Luxembourg city reduced carbon emissions

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The size and complexity of the challenge require actions addressing individual value chains in four of Luxembourg"s emission-heaviest sectors: financial services, retail, manufacturing, and construction. The following paragraphs outline some of the steps businesses in these sectors might consider to meet their emission-reduction goals and the opportunities they could unlock.

The three categories of emissions--Scopes 1, 2, and 3--are defined as follows, based on the GHG Protocol Corporate Standard of the World Business Council for Sustainable Development:

The EU"s ambitious targets, potential regulations, and consumer and investor preferences for sustainable products and services are leading Luxembourgish businesses to redouble their efforts to reduce emissions. Many companies are looking beyond direct and indirect emissions (Scope 1 and 2) to address those in their supply chains (Scope 3) (see sidebar, "Scoping emissions").

However, Scope 3 emissions typically constitute the lion"s share across industries and geographies, often exceeding 80 percent of the total.2Peter Spiller, "Making supply-chain decarbonization happen," McKinsey, June 14, 2021.

Since Luxembourg is tightly integrated into international supply chains and the European economy, its carbon footprint extends well beyond its own borders. Luxembourgish companies with ambitious decarbonization agendas will need to take broad action on all emission fronts.

These sectors vary in the amount of emissions that they generate in each scope. For example, the construction sector produces a large amount of Scope 3 emissions due, in part, to emissions associated with its raw materials. In contrast, the financial-services sector generates a smaller amount of Scope 3 emissions, mainly because calculations typically exclude those related to its investment portfolios.

Specific value chains within these sectors also vary in the emissions they generate per scope. For example, in the manufacturing sector, machinery firms generate Scope 3 emissions primarily via their downstream products, whereas steel companies" smaller share of Scope 3 emissions is split between upstream and downstream sources. These variations in emissions" scope and amount mean that only value-chain specific actions, can reduce emissions in Luxembourg"s major sectors (Exhibit 2).

Luxembourg"s most carbon-intensive sectors can take steps to begin curtailing emissions of any scope,

beginning with setting science-based and accountable standards and targets. Depending on where they are in their decarbonization journey, companies may consider some or all of a variety of measures to raise their efforts from good to great.

Financial-services companies based in Luxembourg can pursue no-regret options such as adopting renewable energy sources, improving the energy efficiency of buildings, optimizing supplier choice for CO2 emissions, and offering incentives for employees to use sustainable commuting options. Additionally, they might:

Retail companies can start by identifying their subsector-specific abatement areas, as apparel retailers and grocers face very different challenges, such as managing shopping mall operations versus ensuring cold chain transportation of perishables.13Anamika Bhargava, Steve Hoffman, and Nikola Jakic, "Climate sustainability in retail: Who will pay?," McKinsey, May 4, 2022. They also might:

Manufacturing firms might better calibrate their operations, supply chains, and business models to promote a lower-carbon future.15"Reimagining industrial operations," McKinsey Quarterly, May 19, 2020. Specifically, they might:

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