapidly closing window of opportunity" to avoid severe damage to economies, health, food systems and many other aspects of society.

The report estimates that 3.3 – 3.6 billion people are currently highly vulnerable to climate change, and that this number will continue to grow as temperatures rise.³

The financial impacts are real – between 1970 and 2019 there have been 11,072 weather, climate and water natural disasters recorded globally. These have resulted in over 2 million deaths and USD \$3.6 trillion in losses, USD \$383 million per day on average between 2010 and 2019.⁴ The benefits of lower emissions can be realized within our lifetime if we act now.

“ However, economies will continue to suffer if adequate action is not taken

“ Insufficient action on climate change is not without cost

Organizations are advancing decarbonization journeys

It is unequivocal that human influence has warmed the atmosphere, ocean and land, and businesses are starting to take action; 41% of companies in the World Economic Forum's Community of Chairpersons have adopted science-based targets. For most, adopting such targets are not for altruistic or compliance reasons, but rather to ensure they are effectively managing their risks and looking to seize the emerging opportunities from disruption.

There is no free ride for a global economy that does not reduce emissions, and there is significant regional variation. According to modelling by the Deloitte Economics Institute, the economic damage

of an estimated 3°C of warming to the Asia-Pacific region, Europe and the United States could reduce gross domestic product (GDP) every year to 2070. This damage is in the order of \$115 trillion lost in GDP over the next 50 years.⁵

As impacts of climate change occur in a nonlinear way, the physical risks for some ecosystems and communities will be extreme, even at 1.5°C. If tipping points occur, this may have knock-on effects across interconnected systems and businesses without warning;⁶ all value chains and all businesses are exposed.

Companies will increasingly be held responsible for emissions along their value chain

Investor pressure is increasing. Courts are increasingly holding key decision-makers liable for their emissions ([see case study 1](#)). As of July 2021, there have been over 1,800 climate change cases filed globally.⁷ Accountability for emissions will increasingly include not only direct emissions,

but indirect emissions caused by upstream or downstream in the value chain. More companies face shareholder proposals at annual general meetings and pressure from ratings agencies, proxy firms and financiers to disclose and do more about climate issues.

2.1 Case study 1

Dutch government ordered to reduce carbon emissions by 25%

In August 2021, at least 37 climate cases were reported to have been triggered by the work of a Dutch environmental group, the Urgenda Foundation, beginning with its case against the Government of the Netherlands in 2015.⁸ In December 2019, the Supreme Court of the Netherlands ruled that the government was required to reduce greenhouse

gases by the end of 2020 by at least 25% compared to 1990 levels. This ruling upheld an earlier order first obtained in the 2015 case which sought to require the Dutch government to do more to prevent global climate change. The following are key findings of the Supreme Court:⁹



Human rights

The court held that the Netherlands has a duty of care to protect its citizens from climate change in accordance with its obligations under the European Convention for the Protection of Human Rights and Fundamental Freedoms (ECHR).



Mitigation

Implementation of adaptation measures alone will not satisfy the state's duty of care. The court considered that mitigation is the "only effective remedy". Therefore, the Netherlands "has a duty of care to mitigate as quickly and as much as possible".



Magnitude of contribution

Although the Netherlands is only a minor contributor globally to climate change, the court considered that it had an independent obligation to reduce emissions. The court noted that all emissions contribute to climate change and "[t]he defence that a duty to reduce greenhouse gas emissions on the part of the individual states does not help because other countries will continue their emissions cannot be accepted ... no reduction is negligible."

The Supreme Court ruling indicated that emissions reductions required from countries forms part of a government's duty of care under human rights obligations. It leaves open the question as to whether companies have similar human rights obligations and may be held accountable for failing to prevent climate change.

On the same day as the Supreme Court decision, the UN High Commissioner for Human Rights made a statement, noting the ruling "provides a clear path forward for concerned individuals in Europe – and around the world – to undertake climate litigation in order to protect human rights...".¹⁰

Similar climate litigation cases have been brought against companies, particularly within the energy and resources industry.

3

Decarbonization

“ Mitigation and adaptation – both are necessary. Which is more important to your organization?”

Successful organizations will need to both mitigate and adapt. However, some sectors and geographies are more vulnerable to the consequences of climate change (e.g. agricultural production) while others

contribute more to the causes of global warming (e.g. fossil fuel-based power generation). Depending on the organization’s geography and sector, one may require greater scope and focus than another.

Mitigation:
act to minimize impact of entities on changing climate

Mitigation minimizes impact on natural systems and tackles causes of climate change. Mitigation activities serve both the entity and broader society.

The primary focus of this Guide to Decarbonization is on mitigation.

Adaptation measures that also tackle the causes of climate change

The greatest value to organizations lies here.

For example, shifting a core business product from diesel-based engines to electric vehicles (see [Case study 2](#)).

Adaptation:
act to minimize impact of changing climate on entities

Adaptation shifts consequences of climate change (including economic and social transition) from a weakness to a strength, reducing dependence on at-risk investments and resources and harnessing opportunities to build resilience. Adaptation activities aim to serve the entity alone.

3.1 Case vignette

An insurance company with a purpose to “facilitate risk taking for the greater good of society” found, after analysing its value chain, significant downstream impact on the climate via its insured customers. As a result, the company placed greater emphasis on mitigating the impact on the climate of its value chain through product innovation

– including through incentivizing customers to use electric vehicles over petrol/diesel vehicles
– implementing a “green endorsement” to cover additional costs of reinstatement with sustainable building materials, and encouraging repair over replace’ during its claims process.¹¹

Directors should regularly reassess priorities around mitigation and adaptation in line with a company’s purpose and the board’s stewardship obligations.

3.2 Case study 2

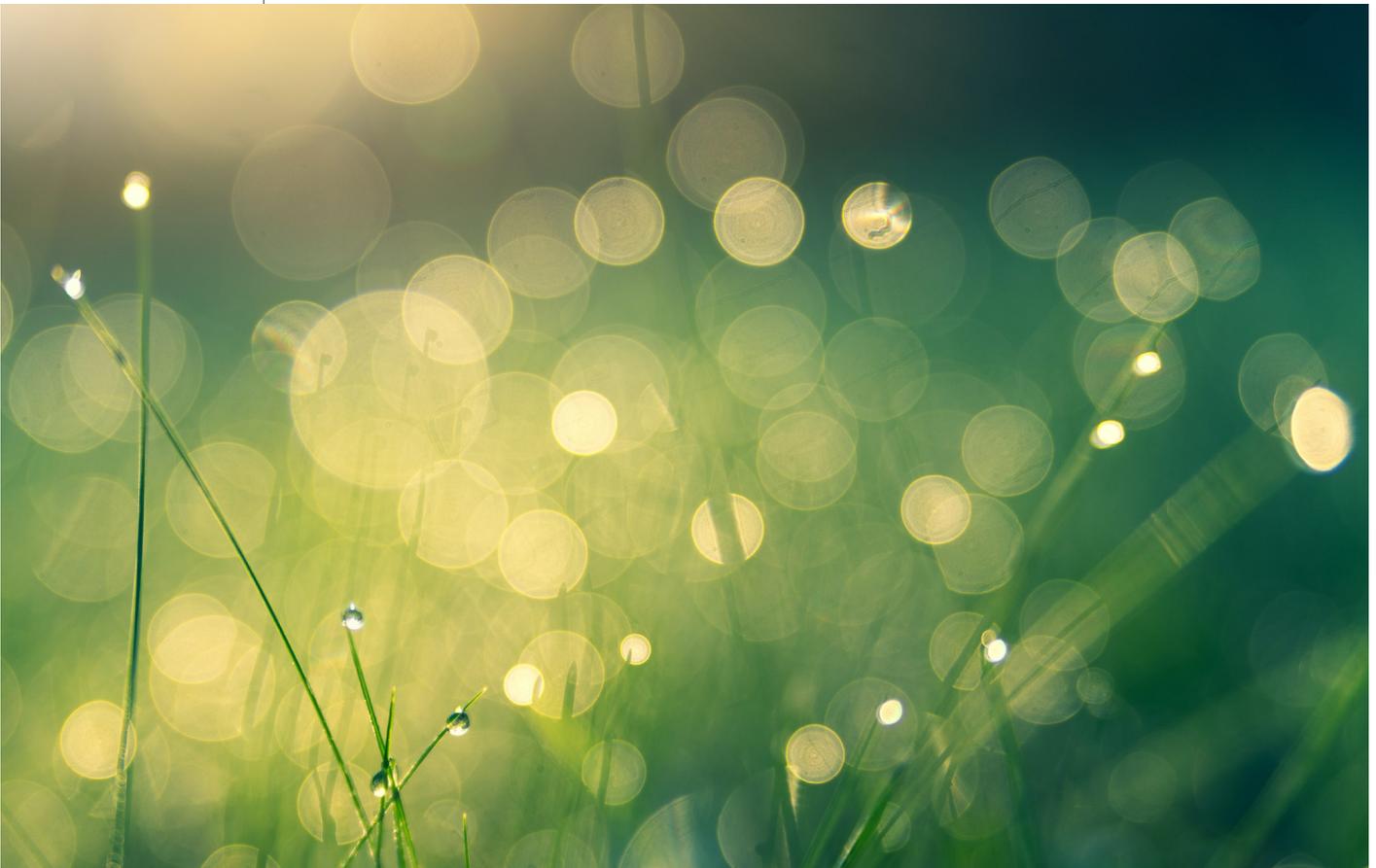
For nearly 100 years, Volvo had focused on building trucks with the best combustion engine in the world. In the last several years, however, given the ongoing global electrification, the industry is shifting from primarily siloed mentalities with company-specific solutions, to participating in ecosystems with its competitors. This includes collaborating on new industry solutions such as fuel cell technology and electric charging. As a result, the company's culture is now more outward focused.

The shift in thinking is transformative. The Board spent 3-4 years in extensive conversations about its strategic options. The critical moment was when the board realized that electrification and the development of fossil-free transportation will happen, and happen fast, and that the company would be better off being at the forefront of this development and leading this critical change in the industry.



Being carbon neutral is good business. The industry will go that way and it is the right way. Our climate strategy is the agenda. There is no separate agenda. It is nothing but the agenda.

Carl-Henric Svanberg, Chairman of the Board, Volvo Group, Sweden



Decarbonization roadmap and questions for board members

Key steps

Understand climate risk

Assess physical, transition and liability risk for all portfolio operations and all stakeholders in the value chain.

Use industry-agreed scenarios based on IPCC report scenarios.

Emissions data & forecasting

Explore detailed and accredited current and forecast emissions data.

Data split by Scope 1/2/3, site, fuel type, operation, and place in value chain.

Policy analysis/assessment.

Decarbonisation pathways

Design abatement pathways including abatement costs curves (plotting potential for abatement against cost).

Develop roadmap and targets considering strategic and cost drivers.

Value chain solutions

Pursuing partnership opportunities across value chains and ecosystems to meet common decarbonisation and resilience needs.

Project Development & Deployment

Including:

- Operational optimisation, and broad policies such as internal carbon pricing
- Abatement projects
- Supply chain transformation
- Traceability and verification frameworks
- Financing

Communication & disclosures

Including:

- Climate risk reporting and disclosures
- Alignment between public statements and activities
- Stakeholder engagement and association membership

Questions as a board member

Does the information provided by management assess all the risks along the entire value chain?

Should the board assess the risks using relationships with key stakeholders?

Do we understand stakeholder's likely reactions in high-impact scenarios?

Should we seek legal advice on liability risks for directors given rise in climate litigation?

How climate competent is your board? Is there a good understanding of Scope 1, 2 and 3 emissions?

What immediate and continuous education on climate change is required?

Consider the impact of changes to the highest emitting sites, fuel types and operations on strategy and results in the long term (10-20-30 years).

Have we considered short and long term impacts of alternate abatement pathways? Does the agreed roadmap build long-term value and strategic advantage?

Is the board comfortable that emissions targets are based on scientific principles acceptable to stakeholders?

How will the market, and other stakeholders react to a decarbonisation target and roadmap?

What changes to the existing value chain does the board anticipate long term?

How can you best partner with other industry players to mitigate the impact on climate?

If board debates breadth of responsibility to environment and society, consider legal advice on directors duties to act in best interests of multiple stakeholders.

What standard of governance should we aspire to in assessing projects as sustainable? Does this standard align with our purpose?

Against which entities should we benchmark ourselves?

What existing transformation is under way that can be leveraged?

What projects are underway that might make long term decarbonisation harder?

What is the long term cost of taking no action?

Has the impact of climate been adequately translated into financial reporting?

What is my sustainability legacy? How does this fit into my role in the collective decision making on the board?

Do we aspire to get first mover advantage? Is this embedded in strategy and communicated?

Will stakeholders see our reporting as sufficiently transparent and appropriate?

4

Why reduce emissions?

“ Global carbon budget of 400Gt of CO₂ equivalent remaining

Decarbonization is critical to building resilience to transitional and physical risks

According to the IPCC report, to have a *medium* chance of limiting warming to 1.5°C, the world can emit a further 500 gigatons of carbon dioxide equivalent (Gt CO₂-e) from 2020. To have a *likely* chance (67%), the remaining budget drops to

400 Gt CO₂-e. Based on current annual global emissions and taking into account current forecast growth and country-level abatement commitments, this carbon budget will be expended by 2030.¹²

And the opportunities are significant

The Deloitte Economics Institute estimates that by limiting warming to 1.5°C, the regional economies of the Asia-Pacific region, United States and

Europe could together be \$47 trillion larger by 2070 compared to a future of climate inaction that results in 3°C of warming.¹³



Principle 2: Subject command

In line with the World Economic Forum's Principles for Effective Climate Governance, directors need to quickly upskill on the subject. Boards should be sufficiently diverse in knowledge, skills, experience and background to take decisions informed by awareness and understanding of climate-related threats and opportunities (Principle 2: Subject command)¹⁴.



Principle 4: Materiality assessment

In deciding where to focus efforts around decarbonization, the board should take action proportionate to the materiality of climate to the company and also the impact of the company on the climate. For example, consider whether your indirect emissions from your value chain provide the most significant opportunities to influence emission reduction (Principle 4: Materiality assessment).



Key lessons for chairpersons

1

Disruption from climate change and climate action is going to materially disrupt every part of the economy. The rising opportunities and risks must be captured in strategic thinking.

2

As fiduciaries, directors should consider their obligation to promote decarbonization and influence the adoption of sustainable practices along the breadth of its value chain. This is both for the benefit of society and to bring long-term financial sustainability to the companies they serve.

3

Apply the precautionary principle and take urgent transformative action as it is impossible to predict with accuracy when carbon emissions will cause climate change to accelerate beyond the point of recovery.¹⁵

4

There are a range of market opportunities arising from early climate action including accessing growing markets and adopting more efficient technologies.

Contributors

World Economic Forum

Natasha Fortuin

Project Fellow, Climate Governance Initiative

Antonia Gawel

Head, Climate Action; Deputy Head, Centre for Nature and Climate, Member of the Executive Committee

Ramya Krishnaswamy

Head, Institutional Communities and ESG Initiative; Member of the Executive Committee

Olivier M. Schwab

Managing Director

Deloitte

Lucy Mraz

Manager, Deloitte Australia

Rebekah Cheney

Director, Deloitte Australia

Dan Konigsburg

Senior Managing Director, Deloitte Global

John O'Brien

Partner, Deloitte Australia

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World Economic Forum
91–93 route de la Capite
CH-1223 Cologny/Geneva
Switzerland

Tel.: +41 (0) 22 869 1212
Fax: +41 (0) 22 786 2744
contact@weforum.org
www.weforum.org