

# Decarbonisation: The Inevitable Policy Response

*Our View*

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Climate change has become a hot topic, in both senses. It has finally found its voice as a mainstream and important subject of media coverage and public opinion. However, as a society, we have not even *begun* to structurally reduce global greenhouse gas (GHG) emissions and the scale of change required isn't broadly understood.

In terms of solutions, there is a strong interplay of policy, economics and technological discovery. The cost of renewables has plummeted and its deployment is growing fast, albeit from a low base, while many other clean technologies such as electric vehicles and hydrogen energy continue to advance. But on their own they can't drive a reduction in global GHG emissions at the required speed. The sheer size of the carbon problem means that without meaningful political intervention, progress will be too slow to achieve 'net zero' by 2050, let alone sooner. With the UN Climate Change Conference, COP26, on the horizon, coordinated international regulation and policy-making have to be a driving force.

In the second paper in our decarbonisation series, we focus on what the UN Principles for Responsible Investing (UN PRI) refer to as the 'inevitable policy response' to global warming; arguably one of the most important priorities for today's world leadership and their legacy for generations to come.

Can and will governments drive a meaningful acceleration of decarbonisation through radical policy mechanisms? What policy tools are available to them, how effective are they today and what is their impact on the economy, individual industries, voter attitudes and, in turn, politics? Why does this matter for investors? What are the ramifications for Quality equity portfolios? This paper seeks to address these key questions.

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“Can and will governments drive a meaningful acceleration of decarbonisation through radical policy mechanisms? Why does this matter for investors?”



## 1. State of Play Today

### CARBON EMISSIONS ARE NOT DECLINING

On their own, new low-carbon technologies (despite their improving relative economics) can only drive a very slow reduction in the carbon intensity of GDP, given the enormous size of the fossil fuel energy system we have built. Based on BloombergNEF estimates, on historical trends it would take 50-80 years to decarbonise global electricity generation and even longer to electrify the total energy system – *Display 1*.

Even this modest relative progress is being offset by growth in global energy demand, driven by global population and consumption growth, which means absolute emissions are not going down.

### REGULATION IS WORKING...IN PLACES

Despite inherent challenges, regulation can be effective—if it is in place. The European Union’s (EU) emissions have already declined significantly, in sharp contrast with the rest of the world (*Display 2*). This has been driven by tougher environmental standards (although also helped by lower economic growth).

### THE CHALLENGES ARE IMMENSE—BUT NOT INSURMOUNTABLE

For climate change policies to succeed they have to be globally coordinated, long-term in nature and, ideally, not lead to a recession or alienate voters. But in reality, politics are national, countries compete fiercely on trade, politicians are elected (where they are) for relatively brief terms, and while voters increasingly support climate change in theory, their behaviour is usually driven by economic and local factors.

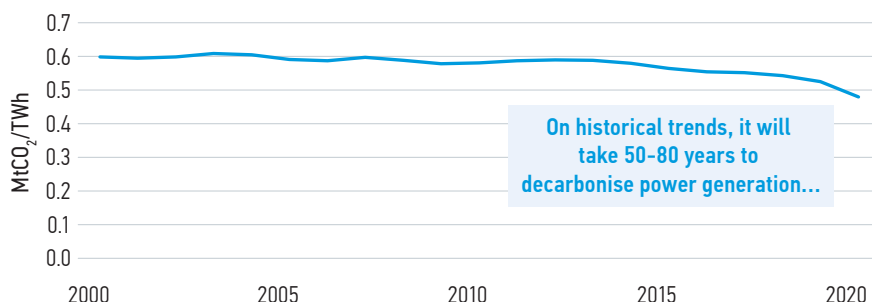
### INVESTORS SHOULD BE PREPARING NOW

There is a common misperception (in our view) that rapid decarbonisation is bound to be an insurmountable burden for the global economy and a structural negative for living standards, and therefore may not happen, at least in the foreseeable future. The low carbon transition will undoubtedly create economic winners and losers and our habits will have to change. However, there is evidence to suggest its net cost to society as a whole does not have to be prohibitive and can be managed through redistributive policies focusing on an equitable transition. Acceptance of this would finally give governments the green light to accelerate the decarbonisation drive—and investors should be preparing for the implications now.

#### DISPLAY 1

### Reduction in carbon intensity of global power generation is very slow

Global Carbon Intensity (MtCO<sub>2</sub>/TWh)

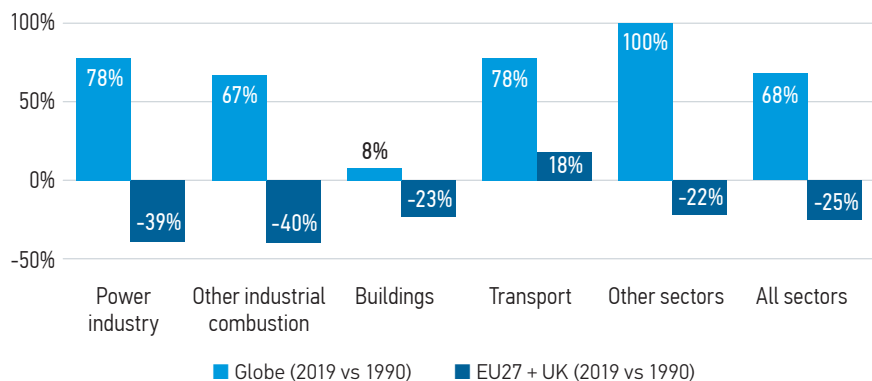


Source: BloombergNEF, New Energy Outlook 2021

#### DISPLAY 2

### Supportive EU policies helped to reduce emissions even as global levels rose

Change in fossil CO<sub>2</sub> emissions



Source: Crippa, M., Guizzardi, D., Muntean, M., Schaaf, E., Solazzo, E., Monforti-Ferrario, F., Olivier, J.G.J., Vignati, E., [Fossil CO<sub>2</sub> emissions of all world countries - 2020 Report](#), EUR 30358 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-21515-8, doi:10.2760/143674, JRC121460. Material available under Public License, as modified by Morgan Stanley Investment Management. All content © European Union, 2020

When in place, government policies can have a meaningful impact. The pathway to success involves increasing their impact and scope, as well as greater global coordination. We have seen promising signs in the last several years. Countries accounting for 73% of global carbon emissions have set net zero targets (as at May 2021), including a recent announcement by China. The EU’s latest ‘Fit For 55’ plan is the first detailed legislative package outlining practical actions to make net zero possible. The US has re-joined the Paris agreement and the Biden administration is working on its own package of new decarbonisation policies.

As we will explain, it is possible to foresee a scenario where carbon taxes do not represent a significant net cost to the economy (if redistributed through green dividends or zero-sum emission trading schemes), countries cooperate in ‘carbon clubs’ enabled by emerging carbon border tariffs, and the build-out of green infrastructure serves as a net fiscal stimulus (albeit not equally distributed) and a net job creator.

Therefore, accelerated decarbonisation may be feasible from the perspective of the macro economy and domestic and international politics. Inevitably, it is likely to disrupt certain sectors (e.g. coal production and power generation, petrol cars, carbon-heavy metal producers, and in the long term, oil and industries dependent on it, such as aviation and shipping) and boost others (e.g. renewable energy, electric vehicles, buildings renovation).

**POLICY TOOLS UNDER THE LENS**

*The ‘Sticks’*

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**2. Policy tools under the lens**

Below we explore the most likely policy options—both the ‘sticks’ to penalise and the ‘carrots’ to encourage—and at least directionally assess their impact on the economy, consumers and companies.

**The Sticks**

**1. CARBON PRICING AND TAXES**

Carbon pricing and taxes are the most commonly talked about policy tool. The premise is based on the basic economic principle that rising prices will reduce carbon demand through the normal price elasticity effect, as businesses and consumers reduce carbon-related consumption or switch to lower-carbon alternatives.

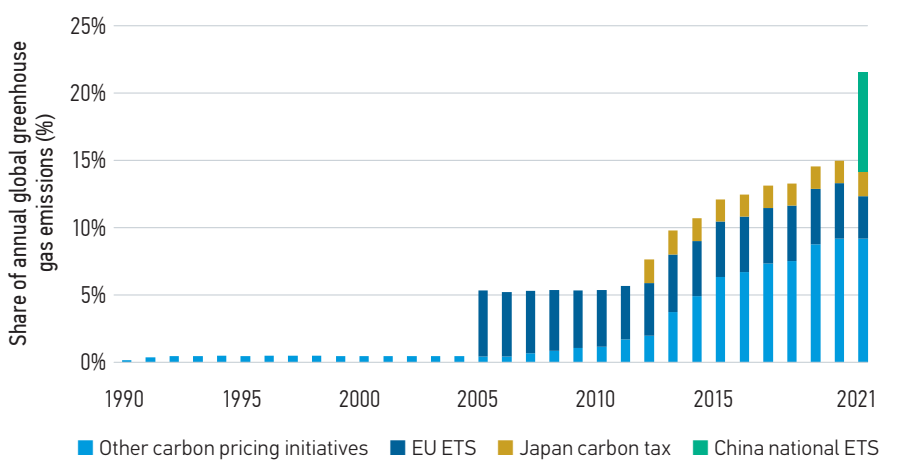
There are already over 50 different domestic carbon pricing/tax schemes in the world, and the number has grown rapidly. However, they only cover around 20% of global emissions (ex-road fuel) and it is consensus that prices are not yet sufficiently high (*Display 3*).

As these evolve, it is likely that the ongoing focus will still be on power generation and heavy manufacturing such as metals and other materials, but other sectors and activities will be brought into scope.

The European Union (EU) Emissions Trading Scheme (ETS) is the most established and historically the largest carbon pricing scheme in the world. It

**DISPLAY 3**  
**Despite the sharp increase in national carbon pricing/schemes, they only cover ~20% of global emissions**

*Share of global greenhouse gas emissions covered by carbon taxes and emissions trading systems*



Source: The World Bank. 2021. “State and Trends of Carbon Pricing 2021” (May), World Bank, Washington, DC. Doi:10.1596/978-1-4648-1728-1. License: Creative Commons Attribution CC BY 3.0 IGO

is not a direct tax but is based on the cap-and-trade principle—i.e. you can emit ‘for free’ up to your cap, determined by best-in-class emission levels in your sector.

It doesn’t apply to all emissions—currently only to power generation, large industrial facilities and intra-EU flights—but is designed to encourage ongoing reduction in carbon intensive sectors through adoption of cleaner technologies. The cap for each sector declines every year and companies have to buy credits from other market participants, or the EU, if their emissions exceed the cap. In principle, the ETS is therefore designed to have a low net cost to the economy. In theory, the price of credits is driven by market supply and demand, but in recent years it has been supported by the EU, effectively to provide a floor price.

In July 2021 the EU announced an expansion of the ETS, with new sectors subject to carbon pricing including heating, road transport, more of aviation and shipping.<sup>1</sup> The EU is also imposing tougher emissions cap cuts, from 2% to 4% a year, and free emissions allowances are to be gradually phased out. In anticipation of this, EU carbon prices have already spiked and are likely to go higher over time.

Other large jurisdictions with existing and proposed carbon price schemes are China (a national scheme started operating in July), Canada, several US states (notably California) and Brazil (in discussions). Even Indonesia, with its coal-dominated power generation, has been planning an ETS.

Carbon pricing/taxation is the most comprehensive and arguably the strongest policy tool. It will take some time before it is implemented universally, and a uniform universal price is not on the immediate horizon—but we are seeing positive momentum.

#### HOW ARE ORGANISATIONS USING INTERNAL CARBON PRICING?

**Internal carbon pricing** is when corporates, governments and other entities assign their own internal carbon price to factor into their investment decisions and as a tool to identify potential climate risks and revenue opportunities. There is no single global standard for this.

A survey by the not-for-profit climate organisation CDP in April 2021 of around 6,000 large businesses found that more than one third are using an internal carbon price or are planning to implement one by 2023, and around 50% of the world’s 500 largest companies have made such commitments.<sup>2</sup>

**There are broadly two options:** to set a theoretical or ‘shadow’ (typically high) cost per tonne of carbon as a risk mitigation tool, or to impose an internal carbon tax that is actually levied. Microsoft pursues the latter approach, and in July 2020 announced a plan to phase in their internal carbon tax to include all Scope 3 emissions—not just employee travel.<sup>3</sup> Their intention is to help fund the additional work required to reduce Scope 3 emissions and invest in carbon removal activities.

#### MICROSOFT AND CARBON PRICING

“The carbon fee affects investment decisions by providing an incentive, the financial justification, and in some cases the funds for climate-related energy and technology innovation. The fee also helps drive culture change by raising internal awareness of the environmental implications of our business and establishing an expectation for environmental and climate responsibility within the company.”

– Microsoft, CDP Report 2021

<sup>1</sup> Aviation fuel will also now be subject to excise, which it was not before.

<sup>2</sup> The top 500 companies in the FTSE Global All Cap Index: Source CDP (2021), [Putting a Price on Carbon](#), (accessed 23 August 2021).

<sup>3</sup> The GHG Protocol defines three “scopes” to measure and manage GHG emissions from private and public sector operations, value chains and mitigation actions. Scope 1 emissions occur from sources that are owned or controlled by the company that issues the underlying securities. Scope 2 emissions result from the consumption of purchased electricity, steam, or other sources of energy generated upstream from the company that issues the underlying securities. Scope 3 emissions refer to indirect emissions upstream and downstream that are a consequence of the activities of the company, but occur from sources not controlled by the company. For more information, please visit <https://www.ghgprotocol.org>.

## Key Questions and Implications of Carbon Pricing

### I. WHAT IS THE 'RIGHT' PRICE?

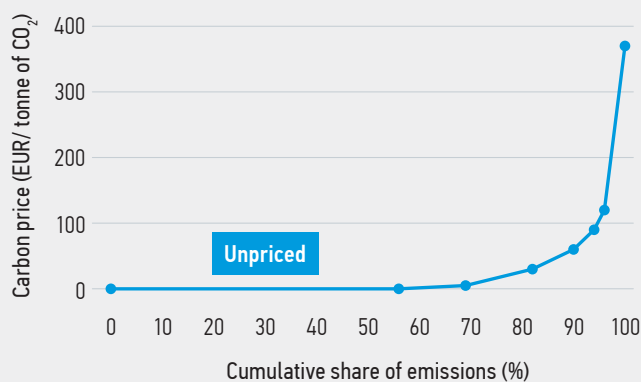
As long ago as 2016, the United Nations Global Compact (UNGC) called for businesses to adopt an internal carbon price of at least US\$100/tCO<sub>2</sub>e by 2020 in order to keep GHG emissions consistent with a 1.5–2°C pathway. In reality, prices have generally been too low so far to make a significant impact on emissions, especially given cap-and-trade systems do not currently apply to all emissions.

EU emissions have been steadily declining for a long time, but to date this has likely been driven to a greater extent by other measures such as tightening building energy efficiency rules and historical substantial renewable energy subsidies. However, given the more recent rise in EU carbon prices (from €5 in 2017 to as much as €60 in July 2021), it is starting to impact the steel and cement industries, some of the heaviest polluters. Rising prices and tightening emissions allowances may have also contributed to the continuing decline in coal power generation.

Display 4 shows the Organisation for Economic Co-operation and Development (OECD)'s estimate of share of emissions priced in 2018. Apart from the national and regional tax and trading schemes referred to earlier, it includes road fuel taxes that essentially serve as a carbon tax and are quite high in developed markets, but excludes numerous fuel subsidies. Around half of global energy-related emissions were not taxed at all, and only 18% were taxed above €30 (~\$35) per tonne,<sup>4</sup> which the OECD considers as a minimum effective level. Netting fuel subsidies off taxes would result in an even lower average global carbon price today.

#### DISPLAY 4 Effective carbon rates: Over half of energy-related emissions were not taxed at all in 2018

The Carbon Pricing Gap



Source: OECD (2018), [Effective Carbon Rates: Share of emissions priced](#), (accessed 26 August 2021).

*A report by the Intergovernmental Panel on Climate Change (IPCC) concludes that the carbon price should reach as much as \$220/tCO<sub>2</sub> in 2030 and \$1050/tCO<sub>2</sub> in 2050 (all using 2010 USD rates) in order to keep temperature rises to less than 2°C.*

### II. WHAT IS THE POTENTIAL IMPACT OF A COMPREHENSIVE CARBON PRICE/TAX ON FOSSIL FUEL AND COMMODITY PRICES AND DEMAND?

If a comprehensive (rather than marginal) carbon price were introduced, its impact is likely to vary greatly by product, given prices of particular fuels differ significantly, as well as the availability of alternatives for each. Using extreme examples, it would hit coal much harder than road fuel at the pump: at the time of writing, a tonne of European coal sells for \$167, a tonne of crude oil at \$465 and a tonne of petrol sells at retail in the UK at \$2,500. A \$50/tCO<sub>2</sub> tax on all emissions would increase current European coal prices by 69%, crude oil prices by 29%, but UK retail petrol prices by only 6%, given how cheap coal is and how highly UK petrol is taxed already.

**PETROL** – carbon taxes are unlikely to dent developed market petrol demand immediately because of muted price impact and absence of alternatives in the short term. But they should accelerate EV adoption over time.

**NATURAL GAS** – Given most utility companies can substitute coal with natural gas (which has around half the emissions of coal) or renewables over time, it is likely that thermal coal power generation in developed markets would disappear altogether (also helped by outright regulatory phase-outs), but natural gas demand could actually increase in the medium term, despite gas having to pay its own (lower) carbon tax. Because of this substitution to lower-taxed gas or cheap renewables, it should not be too inflationary.

**OIL** – Looking at the historical price elasticity of oil, oil prices have historically swung around dramatically and have been higher than today, without material impact on demand or inflation. It is no surprise that many oil and gas majors publicly support carbon pricing, as their gas businesses is likely to benefit from the demise of coal. Oil companies should worry much more about the rise of electric cars in the long term than about carbon taxes.

### III. WHAT ABOUT CARBON-HEAVY NON-FUEL COMMODITIES?

In terms of non-fuel commodities such as steel, aluminium and other metals, a \$50/tCO<sub>2</sub>e price would increase aluminium prices by c.20% and steel prices by c.5-10% on average.<sup>5</sup> As with oil, steel and aluminium prices have gone up and down by more than this historically without causing an economic calamity. For other metals, increases are typically much lower. Copper and, to

<sup>4</sup> USD data is derived by converting FactSet data using the exchange rate as of 30 September 2021 (\$1.16/€1). FX moves will have an impact on data shown in USD.

<sup>5</sup> Source: Morgan Stanley Investment Management, Bloomberg, [aluminiuminsider.com](#), JP Morgan.

a lesser extent, aluminium demand should actually benefit from the growth in EVs, renewables and any acceleration in the light-weighting of cars.

“Not all emissions can or will be taxed right away... Importantly, the main point of carbon taxes is not to raise revenue, but to curb emissions.”

The impact on individual companies would vary of course. Metals are subject to ‘carbon leakage’ (discussed below), which would hurt producers in countries that levy carbon taxes and benefit those which do not. Their margins are thin and would be wiped out unless all players are obliged to pass on the same carbon taxes in pricing. Within aluminium, there is a massive difference in carbon intensity between producers, as many already use renewable electricity. These would see much lower cost increases compared with those using coal-generated power.

*Carbon pricing for metals would likely spur the continued transition to renewables in aluminium production (given the technology already exists) as well as attempts to decarbonise steel with green hydrogen—which is expected to become much cheaper over time.*

#### IV. WHAT WOULD BE THE IMPACT OF CARBON PRICES/TAXES RELATIVE TO GDP?

Very simplistically, if all global energy-related emissions were taxed at \$50/tCO<sub>2</sub>, we estimate this tax would represent 1.8% of global GDP. This does not look like an insurmountable burden. However, the picture varies significantly by region—the EU would be the lowest at 0.9%, but China would be at 3.3% and India at 4%, given their economies are much more dependent on carbon. This partly explains why the EU is leading the way on decarbonisation.

*In reality, of course, any carbon tax burden would be much less noticeable. Not all emissions can or will be taxed right away, and cap-and-trade systems only tax marginal emissions and redistribute the tax to greener market participants. Importantly, the main point of carbon taxes is not to raise revenue, but to curb emissions. In cases of direct taxation, governments can redistribute the proceeds to the population (via green dividends, discussed below), reduce other taxes or use the proceeds to fund green infrastructure, which could serve as an economic stimulus.*

## 2. CARBON BORDER TARIFFS AND ‘CLIMATE CLUBS’

Domestic carbon pricing might work well to cut emissions of immovable utilities or domestic transport, but not for globally traded carbon-heavy commodities such as aluminium, steel and cement. The issue here is ‘carbon leakage’—when the buyer avoids the tax by importing the commodity more cheaply from a country with no carbon taxes. It has already started to undermine the EU steel and cement industries’ competitiveness.

There have been increasing discussions of ‘green border’ taxes to provide a level playing field for domestic producers subject to national carbon tax versus importers, to prevent carbon leakage. In July 2021, the EU announced the first ever carbon tariff plan—a carbon border adjustment mechanism (CBAM), to be

phased in 2023-2026. Imports of carbon-heavy cement, electricity, fertilisers, iron, steel and aluminium will effectively be subject to the same carbon price as domestic production.

While restoring a level playing field for EU producers, it will put pressure on the main exporters of these commodities to the EU—Russia, China, Turkey and others. These countries have been voicing their concerns and may challenge the EU via the World Trade Organisation (WTO). However, such tariffs are not designed to breach WTO rules or hurt the payer’s economy by cutting access to the EU market. If the exporting country already taxes carbon at the same level, the EU levy would not apply. China has already started pricing carbon at home through its ETS. If or when their scheme covers the same sectors as the EU CBAM, their exports would have

a similar cost structure to Europe, but China would keep the resulting revenue instead of paying the tariffs to the EU. The Biden administration in the US is also considering their own version of a carbon tariff.

Apart from protecting domestic manufacturers, the main benefit of carbon tariffs may be in encouraging other countries to introduce their own carbon pricing policies and create so-called ‘climate clubs’—a step towards a unified global carbon pricing mechanism. If the EU, China and the US form such a club first, the biggest economies in the world will be pricing carbon and levying tariffs on everybody else’s imports. This would mean smaller countries would soon be forced to join the club as well.

### 3. OTHER 'STICK' MEASURES

While carbon pricing may be the most comprehensive measure to curb emissions in the long term, it will take a long time to be implemented universally. In the short term, green-minded governments have other, more focused regulatory measures.

#### I. COAL PHASE-OUTS

Such decisions are easier for richer countries with aging coal plants, significant and growing renewables generation and flattish electricity demand. Major coal consuming nations such as China and India, with fast-growing energy demand, have so far tried to contain the growth of coal rather than phase it out. However, as global pressure increases, they may adopt similar measures in the future (*Display 5*). Indeed, China's recent announcement of a net zero target by 2060 indicates a phase out of coal is on the cards.

#### II. REDUCTION OF FUEL SUBSIDIES

While many countries heavily tax road fuel, significant fossil fuel subsidies are still in place in others, including consumer fuel subsidies in emerging markets. Preliminary estimations by the OECD and International Energy Agency (IEA) estimate the total amount of subsidies was \$180 billion in 2020.<sup>6</sup> Many governments are reluctant to cut subsidies given their political sensitivity. However, if this changes, and they come up with a way to reduce subsidies or decouple them from fossil fuel use, this would have roughly the same effect as introducing a carbon tax/dividend system.

#### DISPLAY 5

### Many countries have already mandated phasing out coal power generation between 2020 and 2050

COUNTRY	STATUS	COAL PHASE-OUT DATE
Austria	Announced	2020
Portugal	Announced	2021
France	Announced	2022
Sweden	Announced	2022
Slovakia	Announced	2023
UK	Announced	2024
Ireland	Announced	2025
Italy	Announced	2025
Spain	Under discussion	2025
Greece	Announced	2028 <sup>7</sup>
Finland	Announced	2029
Netherlands	Announced	2029
Canada	Announced	2030
Israel	Announced	2030
Denmark	Announced	2030 <sup>8</sup>
Hungary	Under discussion	2030
Romania	Under discussion	2032
New Zealand	Under discussion	2037
Germany	Announced	2035/2038
Czech Republic	Under discussion	2033/2038
Chile	Announced	2040
Poland	Announced	2049
Ukraine	Under discussion	2050
South Korea	Under discussion	80% reduction by 2050

Source: Bernstein Research

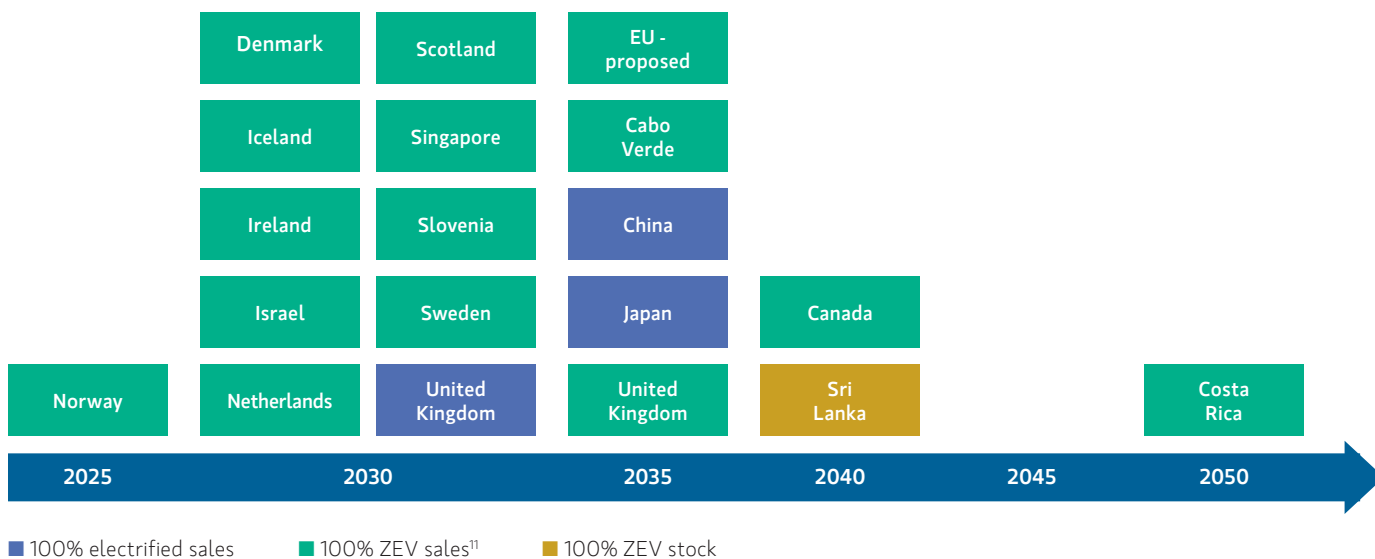
<sup>6</sup> Source: IEA Energy Subsidy data (2021).

<sup>7</sup> Operators plan to convert last plant to gas by 2025.

<sup>8</sup> Operators plan to shut down last plant to gas by 2028.

**DISPLAY 6**

**More than 20 countries have either electrification targets or ICE bans for cars<sup>9,10</sup>**



Source: IEA (2021), Global EV Outlook 2021. All rights reserved; as modified by Morgan Stanley Investment Management.

**III. BANS OF INTERNAL COMBUSTION ENGINE (ICE) VEHICLES**

Several countries have announced future bans on sales of all new internal combustion vehicles, mostly in the period 2030-40 (*Display 6*), and many cities plan to ban diesel or both petrol and diesel cars from city centres around the same time (*Display 7*). In July 2021, as part of the ‘Fit for 55’ package, the EU announced a new legislative proposal for a 100% reduction in new fleet emissions by 2035—effectively a comprehensive ban on the ICE. This provides a very

strong incentive to car companies to shift their sales rapidly to EVs well ahead of the upcoming legislations.

**IV. ELECTRIC VEHICLE TARGETS**

In the near term, the EU and China, some of the largest car markets, have effectively set direct EV targets for car manufacturers. In 2015, the EU mandated a significant (-27%) reduction in average exhaust CO<sub>2</sub> emissions for newly sold passenger cars as of 2021, with severe penalties for non-compliance, with further steeper reductions planned

in later years, culminating in the 100% reduction by 2035 mentioned above.

Such reductions can realistically only be achieved by selling significantly more EVs and hybrids. European carmakers now expect electric vehicles to reach a significant share of their sales in the next five to ten years. China has been moving from direct consumer subsidies of EVs to a manufacturer quota system, whereby companies in aggregate must meet a target of 25% share of EVs in light vehicle sales by 2025.

<sup>9</sup> Targets as of 20 April 2021.

<sup>10</sup> Electrified vehicles include battery electric vehicles (BEVs), plug-in hybrid electric vehicles (PHEVs), fuel cell electric vehicles (FCEVs) and hybrid electric vehicles (HEVs), depending on the definitions of each country.

<sup>11</sup> ZEV = zero-emission vehicle (BEVs, PHEVs and FCEVs).

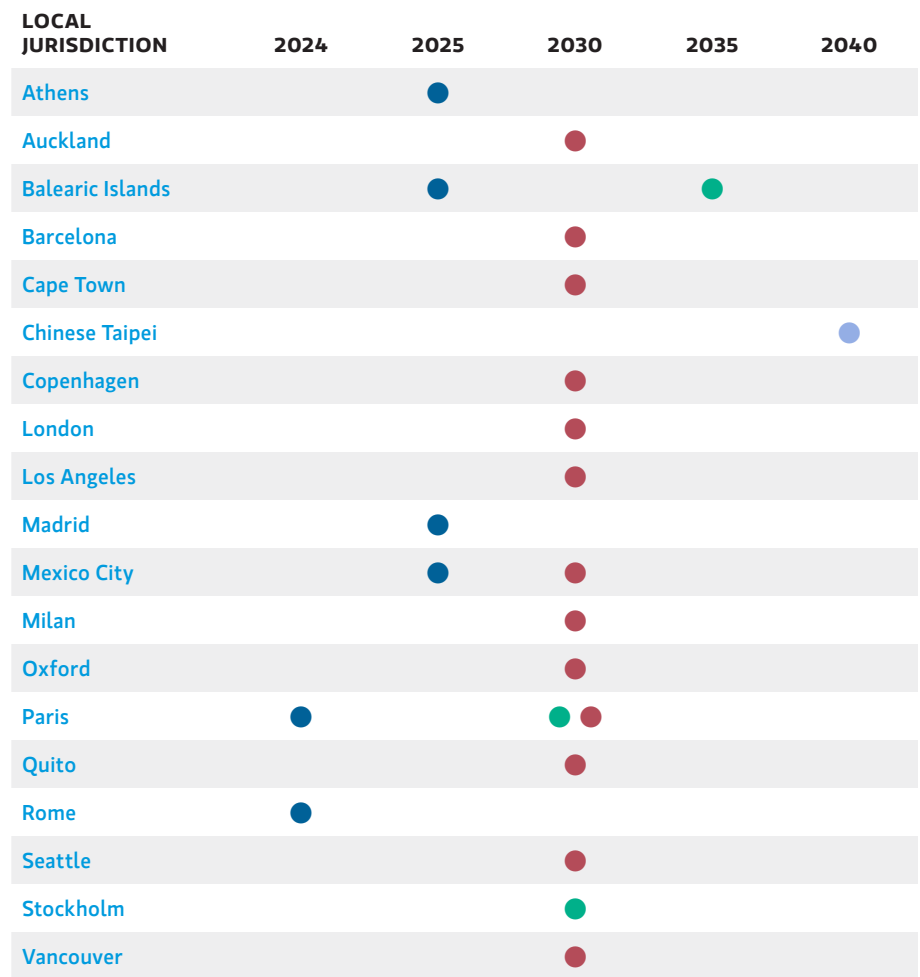


There are signs legislation is working. Despite the Covid pandemic prompting a sharp decline in new car registrations overall, the IEA reports a 43% increase in EV registrations in major markets in 2020 over 2019, with a 10% share of overall sales in Europe, up from 3.2% in 2019.

While once again these targeted measures vary from one country to another and lack global coordination, in combination they can help drive change—starting with industry but in the case of EVs, feeding into a shift in consumer purchasing behaviour. Bans on new ICE sales should drive down oil demand faster over time and are likely positive for commodities required for EVs such as lithium, copper and nickel. The plans unveiled by the European Commission in July 2021 represent the first detailed legislative package from a major emitter and put pressure on other nations—not least the US and China—to enhance their own policies.

**DISPLAY 7**

**Several local administrations have planned or taken measures to either partially or entirely restrict access to ICE vehicles<sup>12</sup>**



- Diesel access restrictions
- ICE access restrictions
- Fossil-Fuel-Free Streets Declaration<sup>13</sup>
- ICE sales ban

Source: IEA (2018), Global EV Outlook 2018. All rights reserved.

<sup>12</sup> Please note that this list is provided for illustrative purposes only and is not fully representative of all cities/territories with either planned or implemented ICE vehicle restrictions.

<sup>13</sup> The C40 Fossil-Fuel-Free Streets Declaration commits its signatories to zero-emission buses from 2025 and zero-emissions in major areas of the cities by 2030.

## The 'Carrots'

### 1. GREEN DIVIDENDS TO GAIN VOTER ACCEPTANCE

Explicit direct taxation of carbon at the consumer level may cause popular discontent. One of the catalysts for the extensive *gilets jaunes* protests in France in 2018 was the planned introduction of €3-7 cent per litre eco tax on petrol and diesel, which had to be abandoned due to its unpopularity. While more consumers state they are concerned about climate change, in reality, many lower-income voters may view carbon taxes as a *dirigiste* intervention—raising prices of necessities like fuel and electricity.

As already highlighted, carbon taxes are not designed to raise revenue *per se*. The most likely mechanism to make them politically palatable is to redistribute them to every voter—effectively as a 'green dividend'. While it is likely to dampen the desired effect (reducing carbon consumption) compared with a 'naked' carbon tax, it may be a more politically feasible option and would still encourage consumer behaviour change.

Consumers with average carbon consumption who received an average cheque from the government would see no positive or negative financial impact from the outset. Over time, however, many might try to take advantage of the system and become greener—switching to green electricity tariffs or buying an EV, to pay less tax than the cheque they receive. As part of the 'Fit for 55' package, the EU is proposing a subsidy fund for vulnerable citizens and small businesses that serves as such a redistribution mechanism.

Given such a combined tax/dividend system is arguably progressive rather than regressive, it could work well in increasingly populist political regimes. Wealthier consumers tend to have a higher carbon footprint, are a natural target for taxes and are less likely to protest against them. Combining a carbon tax with a carbon dividend would mean the poorest are the net beneficiaries and the wealthiest become the net donors.

### BRITISH COLUMBIA: SUCCESSFUL PILOT OF COMBINED TAX/DIVIDEND SYSTEM

In 2008, **British Columbia introduced a carbon tax**, which has widely been deemed to be a success. The levy was first introduced (by a centre-right government) at \$10/t of carbon, rising to \$30/t in 2012. It inflated the cost of gasoline and energy, but none of the raised income was kept by the government. Instead it was redistributed back to the local population and businesses through cuts in various taxes. Its economy grew faster than other provinces, greenhouse gases declined and importantly, it became more popular with both voters and businesses over time.

“The most likely mechanism to make carbon taxes politically palatable is to redistribute them to every voter—effectively as a 'green dividend'. While it is likely to dampen the desired effect (reducing carbon consumption) compared with a 'naked' carbon tax, it may be a more politically feasible option and would still encourage consumer behaviour change.”

### 2. THE POTENTIALLY 'BIG CARROT' – GREEN INFRASTRUCTURE STIMULUS

Decarbonisation will require substantial investments in infrastructure and other capital stock to shift the economy towards cleaner technologies. These include investments in renewables, electricity grids, energy storage, EV charging points, rail networks, buildings' energy efficiency through renovation, etc. These are perfect targets for a government stimulus, as demonstrated by the European Green Deal announced in 2019. It promises to spend €1trn over ten years as part of the plan to achieve carbon neutrality by 2050. About three quarters of this will come from EU and national budgets and one quarter from the private sector, some of which will have EU guarantees as an incentive.

#### WILL IT BE NET STIMULUS?

The main question is how much this will be a net stimulus to the real economy and employment. Some of the direct contribution from the EU budget (50% of the €1trn) may come from reallocating existing spending as some of it is already spent on climate projects, rather than an overall increase.

The smaller proportion (around 25%) to be raised from the private sector, with government guarantees, could be viewed as incremental to the real economy—provided it is reallocated from investments that are less of a stimulus. If the European Central Bank can buy any of the bonds issued as part of the government guarantee package, it could also be a stimulus.

“The EU estimates that the total climate and energy investment gap is €2.6trn over the next ten years, suggesting that more investment will need to be generated outside the current Green Deal.”

But the stimulus may go beyond the Green Deal and can be potentially much larger. The EU estimates that the total climate and energy investment gap is €2.6trn over the next ten years (c.1.5% of EU GDP on an annualised basis), suggesting that more investment will need to be generated, possibly through regulation, outside the current Green Deal. The EU has also floated the idea of reducing capital requirements for bank lending on projects that qualify as green under the new EU Sustainable Finance Taxonomy. There has also been debate about relaxing EU fiscal rules and exempting green spending from budget deficit calculations.

Much of the spending would probably have to be done by the private sector, including utilities. Assuming it is also classified as green and at least a portion of it would be allowed to earn a regulated return, e.g. investments in the energy grid, utility companies should not have a problem raising significant amounts of capital to fund it.

In addition to the likelihood of the EU Green Deal becoming a net economic stimulus, one important potential effect is that the government will likely crowd out private investment in carbon-heavy sectors such as oil and gas, at least by European investors. This is its implied goal. The European Investment Bank has recently stated that they will stop financing natural gas projects. There is an element of stick in every carrot ...

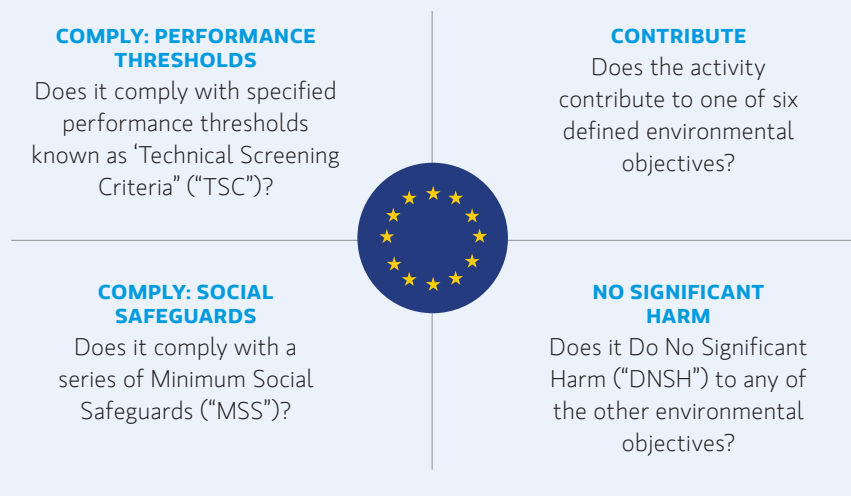
**DECARBONISATION THROUGH GREEN TRANSFORMATION**

“The mission of the European Green Deal involves much more than cutting emissions. It is about making systemic modernisation across our economy, society and industry. It is about building a stronger world to live in... We need to change how we treat nature, how we produce and consume, live and work, eat and heat, travel and transport. This is a plan for a true recovery. It is an investment plan for Europe.”

– Ursula von der Leyen, President of the European Commission, State of the Union Address, September 2020

**INVESTMENT IMPLICATIONS OF THE EU SUSTAINABLE FINANCE TAXONOMY**

The **EU Sustainable Finance Taxonomy** forms the cornerstone of the European Green Deal. This standardised framework is intended to help investors and companies transition to a resilient, low carbon economy by providing clarity on the extent to which economic activities may be considered environmentally sustainable. The regulation sets out a four-step method to determine sustainability:



### 3. Investment Implications

What does the broad decarbonisation policy drive mean for investors? Given the speed of change, it is hard to provide exact answers, but the direction of travel is clear, as is the fact carbon is rapidly becoming a key consideration in company analysis.

Carbon pricing should reduce long-term demand in carbon-heavy industries (e.g. coal and oil)—a direct negative impact on growth. On the other hand, electricity demand is likely to increase, as electrification is key to decarbonisation, benefiting greener electric utilities and their equipment suppliers. Tougher carbon policies are also likely to upset the *relative* competitive landscape within some carbon-heavy sectors. Companies who have already invested into cleaner technologies are likely to take market share at the expense of those who have not—think EVs versus combustion engines or hydro-powered aluminium producers versus coal-powered ones.

All of the above should increase uncertainty around growth, capital expenditures, returns on capital and valuations in ‘high stakes’ industries. This applies to the winners too, who may have to rely on regulatory support working as intended to justify growth expectations and valuations.

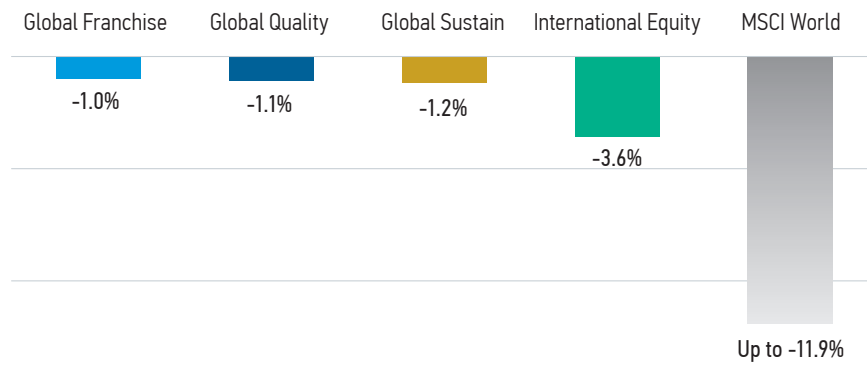
Companies offering decarbonisation solutions in any sector are likely to be net beneficiaries of accelerating policy support driving demand for their products and services (for example energy-efficient or carbon-light materials or advanced biofuels).

“Tougher carbon policies are also likely to upset the *relative* competitive landscape within some carbon-heavy sectors. Companies who have already invested into cleaner technologies are likely to take market share at the expense of those who have not.”

#### DISPLAY 8

#### Our portfolios should benefit from reduced sensitivity to carbon pricing and lower risk of structural disruption trends

Impact on EBIT of \$100/tCO<sub>2</sub>e price (Scope 1+2)<sup>14</sup>



Source: Morgan Stanley Investment Management, FactSet, Trucost. Data as at 30 September 2021 for Strategy Representative Accounts.

As consumers become more aware of the impact of climate change, carbon may become a driver of purchase decisions. Consumer-facing companies whose brands can demonstrate a superior carbon profile would be relative winners.

More broadly, we are likely to see even more pressure on all companies to decarbonise. The number of corporates announcing carbon reduction targets has ballooned recently. By working towards these targets, companies may accelerate energy transition by reducing carbon demand throughout their supply chain, beyond what is implied by regulatory measures alone. But it also may have implications for their costs. That is why we have been actively engaging holdings in our strategies on their climate action plans.

As we argued in *Decarbonisation: The Basics*, one of the ways to reduce ‘carbon uncertainty’ in a portfolio is to focus on high-quality compounders. These companies are typically naturally carbon-light, benefit from pricing power and resilient demand, and face lower carbon disruption risks than most other companies. *Display 8* shows our analysis of the estimated impact of a \$100 tax per tonne of CO<sub>2</sub>e on the EBIT of companies held in our portfolios versus the MSCI World Index (for Scope 1 and 2 emissions). Because our portfolios are significantly less carbon intensive than the benchmark, and have higher margins, they have much lower profit sensitivity to carbon pricing. Therefore, we believe their compounding ability should be preserved even in an environment of rapidly tightening carbon policies.

<sup>14</sup> The impact of a \$100 tax/price per tonne of CO<sub>2</sub>e scenario for the MSCI World index is an illustrative estimate. It is calculated by aggregating Earnings Before Interest and Taxes (EBIT) and assumed carbon costs for each company in the index, excluding companies without carbon data. Assumed carbon cost is determined as tonnes of carbon equivalent emissions (Scope 1 and 2) multiplied by \$100. Calculations ignore any carbon costs already in existence (e.g. the EU ETS).

**Conclusion**

Overall, we believe there are grounds for optimism. There is a convergence of accelerated technological change with greater appetite for international alignment—which could accelerate further after this year’s fires and floods. While individual countries and regions have hitherto largely pursued their own agendas, green policy leadership is helping to goad others. Recent moves from China and the Biden administration’s climate ambitions offer reason for hope.

Policy making can and must play a crucial role in the global decarbonisation imperative. To be effective, it must be more coordinated and the price of carbon necessarily higher. Some ideas such as carbon clubs could have greater traction than they do today. We advocate a combination of both stick and carrot measures, which can also help to mollify voter sensitivities.

Indications are the individual will be no worse off from more robust regulation. In terms of the corporate, there are winners and losers and asset owners must have a process in place to help mitigate climate change risk in their portfolios. This is a fast-changing landscape, and a low carbon quality portfolio is one way to help position investors for what’s in store.

**LOOK OUT FOR OUR NEXT PAPER**

*in which we focus on the role of the corporate in the decarbonisation agenda—and how active engagement with company management can contribute to spurring progress.*

## Risk Considerations

There is no assurance that a portfolio will achieve its investment objective. Portfolios are subject to market risk, which is the possibility that the market value of securities owned by the portfolio will decline. Market values can change daily due to economic and other events (e.g. natural disasters, health crises, terrorism, conflicts and social unrest) that affect markets, countries, companies or governments. It is difficult to predict the timing, duration, and potential adverse effects (e.g. portfolio liquidity) of events. Accordingly, you can lose money investing in this strategy. Please be aware that this strategy may be subject to certain additional risks. Changes in the worldwide economy, consumer spending, competition, demographics and consumer preferences, government regulation and economic conditions may adversely affect **global franchise companies** and may negatively impact the strategy to a greater extent than if the strategy's assets were invested in a wider variety of companies. In general, **equity securities'** values also fluctuate in response to activities specific to a company. Investments in **foreign markets** entail special risks such as currency, political, economic, and market risks. **Stocks of small- and mid-capitalisation** companies carry special risks, such as limited product lines, markets and financial resources, and greater market volatility than securities of larger, more established companies. The risks of investing in **emerging market countries** are greater than risks associated with investments in foreign developed markets. **Derivative instruments** may disproportionately increase losses and have a significant impact on performance. They also may be subject to counterparty, liquidity, valuation, correlation and market risks. **Illiquid securities** may be more difficult to sell and value than publicly traded securities (liquidity risk). **Non-diversified portfolios** often invest in a more limited number of issuers. As such, changes in the financial condition or market value of a single issuer may cause greater volatility. **ESG strategies** that incorporate impact investing and/or Environmental, Social and Governance (ESG) factors could result in relative investment performance deviating from other strategies or broad market benchmarks, depending on whether such sectors or investments are in or out of favor in the market. As a result, there is no assurance ESG strategies could result in more favorable investment performance.

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