

# Net zero: tech and telecoms

To prevent dangerous climate change, greenhouse gas emissions must reach net zero. What does the **technology and telecommunications sector** need to do?

## 2%

of human-caused GHG emissions derive from information technology and communications

### Sources of emissions



'Scope 3'  
Upstream

**Indirect** GHG emissions from a company's supply chain (e.g. extraction of metals and rare earths for semiconductors and other parts)



'Scope 1'

**Direct** GHG emissions from owned and operated facilities, company vehicles, on-site diesel generators etc.



'Scope 2'

**Indirect** GHG emissions from purchased energy to power operations and data centres



'Scope 3'  
Downstream

Other **indirect** GHG emissions from product distribution and transportation, consumer use of internet and sold devices, and consumer disposal of products



Sources: Malmordin and Lunden (2018)



### Challenges

Global growth in data and internet demand outpacing decarbonisation of power

Location and size of data centres, use of on-site fossil fuel power

Over-reliance on renewable energy 'credits'



### Opportunities

Onsite energy generation

Cost reductions from energy efficiency and fixed-price power

Digital solutions can drive decarbonisation of other sectors ('smart' offices, manufacturing etc.)

### Companies

### Governments

Key levers	Key policies
Renewable energy and storage	Carbon pricing
Energy efficiency	Regulation to 'green' power grids
Low-carbon transport	Energy and water efficiency standards
Water efficiency	Reduced waste/increased recycling and refurbishment
	Supply chain standards and monitoring



### Other environmental considerations

Waste disposal

Impact on land use and biodiversity from supply chain (e.g. mining)

### Social impacts and the 'just transition'

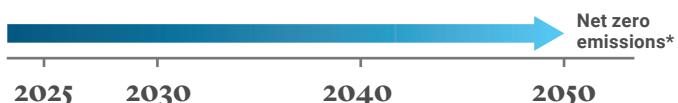
Risks around automation

Workers' rights in supply chain

### Physical risk impacts

Disruption to operations from extreme weather; energy usage for cooling data centres expected to increase

## Decarbonisation effort



### Easier to achieve

- Low-carbon transport
- Energy efficiency
- Recycling and re-use
- Own renewable generation, Power Purchase Agreements and energy storage

### Possible with effort

- Greening the global power grid
- Transparency and procurement legislation

## What is needed?



### Company leadership

Companies adopting ambitious targets for their power supply and building resilience of operational infrastructure (offices, data centres, etc)



### Research and innovation

Battery storage  
Artificial intelligence and Internet-of-Things



### Consumer behaviour

Demand for sustainable digital solutions

**LGIM will vote and implement investment sanctions against companies falling short of our climate expectations.**

## How are we assessing companies' net zero pathways?

<b>Net-zero commitment</b>	<ul style="list-style-type: none"> <li>Does the company have a net-zero target?</li> <li>Has the company disclosed a net-zero transition plan, including interim targets?</li> </ul>
<b>Strategy</b>	<ul style="list-style-type: none"> <li>How much capital is being committed to decarbonisation efforts?</li> <li>What percentage of R&amp;D is allocated to low-carbon technologies?</li> <li>What is percentage of the companies energy usage from renewable sources?</li> </ul>
<b>Resilience</b>	<ul style="list-style-type: none"> <li>Is the company analysing the physical climate risks to its portfolio and evidencing measures to manage these?</li> <li>Resilience of business model in – and alignment to – climate scenarios?</li> </ul>
<b>Targets</b>	<ul style="list-style-type: none"> <li>Does the company have targets related to use of "green" electricity?</li> <li>Does the company have targets to increase recycled/zero-carbon materials?</li> <li>To what extent do the company's products provide climate solutions and help to reduce customers' GHG emissions? Quantify customer emissions reductions relative to the company's carbon footprint.</li> </ul>
<b>Collaboration</b>	<ul style="list-style-type: none"> <li>Evidence of the company working collaboratively across its value chain to reduce emissions?</li> <li>Evidence of the company advocating for meaningful policy action from regulators?</li> </ul>
<b>Red lines</b>	<ul style="list-style-type: none"> <li>Operational emissions target?</li> </ul>

## For more information...

Please see: [https://www.lgim.com/landg-assets/lgim/\\_document-library/responsible-investing/climate-impact-pledge-brochure-uk-eu-2021.pdf](https://www.lgim.com/landg-assets/lgim/_document-library/responsible-investing/climate-impact-pledge-brochure-uk-eu-2021.pdf)

### Important information

**Source: LGIM as at September 2021. The value of an investment and any income taken from it is not guaranteed and can go down as well as up, you may not get back the amount you originally invested. The above information does not constitute a recommendation to buy or sell any security**

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