Path to Net Zero

Principles, Risks, and Opportunities for Industries

Sri Lanka Climate Summit'24

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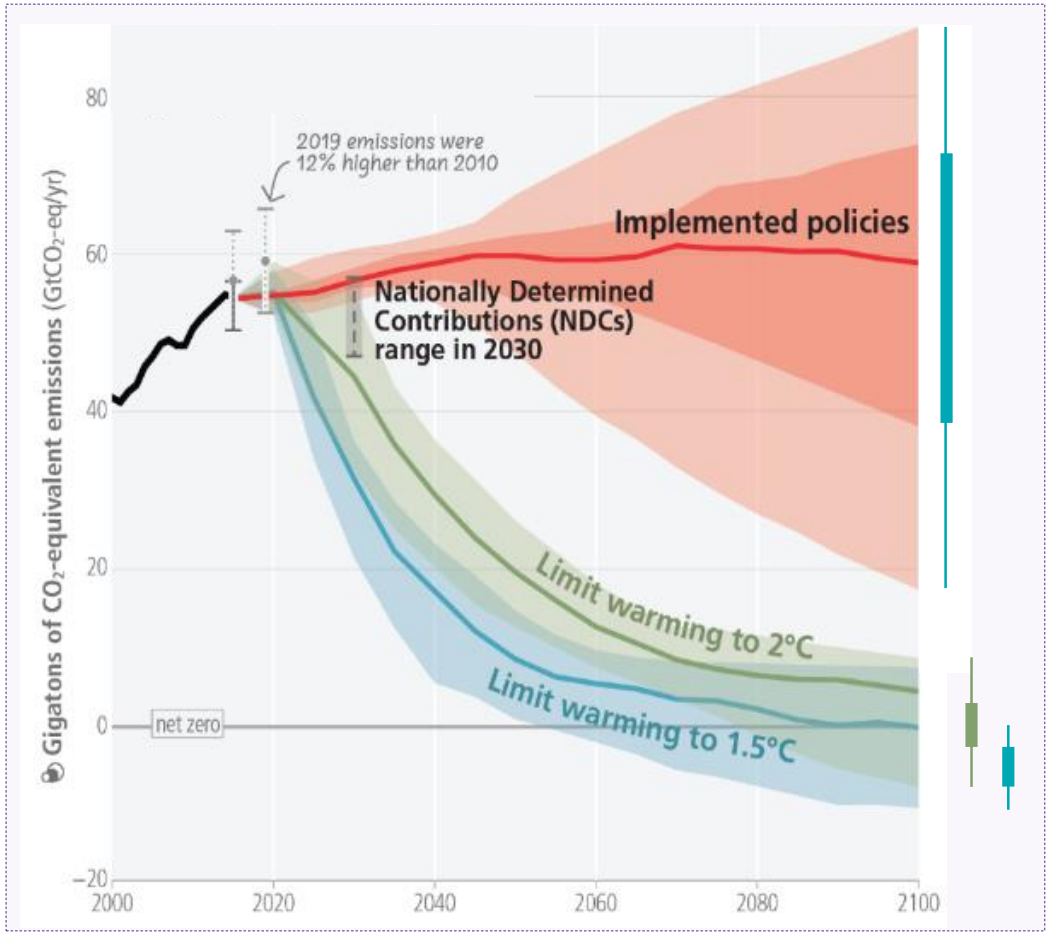
Limiting global warming to 1.5°C…



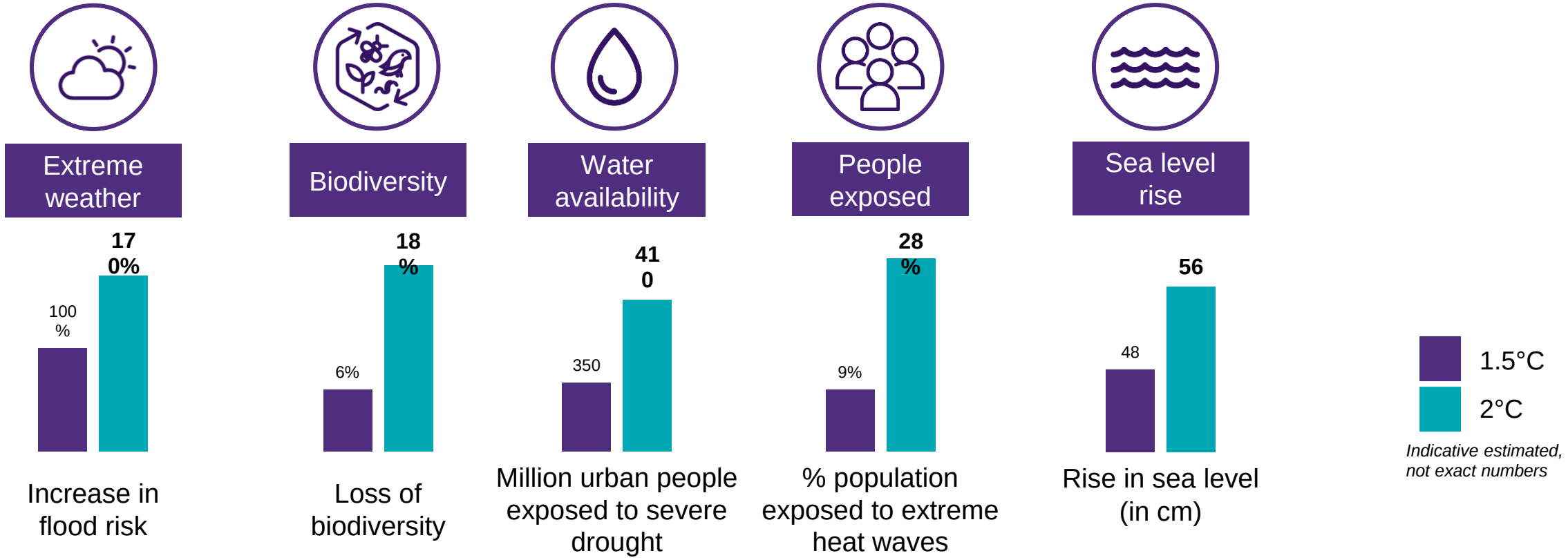
1°C Rise in global temperatures in last 2 decades. Limiting global warming to 1.5^{o} C rise has become the need of the hour. World needs to rapidly decarbonize to mitigate climate adversities and define pathways for upcoming climate risks…

- Implemented policies, global temperature rise 2.5 to 4.5°C
- Limiting warming to 2°C
- Limiting warming to 1.5°C with no or limited overshoot
- Past emissions (2000-2015)
- Model range for 2015 emissions
- Past GHG emissions and uncertainty for 2015 and 2019 (dot indicates median)

Source: IPCC AR6: https://report.ipcc.ch/ar6/wg2/IPCC_AR6_WGII_FullReport.pdf

Intensifying climate risks…

Failure to act on climate emergency will highlight Physical Risks



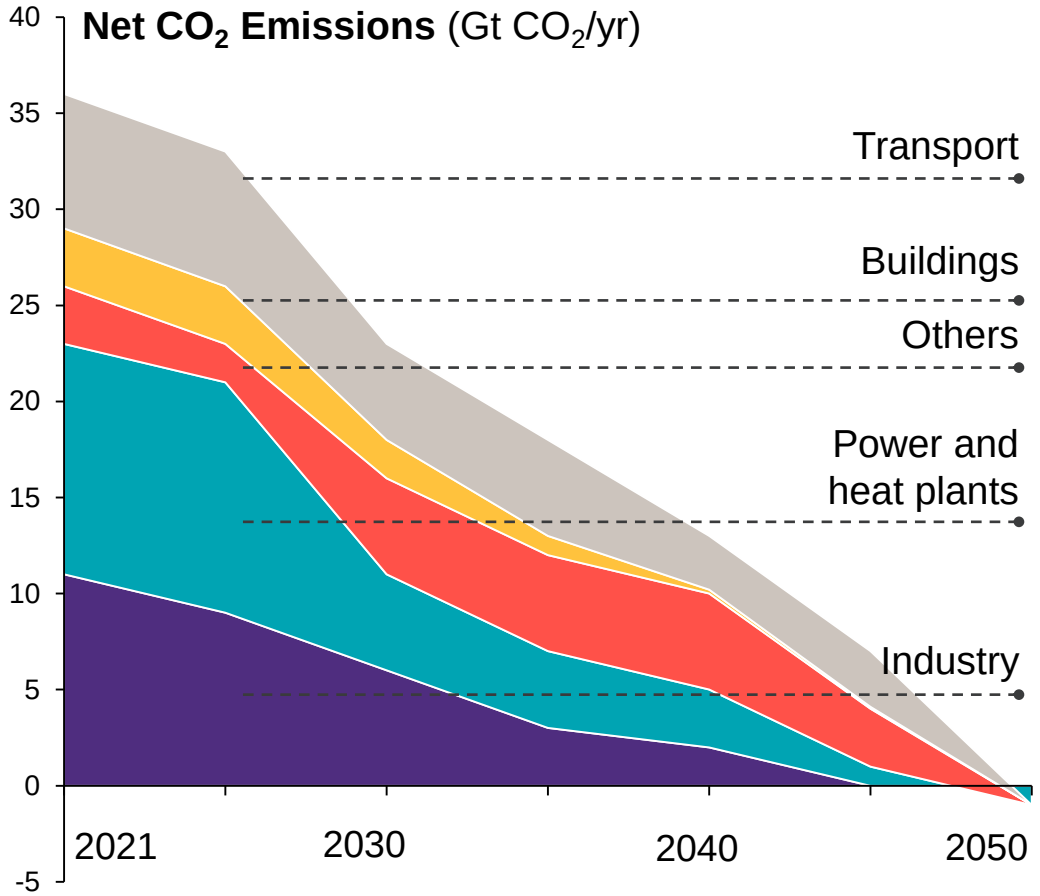
Source: WWF The Urgency of 1.5°C : https://wwfint.awsassets.panda.org/downloads/1_5c_infographic___final__high_res__final.jpg

Decarbonization serves as a major lever

CODE RED SRI LANKA CLIMATE SUMMIT '24

The Ceylon Chamber of Commerce

Global Emissions Abatement



1.5°C Scenario

Planned energy scenario

Transport	**-8.4** Gt CO_2
Buildings	**-2.3** Gt CO_2
Others	**-2.2** Gt CO_2
Power and heat plants	**-13** Gt CO_2
Industry	**-11** Gt CO_2
	-36.5 Gt CO_2

Carbon emissions abatements

25%	Energy Efficiency
25%	Renewable Energy
20%	Electrification in end use sectors (direct)
10%	Hydrogen and its derivatives
6%	CCS and CCU industry
14%	BECCS and other Carbon removal measures

Nature based solutions will cater for removal of residual emissions

Climate change transition risks for Industries

The industrial sector contains many high emitting activities that are challenging to abate. Accelerating net-zero transition will pose significant policy and technological challenges to industrial firms.

Climate-related opportunities relate to efforts to mitigate and adapt to climate change, such as resource efficiencies and cost savings, the adoption of low-emission energy sources, the development of new products and services, access to new markets, and building resilience along the supply chain.

01 Policy and Legal Risk

- Carbon pricing and reporting obligations
- Mandates on and regulation of existing products and services
- Exposure to litigation

02 Technology Risk

- Substitution of existing products and services with lower emissions options
- Unsuccessful investment in new technologies

03 Market and economic risk

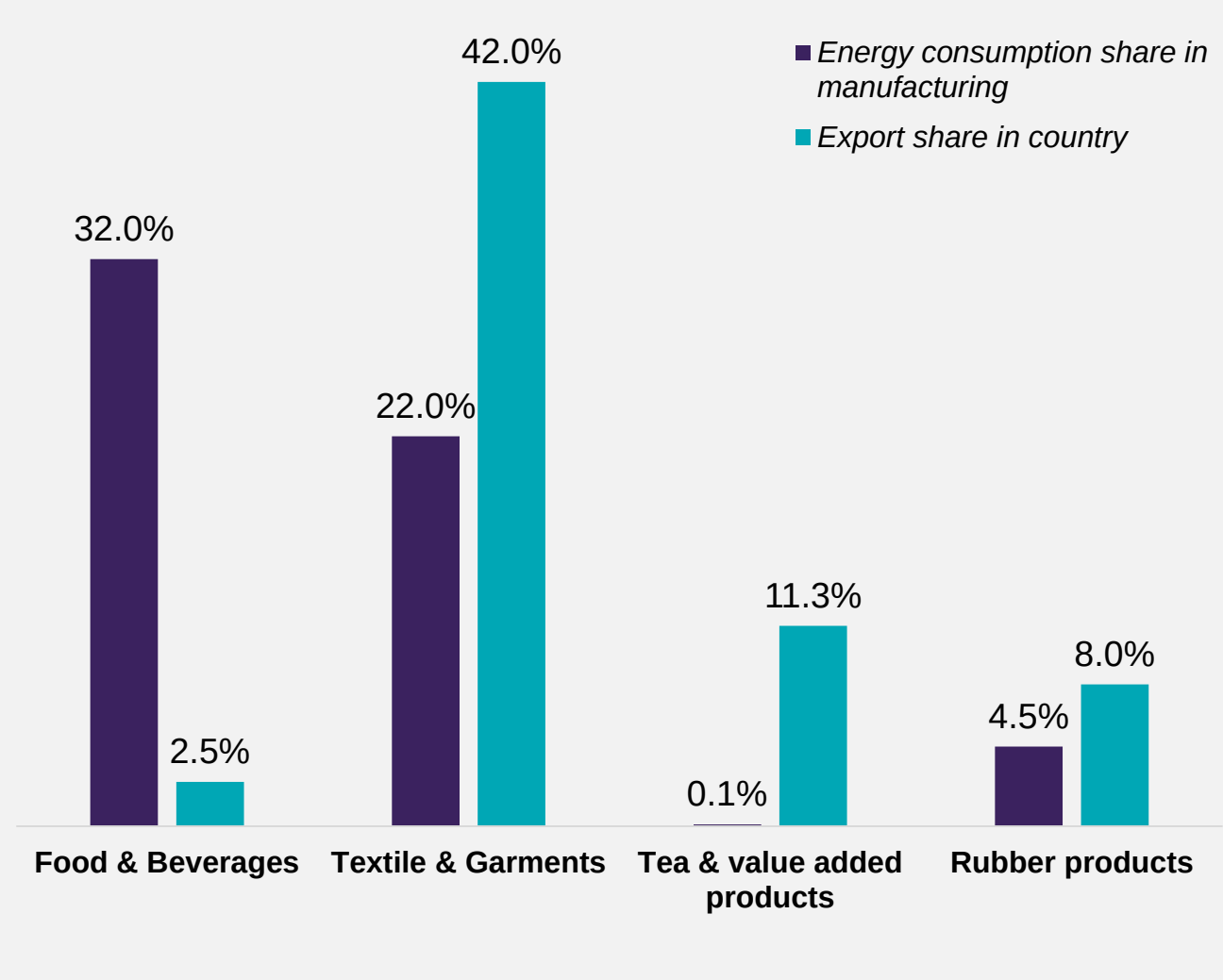
- Changing consumer behavior
- Uncertainty through market signals
- Increase cost of raw materials

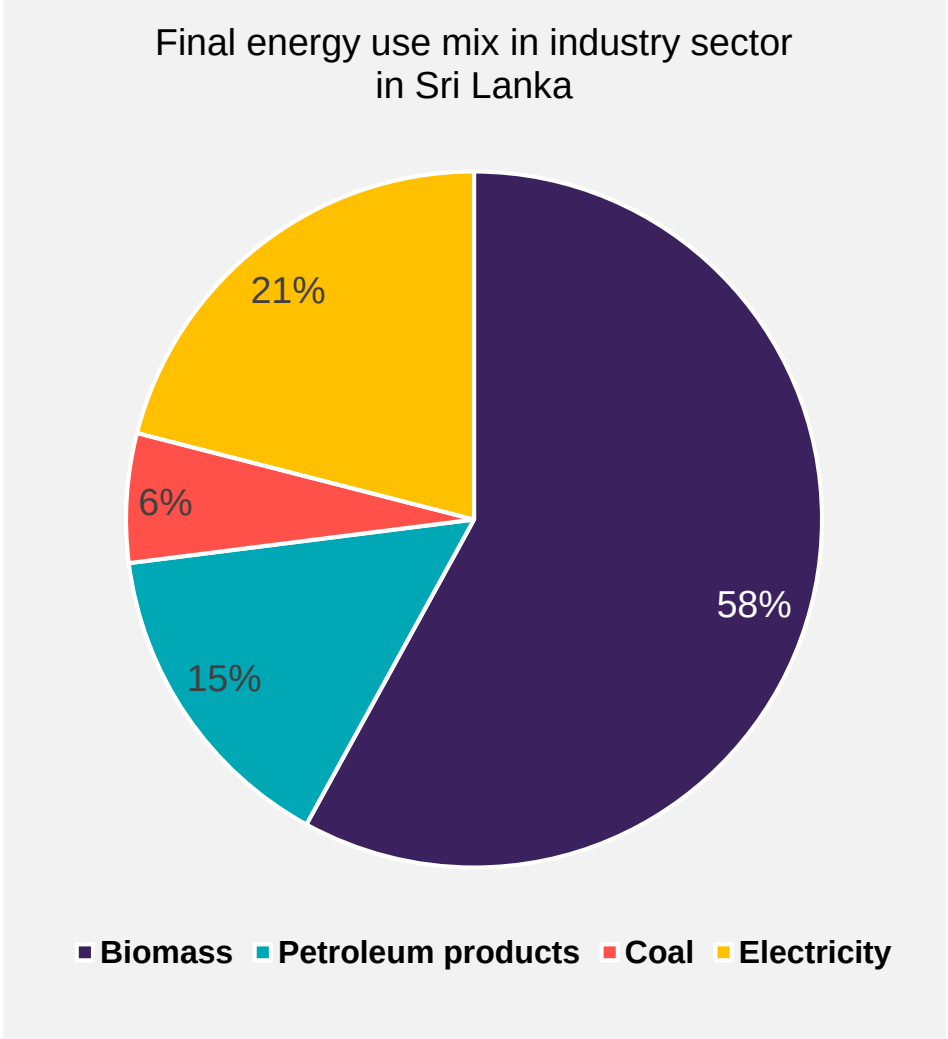
04 Reputation Risk

- Shifts in consumer preferences
- Increased stakeholder concern/negative feedback
- Stigmatization of sector

Sri Lankan Industrial Sector

Major industrial sub-sectors





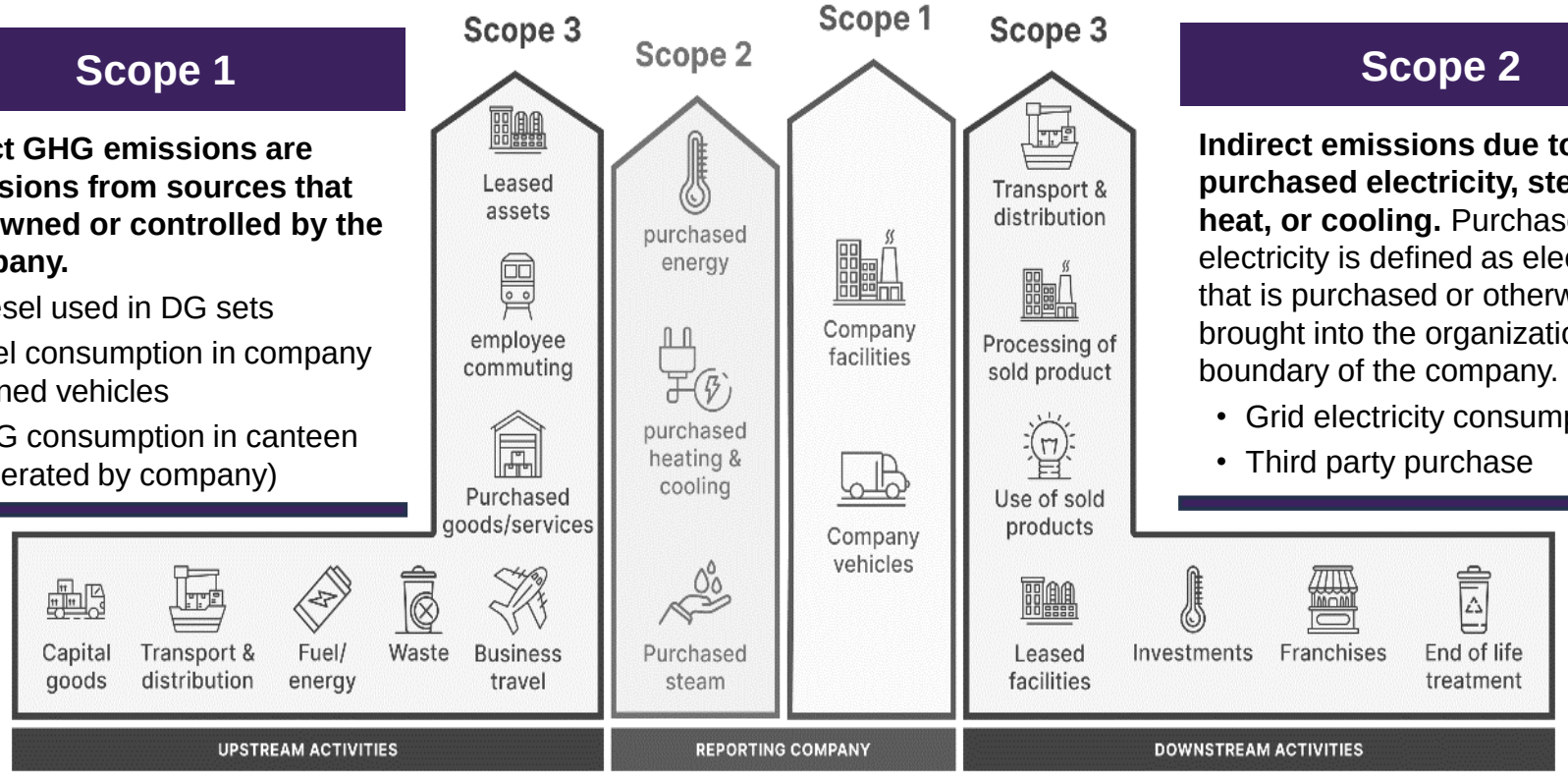
Understanding GHG emissions

GHG Emissions are not just within your boundaries, but way beyond it!

Scope 1

Direct GHG emissions are emissions from sources that are owned or controlled by the company.

- Diesel used in DG sets
- Fuel consumption in company owned vehicles
- LPG consumption in canteen (operated by company)



Scope 2

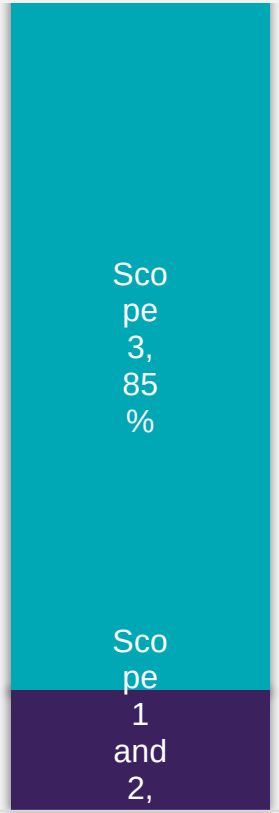
Indirect emissions due to purchased electricity, steam, heat, or cooling. Purchased electricity is defined as electricity that is purchased or otherwise brought into the organizational boundary of the company.

- Grid electricity consumption
- Third party purchase

Scope 3

Other indirect emissions because of the activities of the company but occur from sources not owned or controlled by the company. Includes both upstream activities and downstream activities.

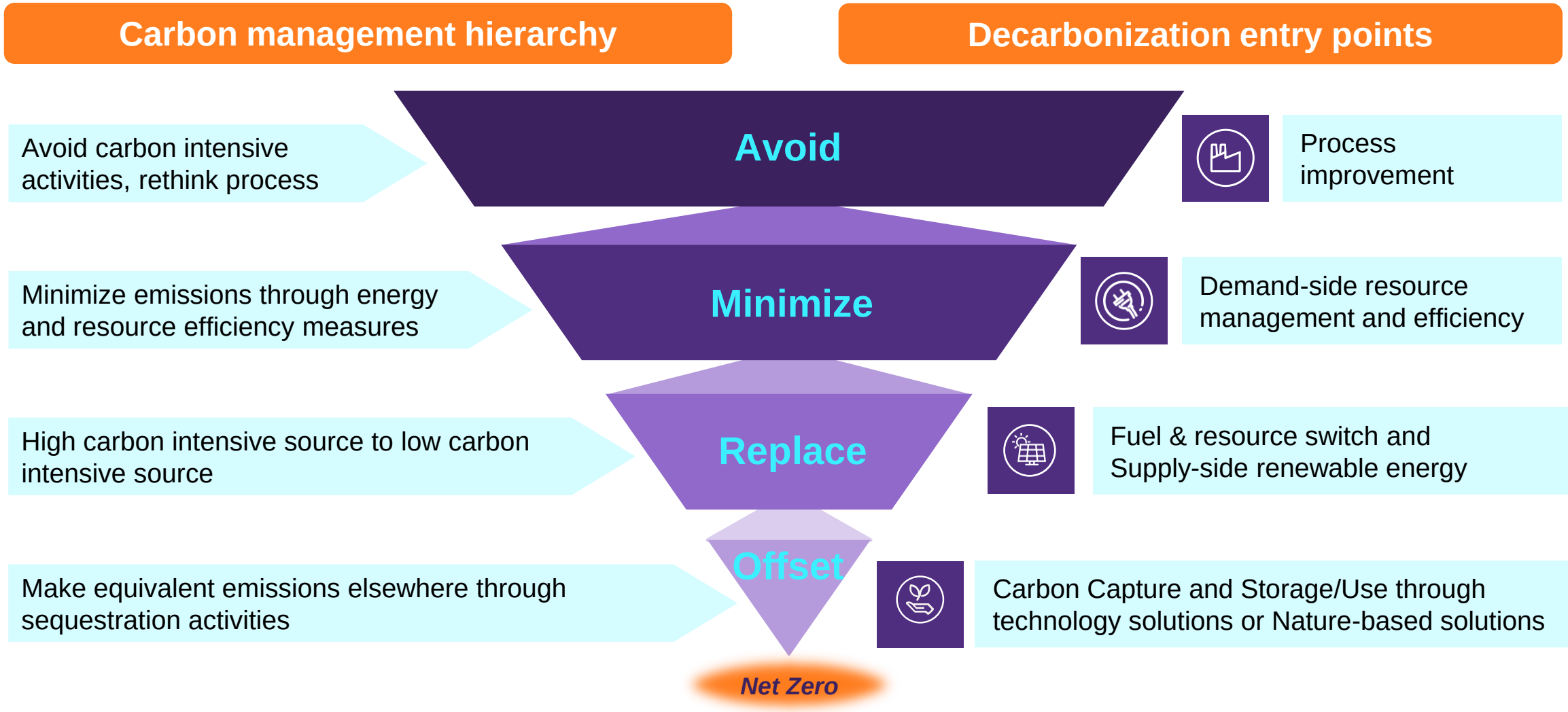
Emissions share



Manufacturing Industry

Levers to decarbonize & mitigate Scope 1 and 2

Following a logical approach to minimize emissions before offsetting it!



Levers to decarbonize & mitigate Scope 3

Scope 3 emission reduction in manufacturing requires a comprehensive approach

Collaborate with suppliers to identify opportunities such as sourcing materials locally, selecting suppliers with lower emission profiles, and optimizing transportation logistics.

Minimize waste generation and increase recycling rates to reduce emissions associated with waste disposal. E.g. Lean manufacturing practices, RECP…

Consider investing in carbon offset projects to compensate for unavoidable emissions that cannot be reduced through other means.

Design products with a focus on durability, reparability, and recyclability to reduce emissions over their entire lifecycle

Encourage transparency and cooperation in measuring and reducing emissions and collaborate on initiatives to drive continuous improvement.

Optimize transportation and distribution networks. Explore options for using low-carbon transportation modes and consolidating shipments to reduce emissions.

Let’s take an example of Textile sector

Process flow and specific GHG emissions of the textile sector

Raw Material Extraction
Cultivation and extraction of raw materials from the earth, plants, or animals

Raw Material Processing
Processing of raw materials into yarn and other intermediate products.

Material Production
Production and finishing of materials (e.g. fabric, trims) that go directly into finished product.

Finished Production Assembly
Assembly and manufacturing of final products.

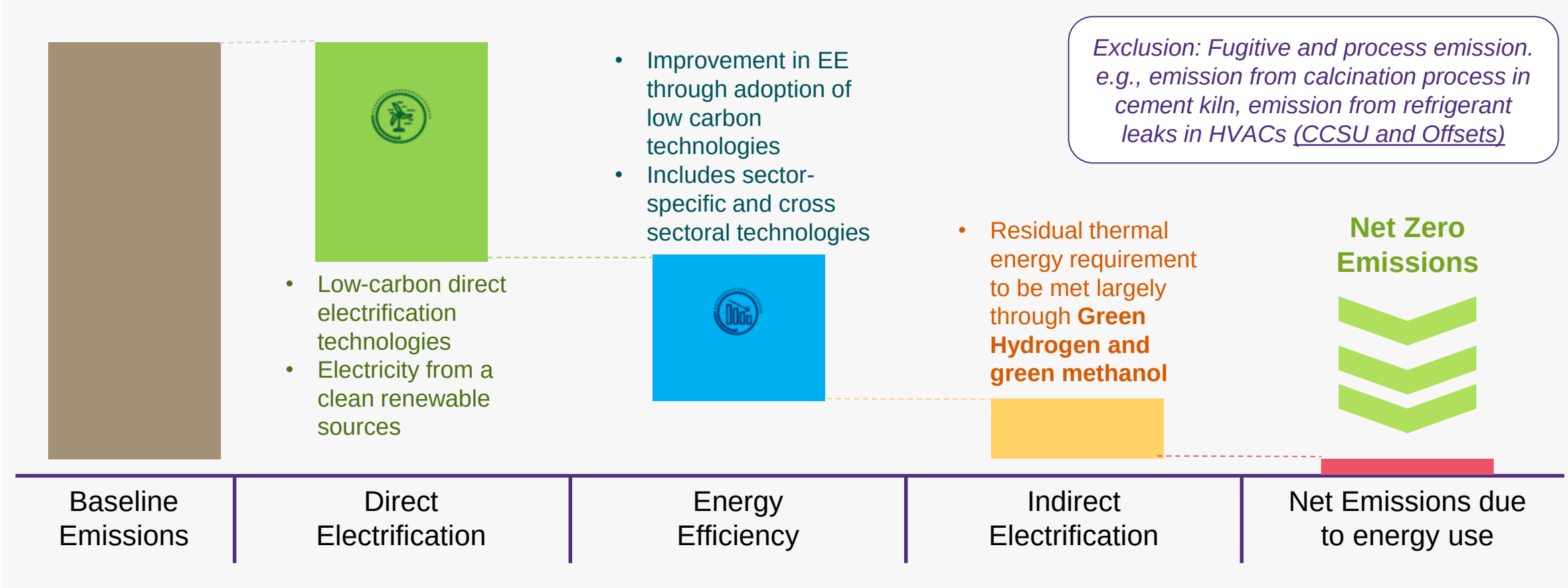
Office, Retail, distribution centre
Corporate real estate not involved in production process.

GHG emission share

Extraction / Agriculture	Yarn Manufacturing	Knitting / Weaving	Wet processing	Garment manufacturing	Office and retails
24%	15%	10%	41%	9%	1%

Pathways towards Net Zero: Sri Lankan Industrial Sector

Sri Lankan Industries can achieve **Net Zero** through '**Direct Electrification**', '**Energy Efficiency**' as result of electrification and adoption of '**Renewable Energy**' and the conversion of thermal energy through '**Indirect Electrification**' route.



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