Sustainable Finance: Drivers, Stakeholder Expectations and Growing the Market

Presentation for the Chilean Finance Industry

Zoë Knight, MD, Group Head, HSBC Centre of Sustainable Finance
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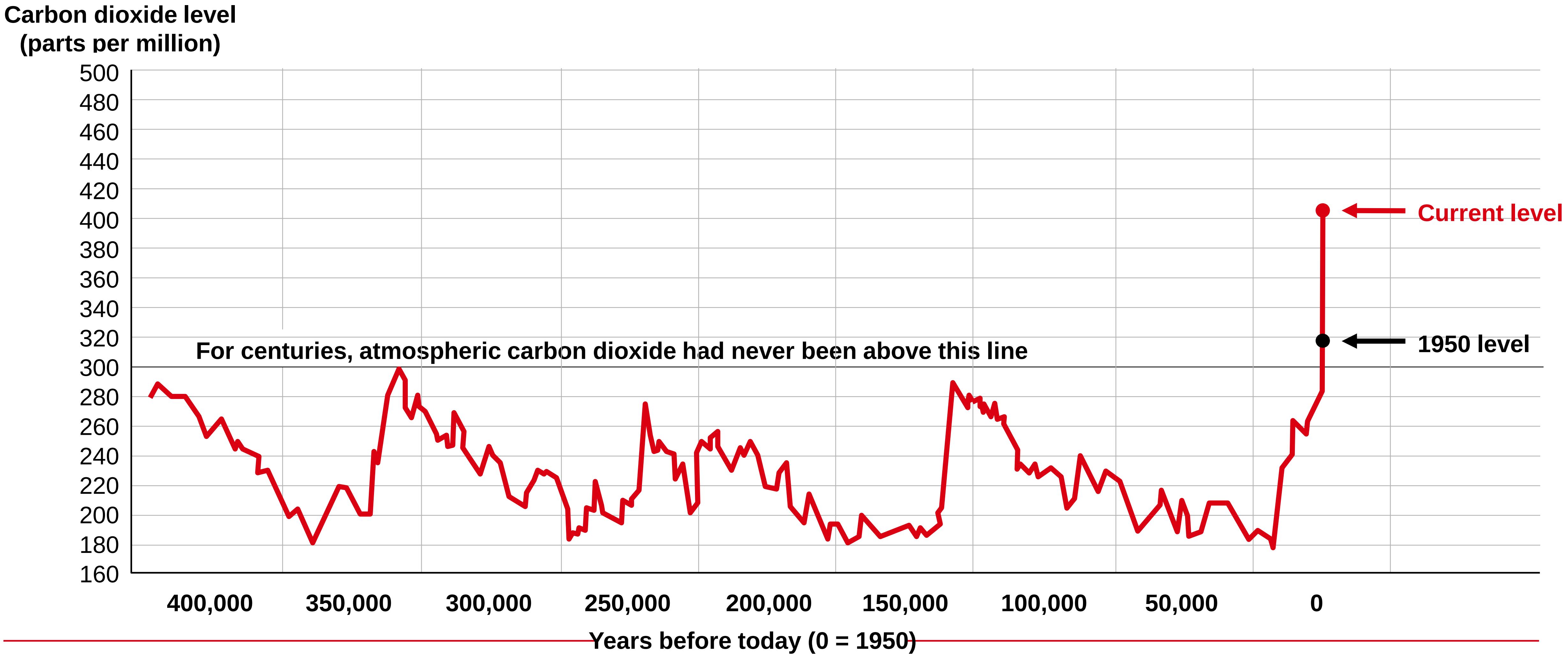
Agenda

Sustainable Finance: A key enabler for net-zero carbon outcomes

1	**Drivers: Solving climate change is becoming increasingly urgent**
2	Stakeholder Expectations: Finance can be steered towards limiting temperature rises
3	Growing the Market: Unblocking the barriers means creating the right incentives

Unprecedented rise in carbon emissions leading to a climate emergency

Historical data comes from ice cores, real time CO_2 concentrations are measured in Hawaii

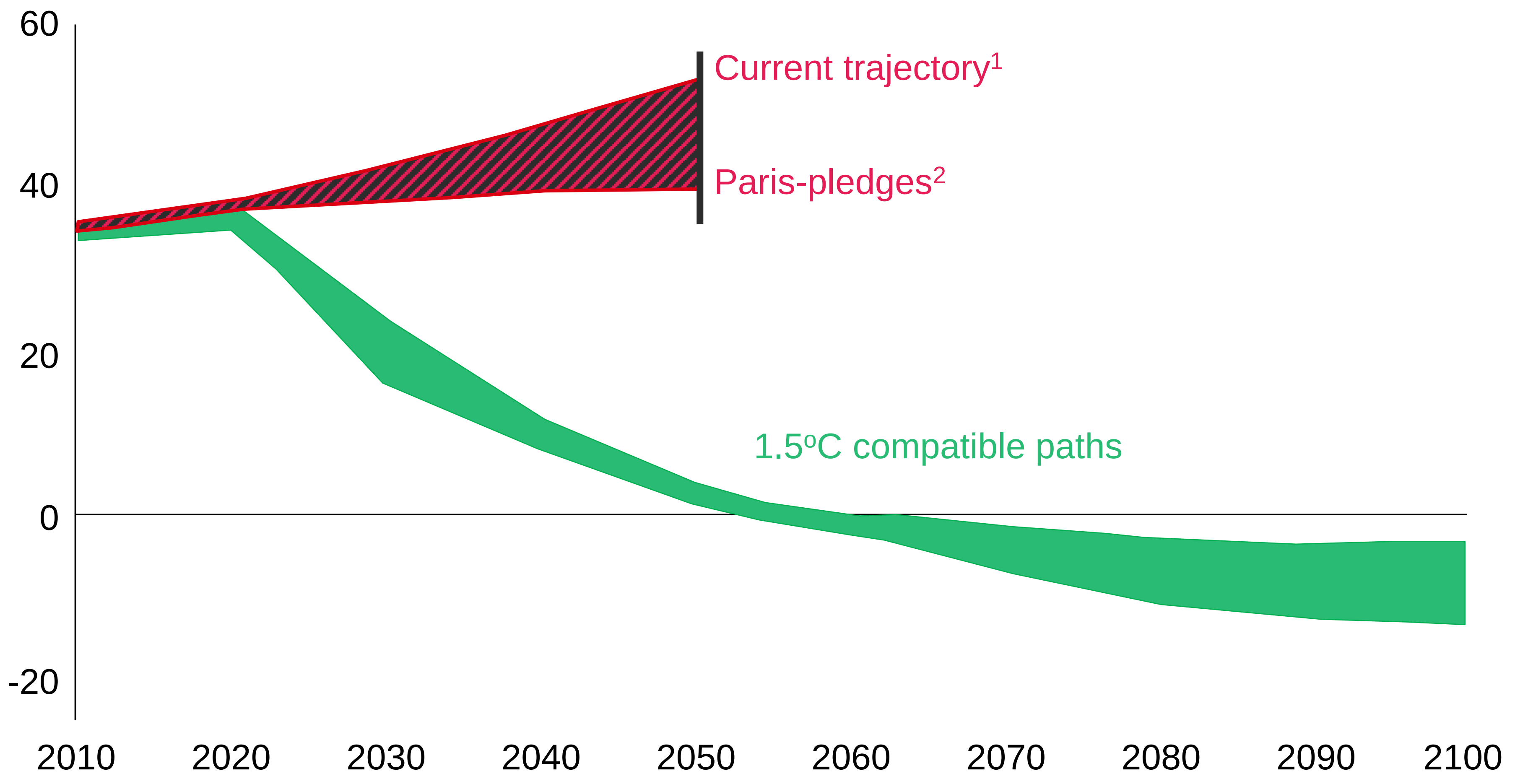


Source: NASA, Vostok ice core data / JR Petit et al; NOAA, Mauna Loa CO_2 record

Material reduction in emissions profile required to deliver the Paris Agreement

Global net CO_2 emissions pathways

Emissions per year



- We have already passed the 1ºC temperature increase
- At current emissions, the world is heading to a 4ºC increase in temperature
- We have about 8 years of emissions left within the carbon budget that enables a 2ºC world
- A sharp change in the global emissions profile is required, with ultimately Net Zero emissions

Source: IPCC, UNEP Emissions Gap Report

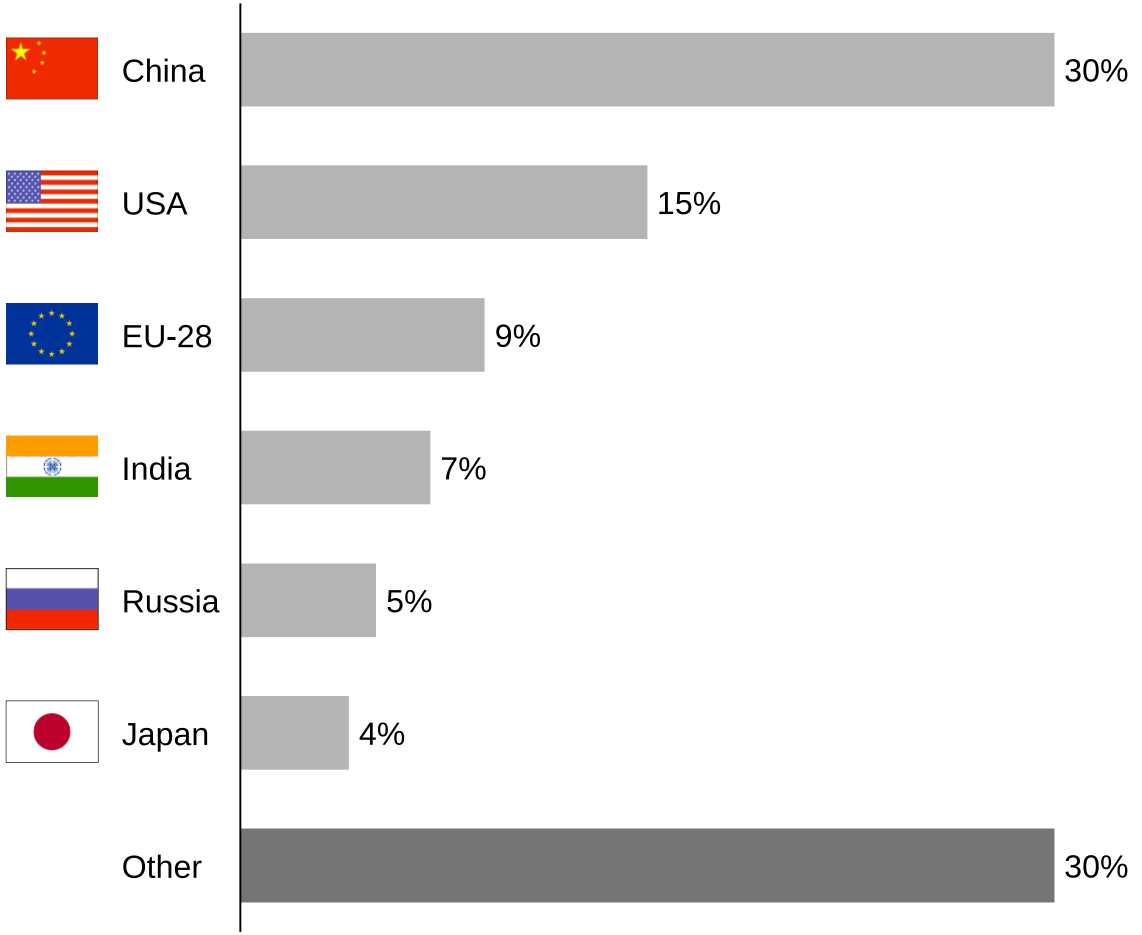
1. Assumes CO_2 emissions grow from 2018 at same rate as the Current Policies scenario in UNEP 2019 Gap report to 2050 (1.1% CAGR)
2. Assumes countries decarbonise beyond the same annual rate that was required to achieve their INDCs between 2020 and 2030

Note: Emissions of non-CO_2 forcers are also to be reduced by more than 50% in pathways limiting global warming to 1.5ºC

Change will need to take place across countries and economic sectors

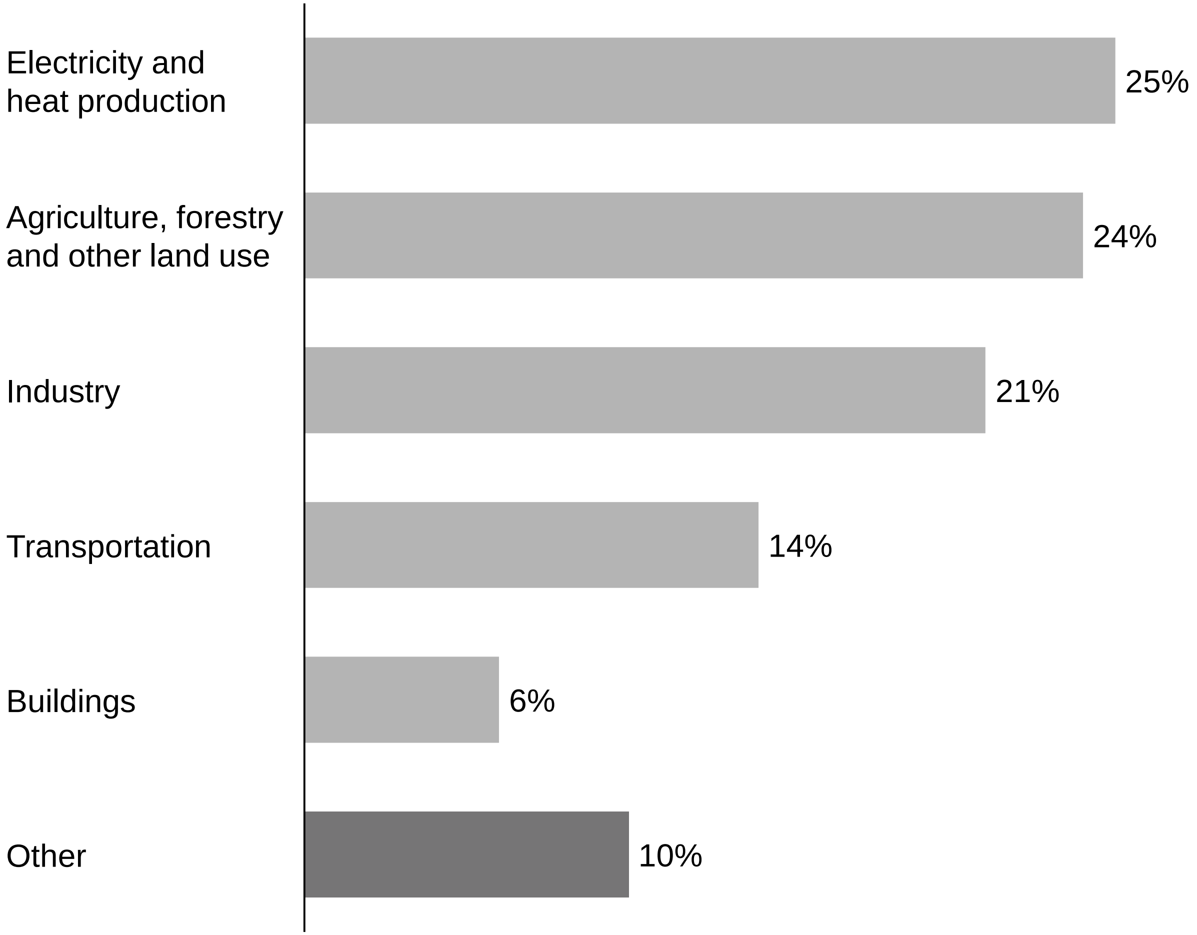
Global greenhouse gas emission by country

%



Global greenhouse gas emission by economic sector

%

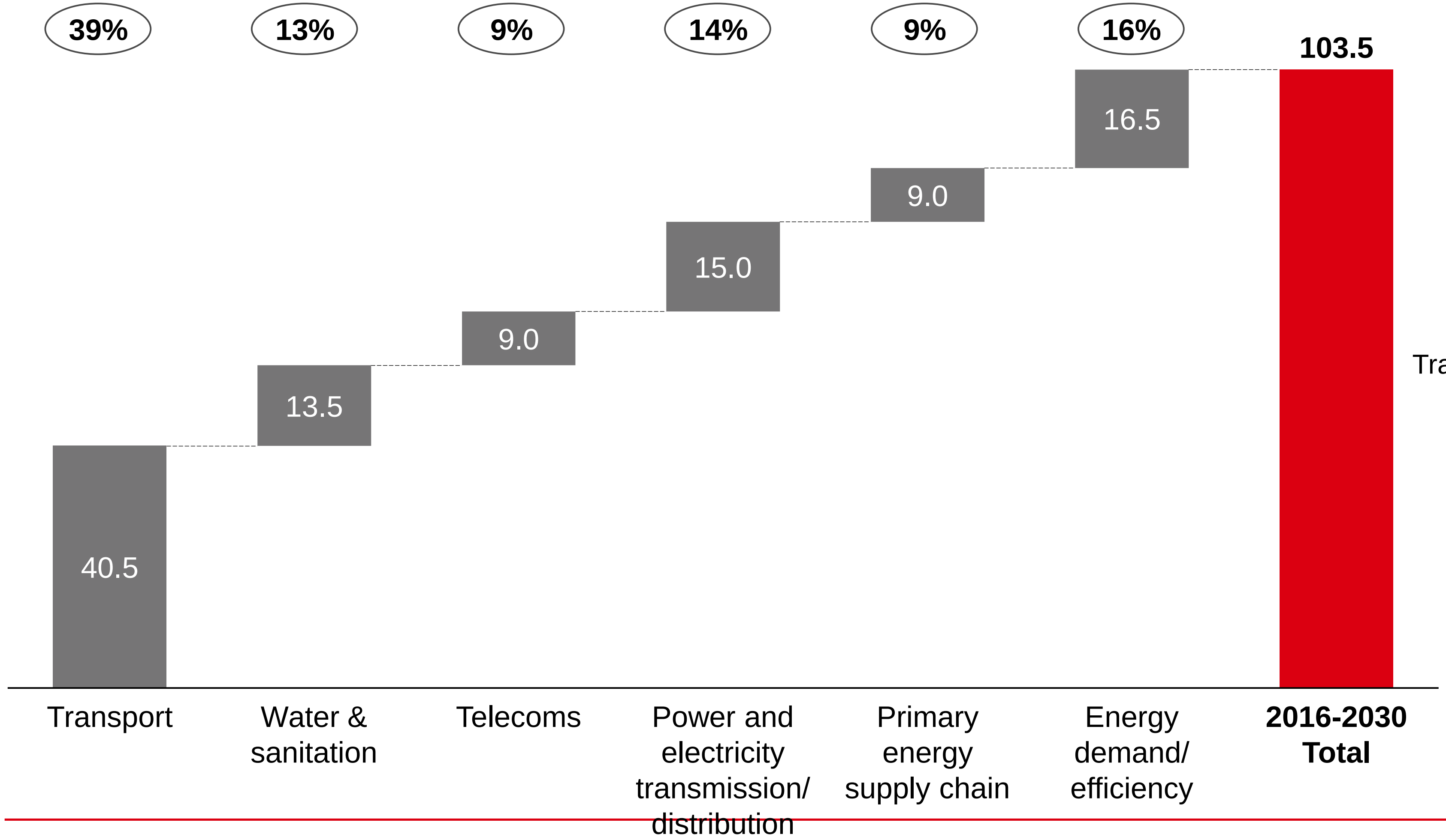


Source: EPA

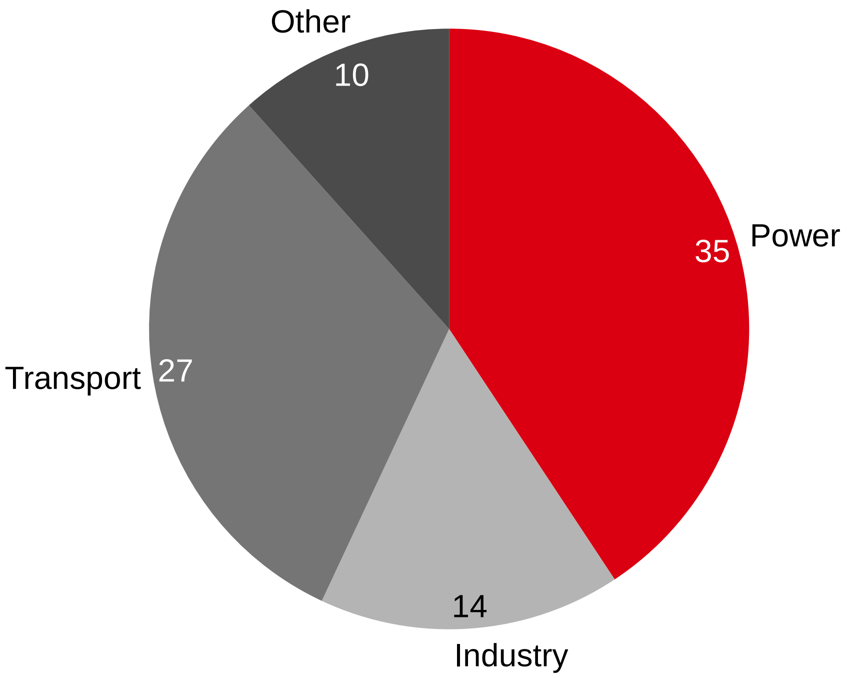
Over USD 100 trillion investment in infrastructure in the next 15 years is required globally under 2 degree scenario

Global infrastructure investment needed in the next 15 years for a 66% chance of 2°C[1]

USD trillion, 2016-2030



Chile Emissions by Sector - CO_2



1. OECD, IEA, Investing in Climate, Investment in Growth, July 2017; The OECD estimates that for infrastructure to be consistent with a 2ºC 66% scenario, investment needs to amount to USD6.9trn per year in the next 15 years, an increase of about 10% in total infrastructure investment from the reference estimate of USD6.3trn
2. McKinsey, "Bridging Global Infrastructure Gaps" June 2016
3. IEA 2019

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Low-carbon transition provides opportunities and risks for the finance sector

Opportunities

- **Increased financing demand to enable shift to low-carbon economy (e.g. renewable energy, electric vehicles, etc.)**
- **New products and propositions to meet climate related requirements (e.g. green loans)**
- **New growth areas and sectors (e.g. cleantech, energy efficiency products)**
- **Strategic engagement with clients**
- **Brand and reputational advantages as leaders in sustainable finance**

100 trillion of investments in sustainable infrastructure and the transition to the low carbon economy needed by 2030[1]

Risks

- **Rapid decline in asset values (equity and debt) linked to fossil fuel use (e.g. stranded assets)**
- **Physical destruction and economic disruption from extreme weather patterns**
- **Increased regulation and disclosure requirements**
- **Changing investor expectations and investment criteria (ESG)**
- **Brand and reputational damage for financing activities deemed environmentally harmful**

Up to USD17bn stranded assets from transition risk[2]

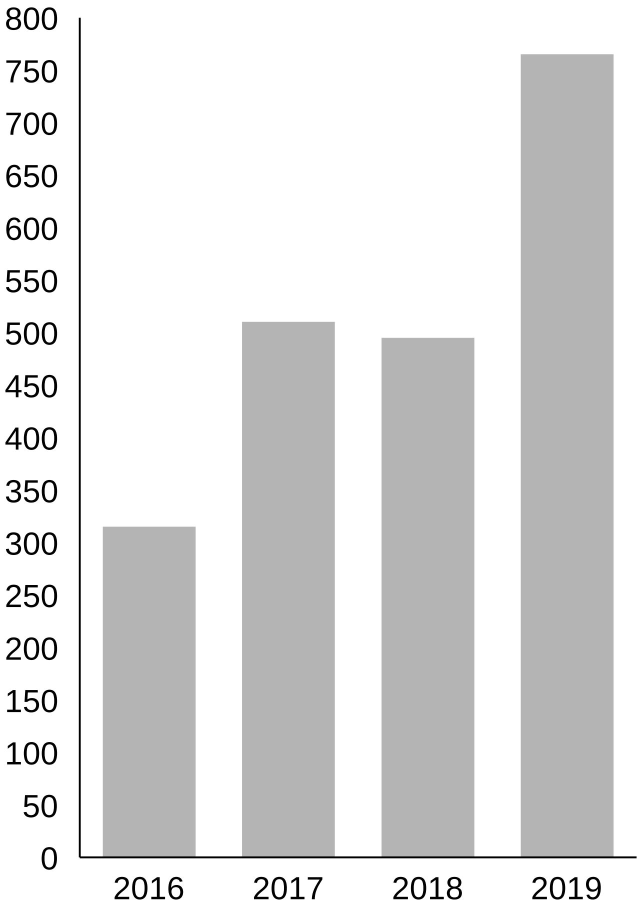
c. USD85bn annual insurance losses from climate related events

1. International Energy Agency and OECD
2. MIT

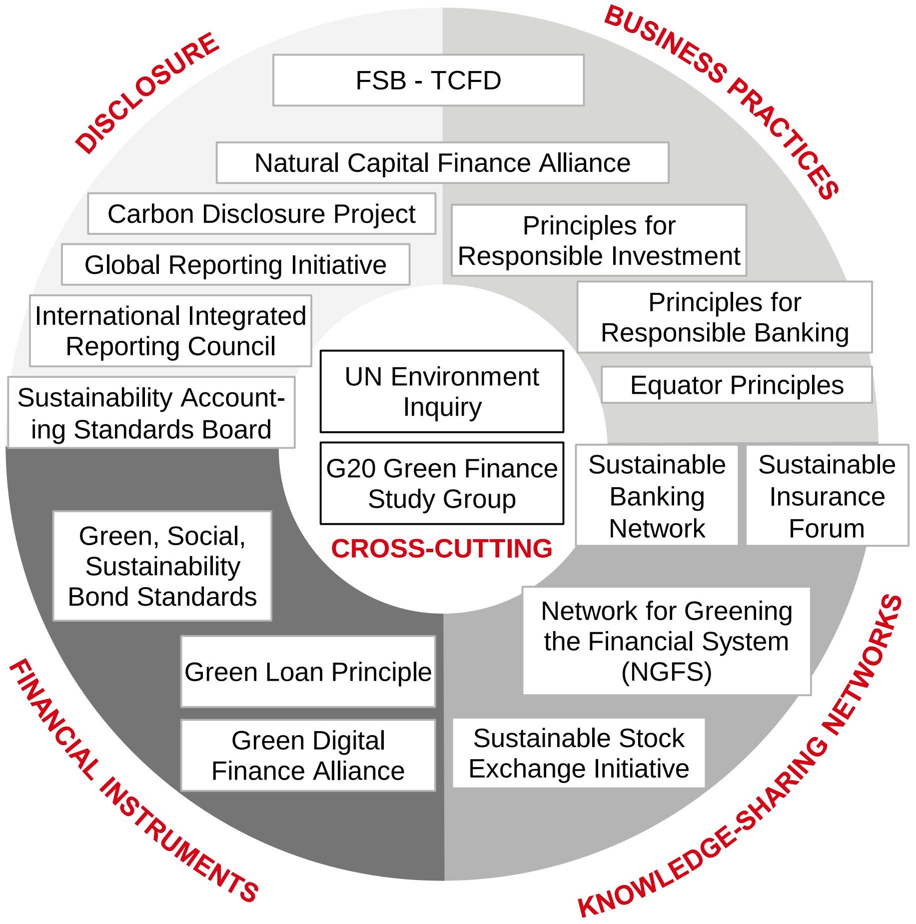
Regulators are collaborating to come up with new ideas

Sustainable finance regulatory development

\# relating to the SDGs[1]



Global initiatives[2]



Select national-level actions

- Enhancing banks' and insurers' approaches to managing the financial risks from climate change (SS3/19, BoE PRA)
- 2021 Biennial Exploratory Scenario (BoE)

- Article 173 of French Energy Transition Law
- Climate-related risks assessment in the banking sector (BdF)
- 2013 White Paper on Financing the Ecological Transition

- "Guidelines for Establishing the Green Financial System" (PBoC 2016)
- Key measures on sustainable banking and green finance (HKMA, 2019)

- Stewardship Asia 2016 (MAS)
- Green Finance Action Plan and key measures (2019)
- Sustainable Bond Grant (MAS)

1. Source: ECOFACT
2. Source: UN Environment / WBG Roadmap Team / HSBC Analysis

Governments and stock exchanges are increasing the pace

Examples of catalysts

Regulators

- **Financial Stability Board (FSB)** by **G20** established **TCFD** (2015)
- **Network for Greening the Financial System (NGFS)** brought together central banks and supervisors (2017)
- **3: Recommendations about "Green Finance baseline and targets", ESG investing for Exchange fund, Centre for Green Finance**
- **Climate Stress test announced** (2019)
- **Prudential Regulatory Authority (PRA)** published research on financial risks and a consultation paper on supervisory statement
- **Financial Conduct Authority (FCA)** published a paper on impact of climate change and green finance on financial services (2018)

Governments

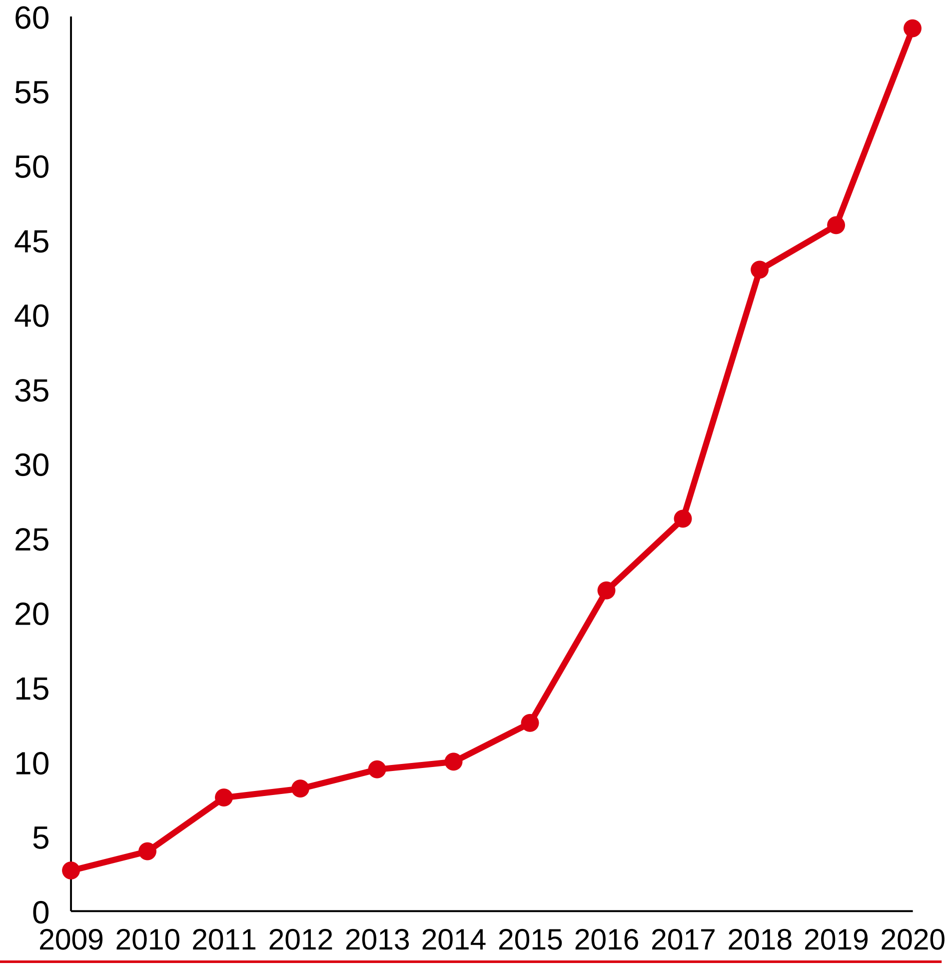
- **Legislated "Net Zero" by 2050** (2019)
- Hosting **COP26** in 2020
- EU present **Sustainable Finance Action Plan** (2018)
- EU presented **European Green Deal** (December 2019)
- **French Strategy for Green Finance** (2017)
- **National guidelines** for establishing a green financial system; green investment; green bonds; green Belt and Road (2014-2017)
- HK plans to issue its own **green bond** and establish **grant scheme**

Stock exchanges

- **IOSCO** established **board-level taskforce on Sustainable Finance** and sets out roles of securities regulators and IOSCO (2020)[2]
- **HK Exchange** introduced stringent **ESG & climate disclosure** requirements for **issuers** from July 2020. (2019)[3]
- **LSE** launched **green economy mark** and **sustainable bond market** (2019)[4]

Example: Stock exchanges with guidance on ESG disclosure[1]

Sharp increase in guidance after SSE launches Model Guidance (number of exchanges)



1. Source: SSE database, UN Sustainable Stock Exchange initiative: 10 Years of Impact and Progress, 2019
2. IOSCO steps up its efforts to address issues around sustainability and climate change (link)
3. Hong Kong stock exchange revises ESG reporting rules, Environmental Finance, 20 December 2019 (link)
4. London Stock Exchange launches Green Economy Mark and Sustainable Bond Market, 11 October 2019 (link)

Climate action by stakeholder groups is accelerating

	From (2017)	To (2020)	In the news
Governments and Regulators	▪ Paris agreement national commitments yet to be legislated ▪ Bank of England questionnaire to review banks' activities related to climate change and climate risk	▪ UK and EU policy for **net-zero emissions by 2050** ▪ Central bank network for greening the financial system **(NGFS) with 50+ members** ▪ Bank of England announced **climate stress test** covering 30-year time horizon and expectation to assess temperature alignment of balance sheet	
Investors	▪ Climate Action 100+ initiative formed by investor representatives from five institutions (Dec 2017)	▪ **Climate Action100+ with 450 members** representing USD40trn AUM ▪ ESG and stewardship job hires double from 2017[1]	*Leading investor group tells companies to set out climate crisis plans*
Civil society	▪ Campaign focused on specific causes, e.g. Palm Oil, wildlife preservation	▪ Global activism reflected by Extinction Rebellion protests and student climate strikes ▪ David Attenborough and Greta Thunberg global celebrities	
Clients	▪ Fortune 500 companies with targets aligned to 1.5°C: **20** ▪ TCFD launch supported by **102 organisations** (Jun 2017)	▪ Fortune 500 companies with targets aligned to 1.5°C: **296** ▪ Leading energy companies set out plan to reach Net Zero emissions by 2050 ▪ TCFD supporters totalling **1,027** (Feb 2020)	bp, Nestlé, thyssenkrupp, Microsoft, QANTAS
Sustainable finance market	▪ Sustainable bond market **USD144bn**, <2% of total bond market ▪ UN PRI signatories AUM totalling USD68trn ▪ One labelled sustainable finance product in market (green bonds)	▪ Sustainable bond market **USD270bn** (2019) with 51% annual growth and 3.7% of total bond market ▪ UN PRI signatories AUM totalling USD89trn (up 31% from 2017) ▪ Diverse labelled sustainable finance products including lending, investments, markets, trade, deposits ▪ Range of innovation within asset classes	*Record sums deployed into sustainable investment funds* *Sustainable debt sees record issuance at $465bn in 2019, up 78% from 2018*

1. FT article 'Jobs bonanza in stewardship and sustainable investing teams', 8 Mar 2020

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Increased focus on sustainability challenges faced by society, particularly climate change

Paris Agreement

- Landmark global agreement reached in **Paris on 12 December 2015** and approved by the leaders of **195 countries**
- Aims to reduce greenhouse gas emissions and limit global temperature increase to **below 2ºC (3.6F)** above pre-industrial levels by 2100

Sustainable Development Goals

- **17 Sustainable Development Goals (‘SDGs’)** adopted by UN Member States and came into force **6 January 2016**, for the year 2030
- **Universal call to action** to end poverty, protect the planet and ensure that all people enjoy peace and prosperity

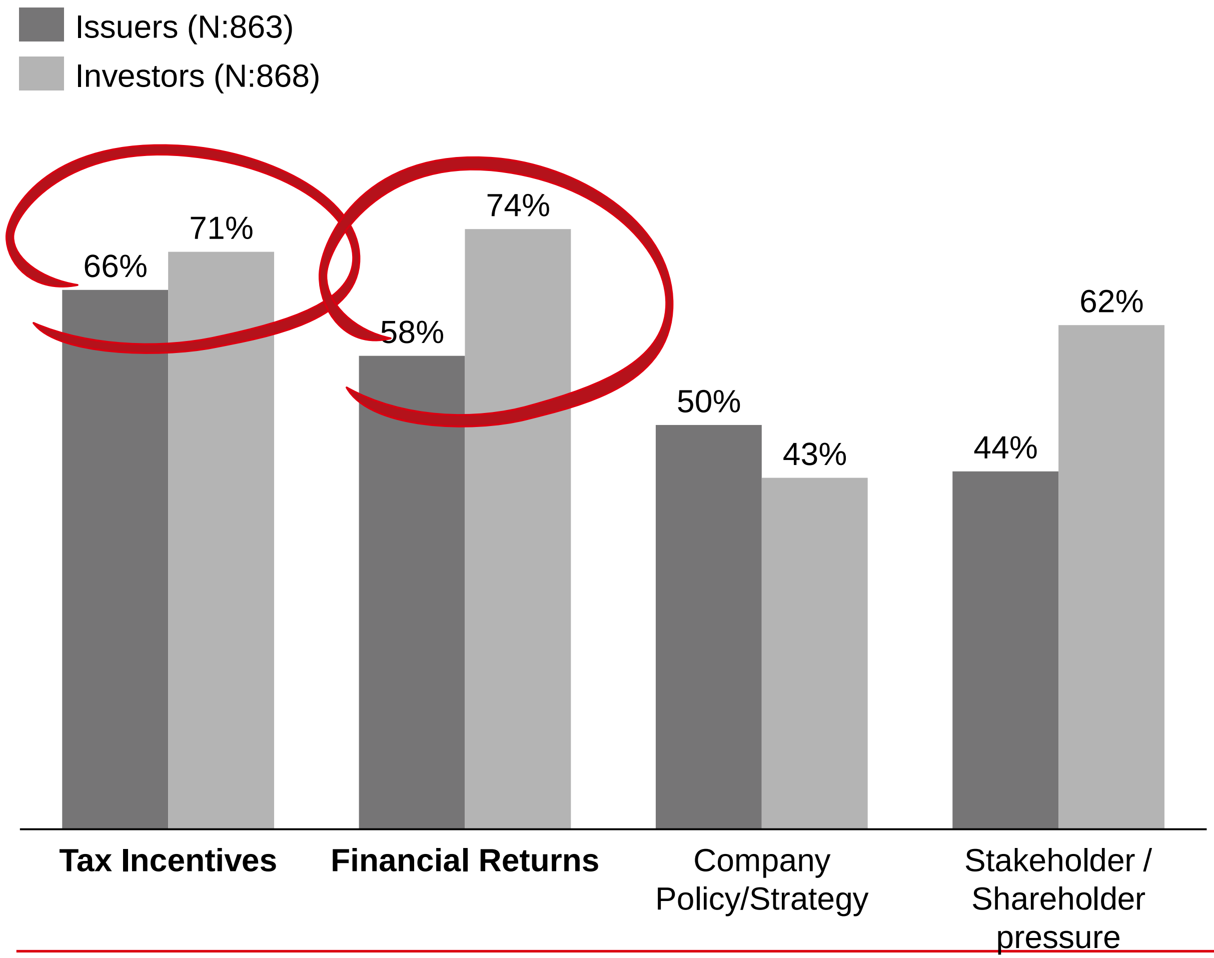
ESG Framework

- **Environmental, Social and Governance (ESG)** are three central factors in measuring the sustainability of an investment in a company
- **UN Principles for Responsible Investing (PRI)** established in **April 2006** to encourage the incorporation of ESG into investment practice

Financial returns now the No 1 driver; Europe most advanced in sustainable finance

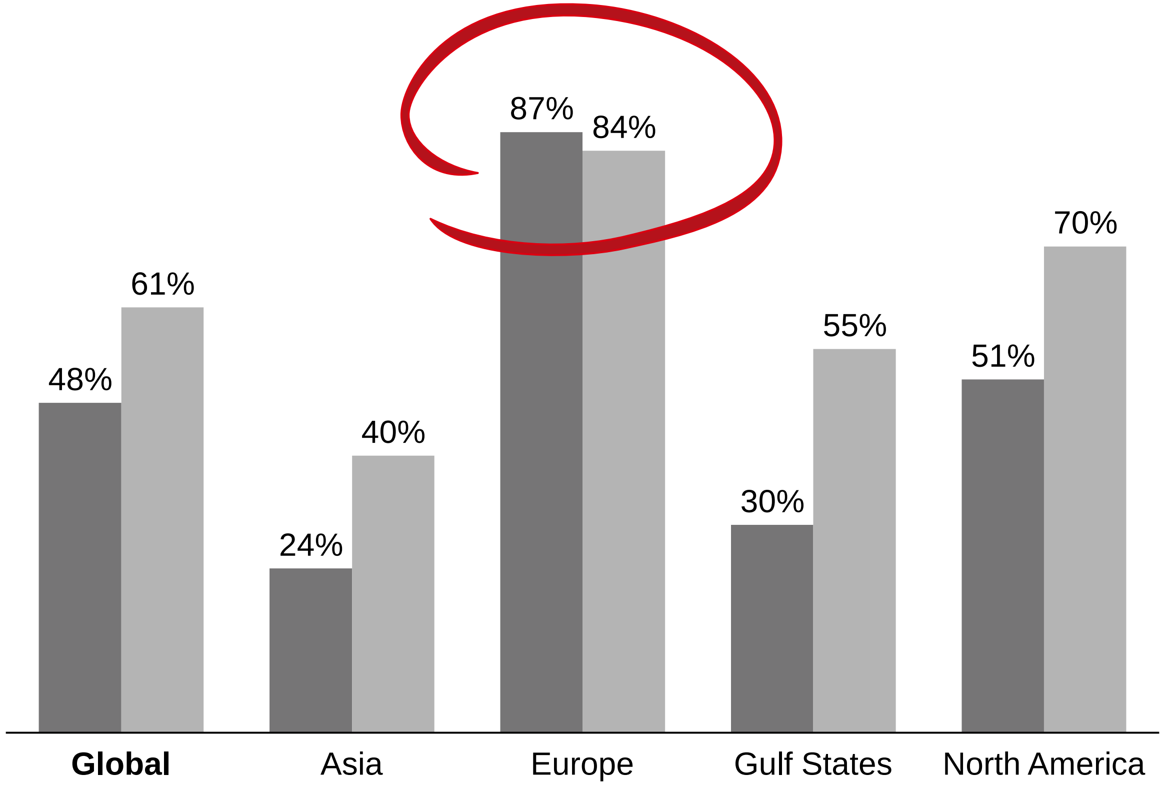
Key Drivers of sustainable finance/ ESG Decision Making[1]

% of issuers and investors who use ESG financing/ have ESG investments



Penetration of sustainable finance/ ESG strategy[1]

% of issuers and investors have an ESG strategy



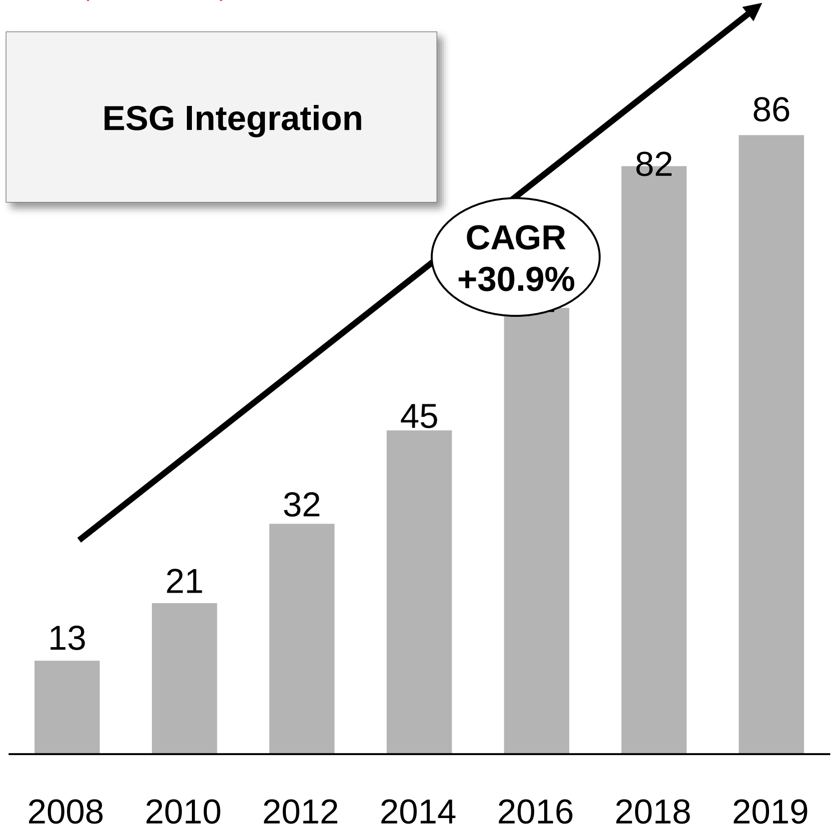
1. HSBC East & Partners survey, 2018

Investment and financing into sustainable finance is accelerating but still sub-scale

Sustainable Finance: Financial services that are aligned with the Paris Agreement on Climate Change and the Sustainable Development Goals

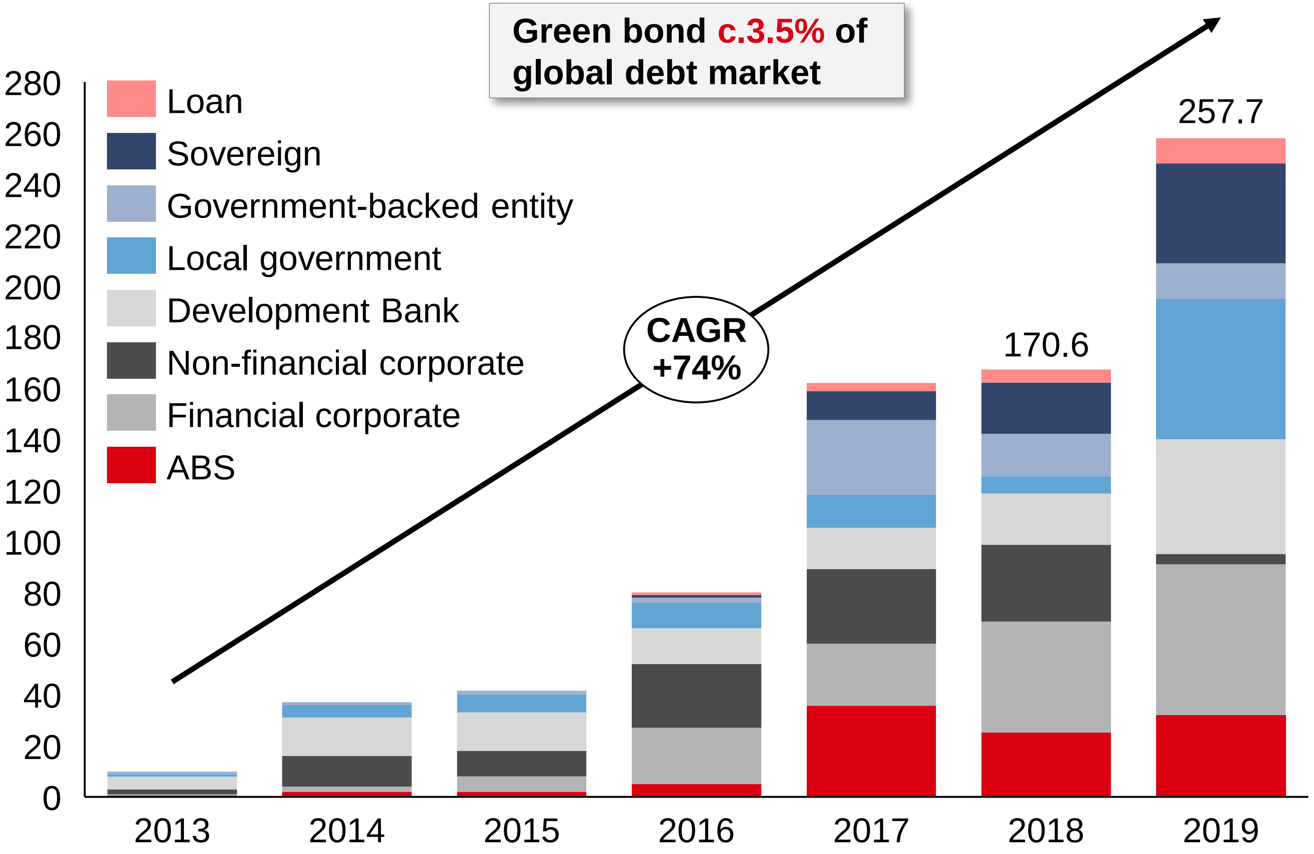
Investing: commitment to UN PRI Signatories

AUM, USDtrn, 2008-19



Financing: Labelled green, social and sustainability bond market is growing rapidly

USDbn, 2013-19



What can finance do to deliver change

Four types of enablers

1 Sustainable financing products

- Sustainable Finance products are aligned with the Paris Agreement on climate change and Sustainable Development
  - **Use of proceeds:** Funds applied to eligible projects set out in an agreed framework
  - **Sustainability linked:** Interest rate linked to defined sustainability performance targets

2 Policies and processes

- Restrictions, as set out in lending / sector policies
- Credit reviews and modelling (client level)
- Pricing incentives (transaction level)
- Performance metrics and targets

3 Investment and capital vehicles

- ESG Integration
- Thematic and impact investment funds
- Blended finance
- Originate to distribution models
- Green deposits

4 Public policy and industry initiatives

- Industry and business led initiatives
- Policy ambitions
- Regulatory initiatives
- Investor and consumer pressure

Financial Institutions: Holistic approach to sustainable finance commitments

HSBC Public commitments made Nov 2017		Progress to date
New business opportunity	Provide USD100 billion of sustainable financing and investment by 2025	◆ Delivered **USD70.1bn in sustainable finance** ◆ Consistently **top ranked globally for green, social and sustainable bonds** ◆ Expanded **propositions for lending, investments and supply chain finance** ◆ **'World's Best Bank for Sustainable Finance**' by *Euromoney* in 2019
Operational sustainability	Source 100% of our electricity from renewable sources by 2030 (90% by 2025)	◆ **Reduced own carbon footprint by 47%** since 2011, and 35% per FTE ◆ Contract **29% of electricity through renewable PPAs** as of end 2019 ◆ **Trained more than 13,000 employees** in sustainable finance and sustainability
Climate risk management	Reduce our exposure to thermal coal and actively manage the transition for other high carbon sectors	◆ **Integrated climate risk in annual credit reviews** focussed on high risk sectors ◆ **Updated energy policy** to further restrict financing of coal and certain other fossil fuels; **No finance provided to new coal fire power projects** since policy update ◆ **Asset Management votes on more than 73,300 resolutions in 2019**
Disclosure	Adopt recommendations of Task Force on Climate-related Financial Disclosures (TCFD)	◆ Produced **three annual TCFD disclosures**; reported lending exposures in six high transition risk sectors which represent 21% of wholesale balance sheet ◆ Published five ESG Update reports; **improved ESG ratings** by MSCI and Sustainalytics, achieving **full marks for 'financing environmental impact'** from MSCI
Thought leadership	Lead and shape the debate around sustainable finance and investment	◆ **HSBC Research ranked best for Climate, SRI** and Sustainability; **HSBC Centre of Sustainable Finance** received over 100,000 page views in 2019 ◆ Active industry engagement, including **chairing working groups** for Institute for International Finance Bank of England; Climate Action 100+, among others ◆ Founding member of **sustainable finance industry initiatives in Asia, Europe and Americas**

Recent awards

Environmental Finance Bond Awards 2019

Three 'Lead Manager of the Year' awards across social, sustainable and green bond categories

EUROMONEY AWARDS FOR EXCELLENCE 2019

'World's Best Bank for Sustainable Finance' award and regional equivalents for Asia and Middle East

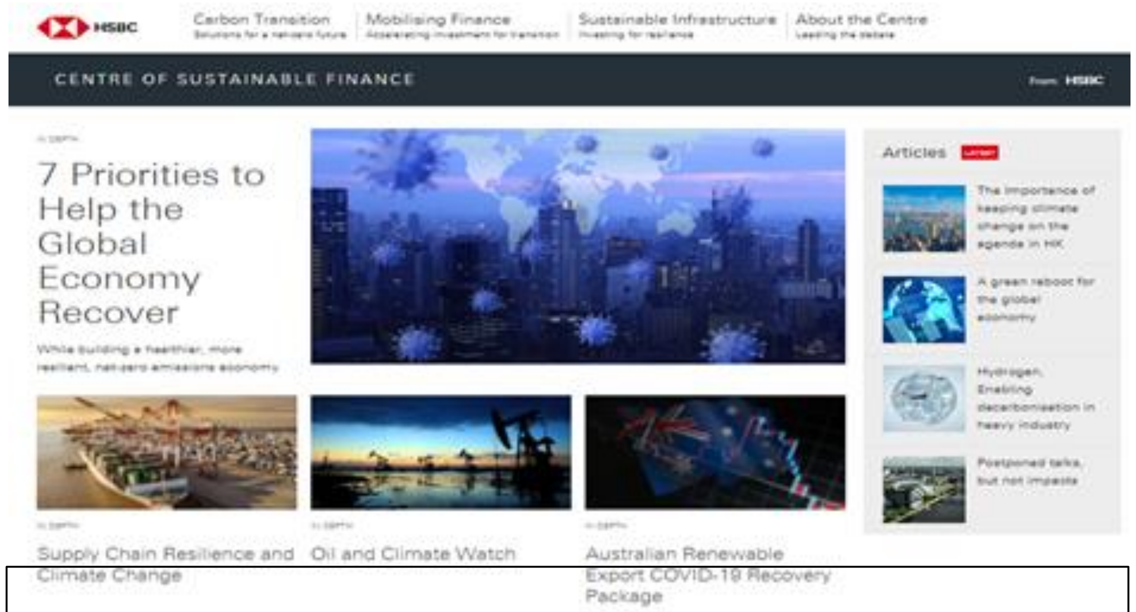
EXTEL IDENTIFYING EXCELLENCE

#1 Climate Change research for six consecutive years; #1 SRI and Sustainability

Overall Most Impressive Investment Bank for Green/SRI Capital Markets

GC GlobalCapital

HSBC Centre of Sustainable Finance



Target audiences

- Senior External Profile Building
- Influential leaders across finance and industry
- Internal: Support for Board Level Engagement
- Internal: Business Development

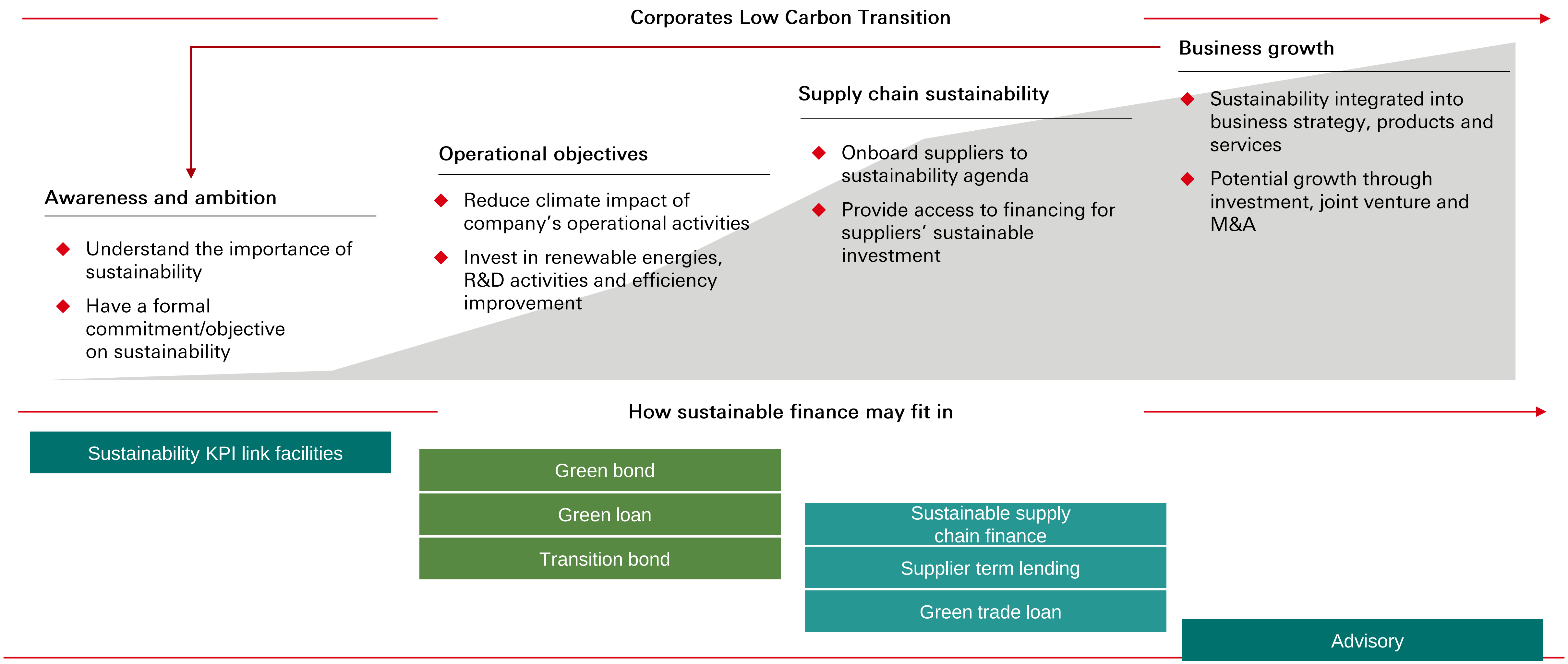
Track record in building market awareness

- HSBC Centre of Sustainable Finance published 26 reports and articles through its public website and attracted nearly 65,460 site visits in 2020 year to date (Jan-May)

Proposition

- The HSBC Centre of Sustainable Finance supports HSBC's ambition to support a low-carbon transition by providing thought leadership about transforming the real economy and strengthening the financial system response to climate change.
  - Carbon Transition – Solutions for a net-zero future
  - Mobilising Finance – Accelerating investment for transition
  - Sustainable Infrastructure – Investing for resilience
- In partnership with subject matter experts
  - Internal:
    - Global Research, Sustainable Finance colleagues
  - External:
    - Universities – Tsinghua, Imperial College London, Columbia
    - Industry Coalitions – Energy Transition Commission, Network for Greening the Financial System
    - Think Tanks – Singapore Institute of International Affairs
    - NGO's – Climate Bonds Initiative
    - Philanthropy Partners – World Resources institute, WWF
- Providing education and outreach
  - Client Engagement
  - Speaker Series

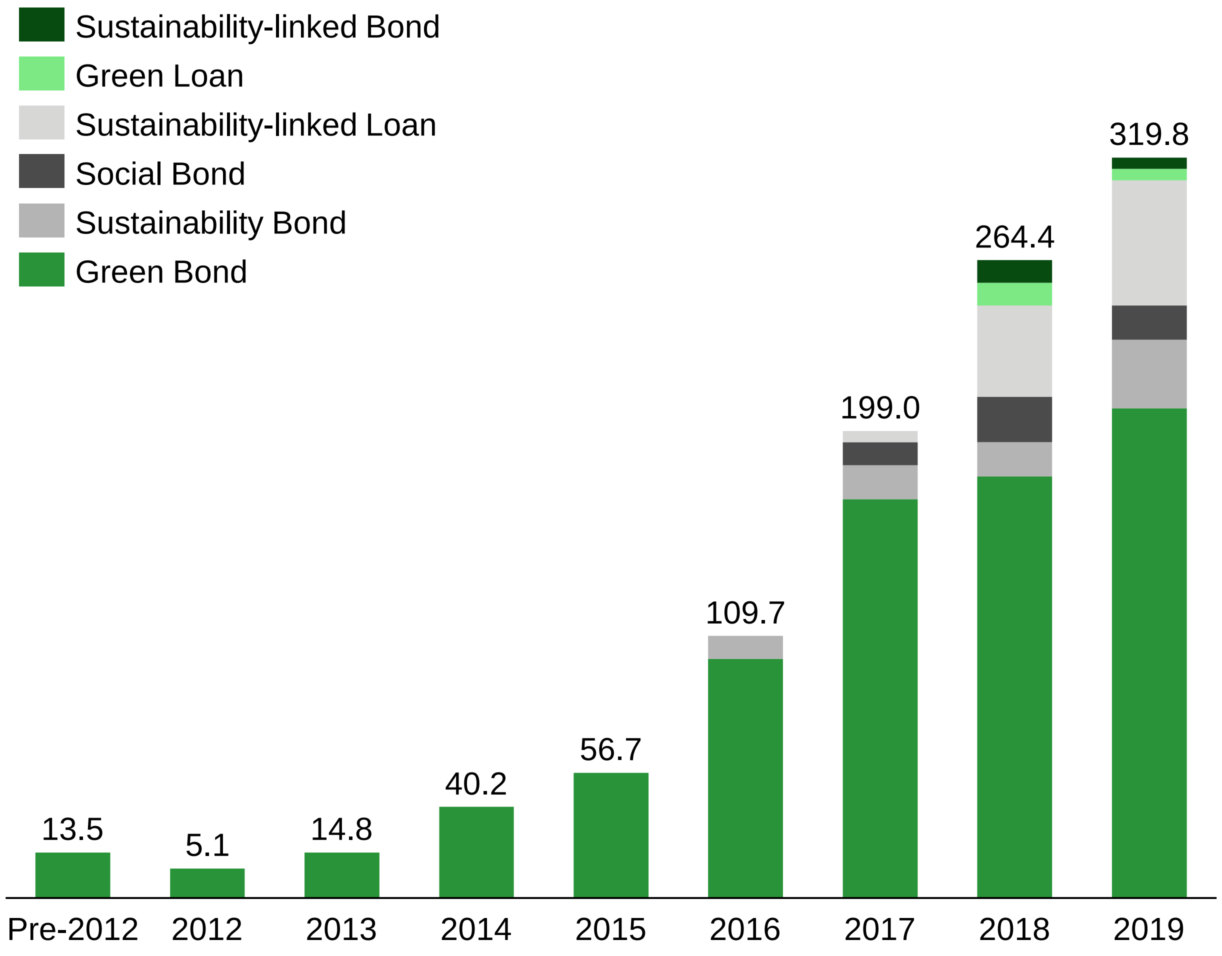
HSBC - Supporting clients in low-carbon transition



Green bonds contribute over half the market, but products are diversifying

Total global market volume

USDbn



HSBC Sustainable Finance as of 2Q2020 (cumulative)

HSBC

	USDbn
Facilitation	~49.5
Financing	~17.0
Investment	~4.9
Total	**71.4**

Source: BloombergNEF
HSBC Research Green Bond Insights (January 2020)

HSBC – Sustainable Finance Products Offering

Supporting key sustainability activities:

- Renewable energy
- Clean transportation
- Energy efficiency
- Sustainable water and wastewater management
- Pollution prevention and control
- Climate change adaptation

Defined use of proceeds (e.g. capex investments)

Green Bonds	Green Loans/RCF	Transition Bonds
Used for environmental benefits, aligned with Green Bond Principles (GBP)	Used for environmental benefits and aligned with Green Loan Principles (GLP)	Used for financing projects that show significant improvement in emissions performance in carbon intensive industries

Sustainability linked (e.g. working capital)

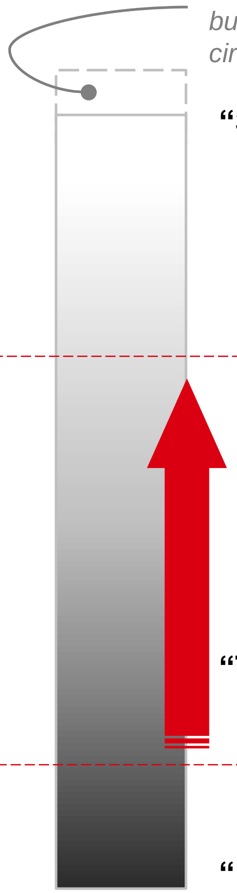
Sustainability Linked Loans	Sustainable Supply Chain Finance
Margin of loan is linked to the ESG/Sustainability score of the company	Encourage suppliers by tying pricing of working capital solution with supplier's sustainability score/rating/certification

Investments

Green Deposit	Sustainable Investment Funds and ETFs
Cash deposits to provide financing for green projects and initiatives	Investment vehicles linked to sustainability themes and requirements

From brown to green; supporting hard-to-abate sectors and clients with transition finance

Description



Emerging new technologies and business models, e.g. circular economy

"Sustainable"
- Activities consistent with the requirements of a low-carbon economy

"Transition"
- Activities that provide a material reduction in carbon emissions and are consistent with a pathway toward achieving net-zero emissions by 2050 however are not yet end state solutions

"Unsustainable"
- Activities no longer viable or consistent with a pathway toward achieving climate goals

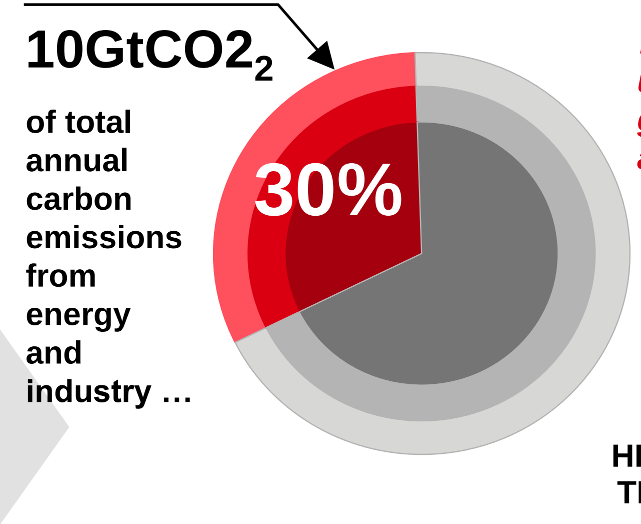
HSBC approach / opportunities

- Promotion of **'green' and 'sustainable' labelled financing** and investment products with clear 'use of proceeds'
- **Business growth** linked to sustainable business models and investment opportunities
- Introduction of **'sustainability-linked' financing** with clear performance targets for borrowers
- Focus engagement on **energy and 'hard to abate' sectors** to support investment in decarbonisation efforts and business model shift
- **Promote increased disclosure and for transition risk sectors** on capital expenditures and investment activities

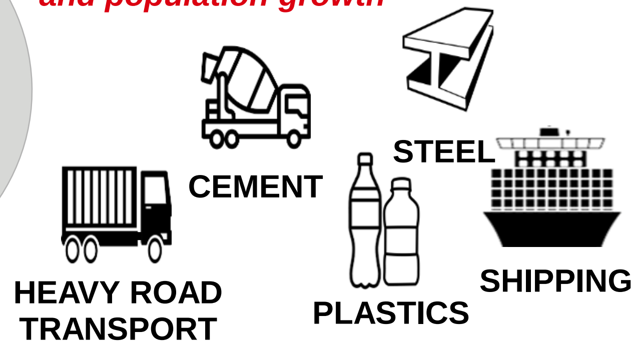
Decarbonising hard-to-abate sectors with transition finance

$10GtCO2_2$

of total annual carbon emissions from energy and industry …



…and emissions will increase under BAU as demand for materials grows in response to urbanisation and population growth



2021: COP26 to raise ambition on climate action – Finance plays a critical role

Overall priorities		Finance deep dive	
Adaptation and resilience	▪ Look into opportunities to **improve responses** to climate impacts and **access to adaptation finance** ▪ Helping people, economies and the environment adapt and prepare for the impacts of climate change	**Reporting**	▪ Private sector to **refine TCFD climate-related financial disclosure** to increase quantity and quality of reporting ▪ Agree potential **paths to mandatory reporting** at domestic and international levels ▪ **Build coalitions** of countries who mandate reporting and companies committed to full climate disclosures
Nature	▪ Opportunities to look at **environmental regulation around supply chains** and **channel finance** to invest **in nature based solutions**, which also act as **natural carbon sinks**. ▪ Safeguarding ecosystems, protecting natural habitats and keeping carbon out of the atmosphere	**Risk management**	▪ Assess **the resilience of firm's strategies to net zero transition** through stress tests ▪ Develop **open source, business-relevant reference scenarios for regulators, financial firms and businesses to test strategic resilience** ▪ Establish **coalition of central banks and regulators** committed to issuing guidance on risk management and running stress tests
Energy transition	▪ **Invest** in the innovation to help **accelerate** the **transition to clean energy**. ▪ **Empowering developing countries** to **leapfrog the polluting options** of the past and embrace the clean energy of the future ▪ Seizing the massive opportunities of cheaper renewables and storage	**Return**	▪ Enable investors to make informed **decisions on whether companies and portfolios are transition ready** ▪ Agree **metrics to measure net zero/alignment** of investment portfolios ▪ Build **coalition of financial institutions** that commit to net zero alignment and measurement and disclosure of progress
Zero-carbon road transport	▪ Industries and countries to work together to **bring forward the date** when **zero-emissions vehicles** will not only be cleaner, but also **cheaper**, than petrol and diesel. ▪ By 2040, over half of new car sales worldwide are projected to be electric.	**MDBs / DFIs**	▪ Encourage MDBs to report their **own emissions and exposure to climate risks**, in line with TCFD ▪ Realise MDBs' **commitments to transition plans to achieve Paris Alignment** ▪ Explore **rapid expansion of blended financing** for climate resilience, adaptation and mitigation
Finance	▪ Unleash the finance which will facilitate the priorities and power the shift to a zero carbon economy. ▪ **Funding needs** of **USD7trn** a year up to 2030 to meet the Paris Agreement (OECD estimates) will need **to come from** both the **private sector and** the **publicsector**.	**Innovative finance**	▪ Work with the **private sector to promote the most promising and impactful financial innovations** in sustainable finance (including transition bonds, contingent climate securitisations, and the scaling up of rapid private markets for carbon offsets and nature-based solutions)

7 climate priorities to support green recovery and low-carbon transition in 2020

Unleash massive investment in renewable power system

Boost the construction sector via green building and infrastructure

Support automotive sector in the transition to a low-carbon economy

Make the second wave of government support for business conditional to climate commitments

Target innovative low-carbon activities

Accelerate phase out of fossil fuels and promote diversification

Protect higher carbon pricing and regulation

Appendix: 7 Priorities to build back better

1. Unleash massive investment in renewable power systems [1]

Rational for the recommendation

- **High return:** a multiplication by 10 of the pace of renewable deployment will be required.
- **Major driver of job creations** due to the expansion of renewable power
- **End user power price decrease:** renewable power often remains cheaper than fossil fuels based thermal power generation, which will also benefit the economic recovery

Relevance for climate change

- **Crucial for global decarbonisation** as electrification is critical for energy end-users to achieve net-zero.
- **The largest contributors to global greenhouse gas emissions**, responsible for 25% of global greenhouse emissions. [2]

Demand drivers

- **Companies making Net-Zero targets:** the transition to a low-carbon economy is underway and accelerated globally[3]

How the initiative should be implemented?

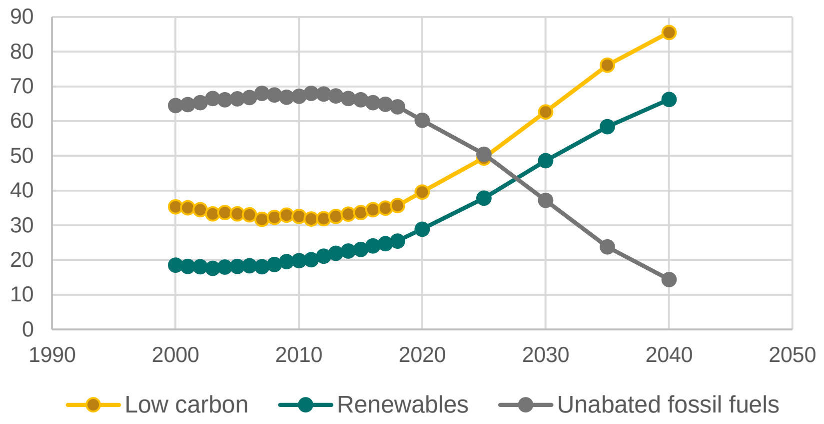
- **More active involvement from government is required:**
  - de-risk private investment
  - enable a new wave of investment in transmission and distribution grids
  - support investment in renewable power systems via lending and investing of government-sponsored development finance institutions
  - accelerate the process for new project

Case studies

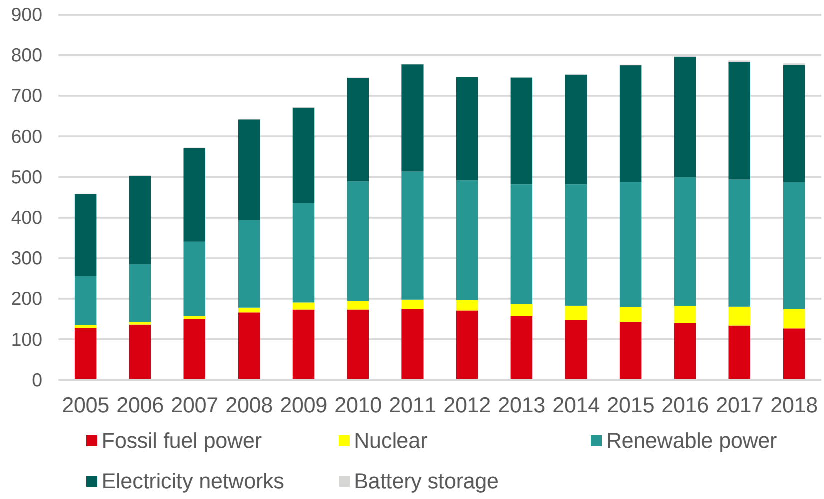
The North American unit of French energy group Engie SA has secured up to USD 1.6 billion (EUR 1.46bn) in tax equity financing for its 2-GW portfolio of renewables assets in the US in April 2020.

Development of renewable generation[4]

Share of global electricity generation by source (%)



Global power investment by technology 2005-2018



1. 7 Priorities to help the global economy recover
2. CDP: Charged or static: Which European electric utilities are prepared for a low carbon transition?
3. 876 companies are taking science-based target action and 365 companies have proved science-based targets.
4. IEA – Tracking Power

2. Boost the construction sector via green building and infrastructure [1]

Rational for the recommendation	– **Sector recovery:** provide an initial wave of demand for the construction sector rapidly – **Economy recovery:** the construction is labour-intensive and having a knock-on effect on many industry sectors in its supply chain. – **Benefit to rapidly urbanising countries:** the build-up of new residential and commercial buildings can be a driver of economic recovery – **A unique time window** for buildings to undertake energy retrofitting work while the premises are mostly empty.
Relevance for climate change	– Building and construction account for 36% of global energy use and 39% of energy related GHG emissions.
Demand drivers	– **Cost effectiveness of green buildings** as they translate into lower energy bills.
How the initiative should be implemented?	– **Investment required** in buildings, energy infrastructure beyond power, transport infrastructure, digital infrastructure and resilient urban infrastructure – **Prioritise materials with lower carbon content:** public procurement practices for buildings and infrastructure can be designed to prioritise materials with lower carbon content, thus sending a clear market signal up the supply chain for the development of low-carbon cement, steel, and other sustainable materials.

Case studies

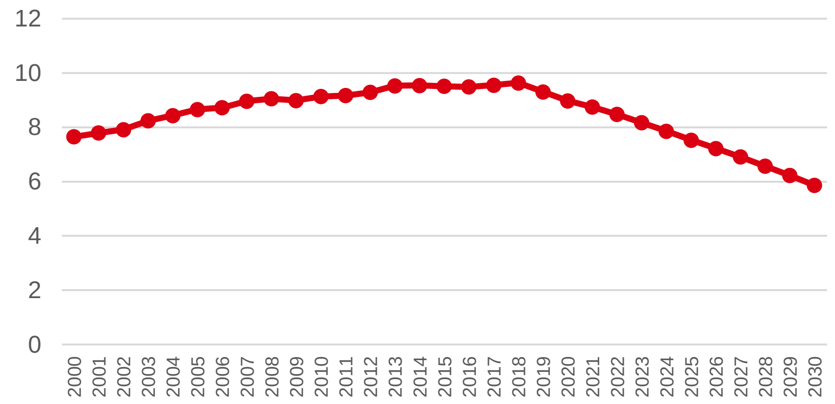
City leaders aims to shape green recovery from coronavirus crisis (The Guardian, May 1st)

In the C40 group of cities, mayors discussed measures to support a low-carbon, sustainable path out of lockdowns, ***ranging from huge retrofitting programmes to make buildings more energy efficient, to mass tree planting and investment in solar and wind power.***

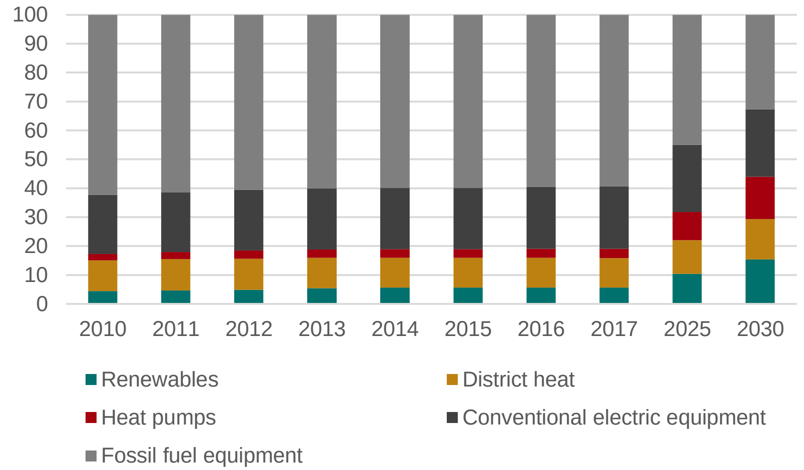
C40 CITIES

Development of Green Building[3]

Building Sector CO2 under sustainable development scenario (Gt)



Building heating technology under sustainable development scenario (%)



1. 7 Priorities to help the global economy recover
2. United Nations Environment Programme
3. IEA – Tracking Power

3. Support the automotive sector while pursuing clean air [1]

Rational for the recommendation

- **Incentivise mobility**, key to social and economic recovery
- **Reduce air pollution** in cities due to the shifts to electric vehicles (EVs)
- **Achieve cost-competitiveness of electric vehicles (EVs)** by driving ever-increasing EV sales to reach economy of scale effects

Relevance for climate change

- Road transport accounts for **nearly 12% of total greenhouse gases** or ~6 GtCO2 and could rise to ~12 GtCO2 by 2050 under business as usual.[2]
- Despite the growing attention to **Battery Electric Vehicles** (BEV's), they only account for about **1%** of the total vehicles on the road. [3]

Demand drivers

- **Desire for clean air:** lower levels of air pollution count among the positive dimensions of the COVID-19 crisis that citizens would like to continue benefitting from after the crisis

How the initiative should be implemented?

- **Policies stimulating demand**, in the form of vehicle-scrapping and purchase subsidies, with greater support for EVs than for ICES.
- Cities could also develop **two/three-wheelers-on-hire and car-sharing schemes**
- Any direct support to car manufacturers could be **subject to setting an ICE production phase-out date**

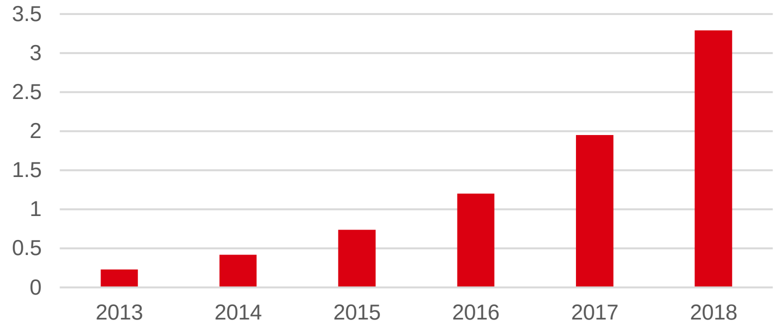
Case studies

Electric cars take the spotlight in China's post-coronavirus stimulus plans (CNBC)

China government has decided to extend the NEV subsidies and tax break policies by two years to 2022. China's electric vehicle start-ups have pressed ahead with getting production back online and launching new products.

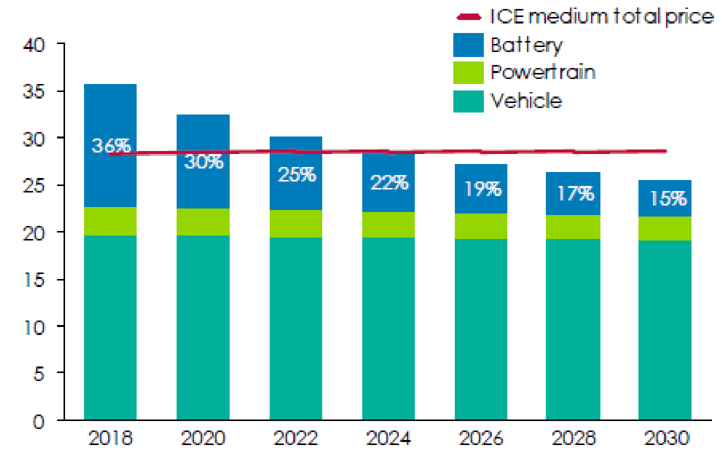
Development of electric cars[3]

Electric car deployment (millions)



BEV and ICE pre-tax prices in the U.S. and share of battery costs in the vehicle price

2018-30 (thousand 2018$ and %), medium size car segment



Source: Bloomberg New Energy Finance (2019), *When Will EVs Be Cheaper Than Conventional Vehicles?*

1. 7 Priorities to help the global economy recover
2. United Nations Environment Programme
3. Energy Transitions Commission: 'Mission Possible: Reaching Net-Zero Carbon Emissions from Harder to Abate Sectors by Mid-Century' (2018)
4. Material Economics: Industrial Transformation (2019)

4. Make the second wave of government support for business conditional to climate commitments [1]

Rational for the recommendation

- **Better resilience:** over the past few weeks, ESG portfolios have withstood the crisis better than conventional portfolios.
- **Lower transition risks:** companies will be invited to anticipate structural trends affecting their business models

Relevance for climate change

- Increasing number of companies making climate commitments **but not fast enough.**

Demand drivers

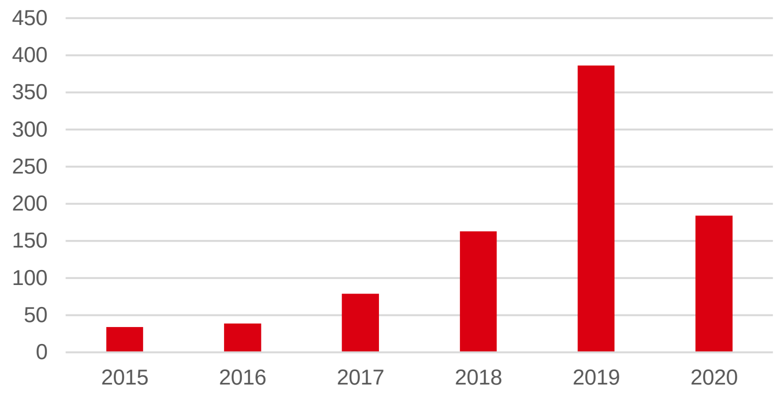
- Direct economic support to SMEs and bigger **corporates will be a lasting feature of recovery packages.**

How the initiative should be implemented?

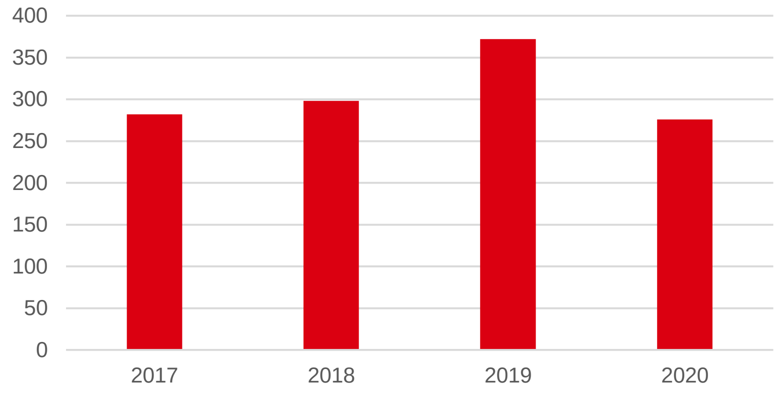
- Government funding should be conditional on **clear climate commitments**
  - Obligation to disclose climate related financial risks in line with **TCFD recommendations**
  - Defined decarbonisation targets for 2030, in line with **net-zero 2050;**
  - An investment plan outlining **how new investments will contribute to the companies' emissions reduction trajectory.**

Companies making climate commitments

Science-based target



TCFD



Case studies

The Guardian

New Zealand launches massive spending package to combat Covid-19

Stimulus amounts to 4% of GDP, as first tourists face deportation for failing to self-isolate

REUTERS

Denmark plans $6 billion aid package for small businesses

1. 7 Priorities to help the global economy recover

5. Target support to innovative low carbon activities[1]

Rational for the recommendation

- **Support scale up:** development and deployment of innovations in technology and business models will drive competiveness and reduce GHG's
- **Catalyse investment:** Stimulus could support investor and business confidence in investing in technologies (e.g. hydrogen, new battery chemistries)

Relevance for climate change

- Innovation technologies are critical to deep decarbonisation across sectors, e.g. heavy transport, steelmaking, cement, shipping, aviation, oil & gas

Demand drivers

- Increasing number of companies making climate commitments but technology risk and competitiveness is a barrier to scale up.

How the initiative should be implemented?

- Government should qualify innovative technologies within low carbon policy schemes (green hydrogen, low carbon fuels and building materials)
- Public funding should de-risk early stage innovation projects (e.g. loan guarantees, low cost capital)
- Public mandates should stimulate demand at scale and tighten obligations over time (e.g. sustainable aviation fuel mandates, lifecycle emission regulations on cars and buildings)

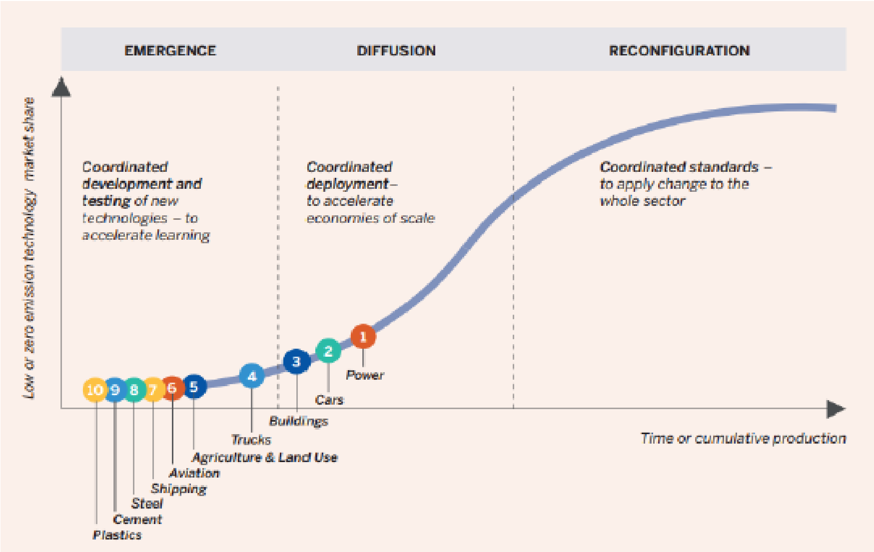
Recent news

***Australia** announced a AUD $300 million Fund to jumpstart hydrogen projects – May 2020*

***EU** officials acknowledged green hydrogen as the "holy grail", in sectors that lack fossil fuel alternatives. The European Commission has earmarked clean hydrogen as a "priority area" for industry in its Green Deal – May 2020*

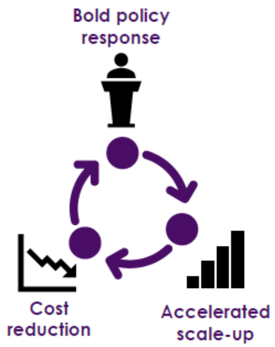
Unlocking capital to support scale up across sectors

Progress of sectors' low carbon transitions



ETC (2019), Accelerating the low carbon transition

Accelerate scale up



1. 7 Priorities to help the global economy recover

6. Accelerate the phase out of the fossil fuels and promote diversification[1]

Rational for the recommendation

- **Falling fossil fuel demand and price wars:** Underscores the risks of stranded assets and undermines the shift to RE and EV's
- **Falling RE prices and greater electrification**: Creating downward pressure on fossil fuel industry outlooks and the value of invested assets

Relevance for climate change

- **COVID-19**: Presents opportunities for policy makers to remove remaining fossil fuel consumption subsidies and accelerating the early-phase out of fossil fuel assets

Demand drivers

- **Re-directing subsidies** in new growth areas could lead to long-term growth and diversification of energy companies and oil producing nations

How the initiative should be implemented?

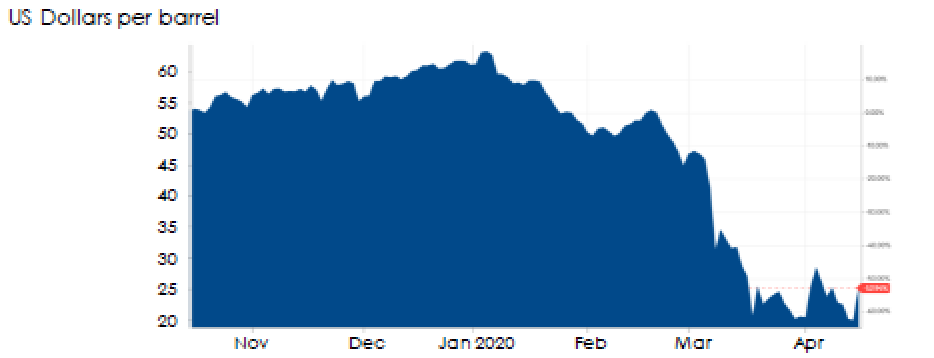
- Government can **accelerate the transition to fossil fuel free activities by**;
  - **Removing subsidies** made unnecessary in a period of low prices
  - **Increasing fossil fuel taxes** and generate productive sources of fiscal revenues in a time of high public spending
  - Support oil producing economies by **phasing out lease competitive assets**. Alternative energy businesses can deliver diversification and job creation.

Recent news

__Canada__ extended it's carbon-pricing program nationwide by imposing a tax on fossil fuels in four provinces that refused to take part in the pan-Canadian Climate Framework

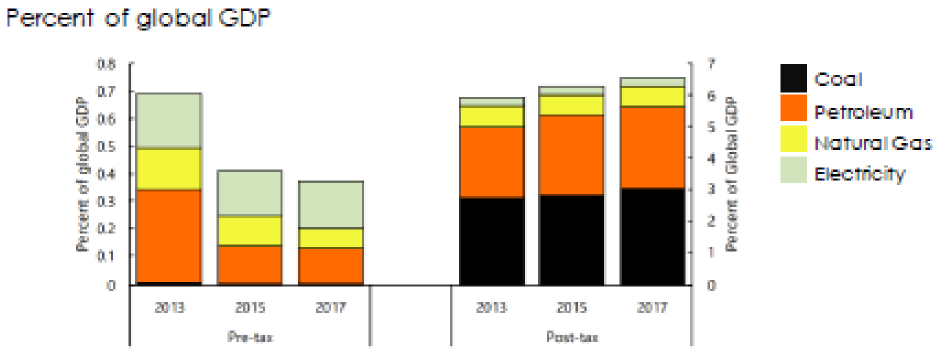
Fossil fuels current snapshot

Oil prices – 6 month view



Source: Market insiders website

Global energy subsidies by energy product (2013-2017)



Source: David Coady, Ian Parry, Nghia-Piotr Le, and Baoping Shang (2019), IMF Working Paper, *Global Fossil Fuels Subsidies Remain Large*

1. 7 Priorities to help the global economy recover

7. Protect higher carbon pricing and regulation[1]

Rational for the recommendation

- **COVID-19 crisis** has provoked immediate drop in EU ETS prices, undermining progress in creating long-term economic benefits from low-carbon transition
- **Carbon regulations** under greater scrutiny in wake of low fossil fuel prices and push for greater de-regulation due to COVID-19 recovery

Relevance for climate change

- **Sufficiently priced carbon pricing** creates the business case to invest in low carbon transition activities. Companies are motivated to improve energy efficiency and adopt new low carbon technologies.

Demand drivers

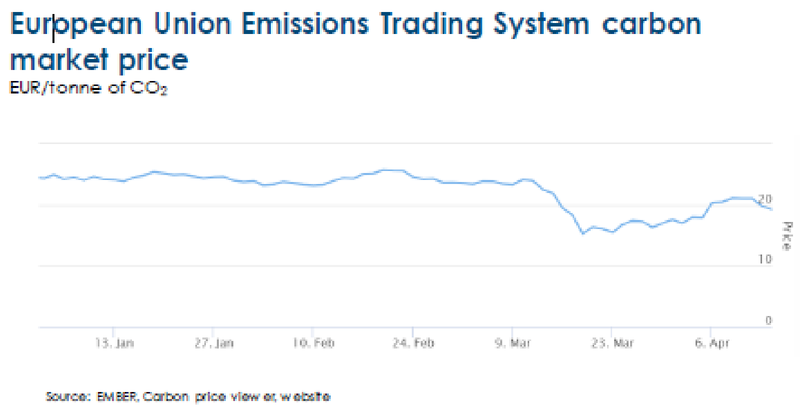
- **Several sectors require significant carbon prices** (~USD 100) to drive emission reductions and stimulate demand for low carbon products and services

How the initiative should be implemented?

- Governmental support of sufficient carbon pricing is critical in the context of COVID-19 and climate resilient economic recovery
  - Support carbon regulations in the short term to incentivize corporates
  - Tighten the carbon market by deleting allowances
  - Introduce a carbon price floor
  - Provide public investment in low carbon infrastructure and create competitive protections for companies in the early phases of transition (e.g. EU Border Tax Adjustment

Carbon pricing around the world

EU ETS Prices



Examples:

>40 countries have adopted a form of price on carbon either through direct taxes on fossil fuels or through cap-and-trade programs

- ***Britain**: A carbon tax has prompted utilities to transition away from coal*
- ***China**: China is experimenting with a cap-and-trade program in several pilot cities, with plans to roll out a nation wide program and targeting sectors like electricity, steel and concrete*
- ***Norway:** Norway has instituted among the highest carbon prices, since setting the goal to become a low-carbon society by 2050 and committing to a 80-95% reduction in emissions*

1. 7 Priorities to help the global economy recover