



REPLY VIRTUAL EVENT

ROUNDTABLE ON THE SUSTAINABLE FINANCE, CLIMATE AND ESG RISKS: CHALLENGES AND OPPORTUNITIES IN FINANCIAL SERVICES

November 24, 2020

Moderated by Chris Rossi of Avantage Reply



AGENDA

1. Introduction – 5 minutes
2. Speaker presentations – 40 minutes
3. Q&A with speakers and the public



WHY ARE WE TALKING ABOUT SUSTAINABLE FINANCE?

The basics

The European Commission states that “**Sustainable finance** generally refers to the process of taking due account of **environmental, social and governance (ESG) considerations** when making investment decisions in the financial sector, leading to increased **longer-term** investments into sustainable economic activities and projects.”

Public Policy and Markets Converge

Sustainable Development Goals (UN) compel policy makers to **rethink the orientation of economies to mitigate GHG emissions**, among other things.

Public policies promoting sustainability throughout the world **focus a lot of attention on financial markets**.

Many financial organizations are major proponents of sustainable finance anyway. Why?
The Market is a driving force.



The ordinary person is impacted

Sustainability is **increasingly important** to ordinary people.

You play a role in sustainable finance as a member of society as sustainability becomes ingrained in economic policy. Economic prosperity is perhaps the largest driver of a prosperous society.

The bottom line: sustainable finance highlights the concept that we are all stakeholders.



SOME OF THE HOT TOPICS WE COULD DISCUSS

There are many to choose from



A WARM WELCOME TO OUR PANELISTS!



Stephen Perich –
Managing Director |
Head of Energy,
Americas, UBS

In his role at UBS, Stephen is in charge of the Energy Investment Business, including Mergers & Acquisitions and Capital Markets advisory for the Americas.

Previously, Stephen was head of DB's energy office in Houston, and worked in the Natural Resources Group during his first stint at UBS. He has more than 15 years of experience in the energy sector, having started his career at Enron Corp.



Michael Viehs –
Head of ESG Integration,
Federated Hermes

As head of ESG Integration for International Business investment strategies, Michael works to ensure that the investment teams and the stewardship team have incisive ESG and sustainability information at hand to make better investment and engagement decisions for their clients.

Michael is responsible for ESG research activities to weigh new opportunities through the incorporation of ESG information in investment decisions.



Charlie Donovan –
Executive Director,
Center for Climate
Finance and Investment
at Imperial College
Business School

Charlie is a Professor of Practice in the Department of Finance. In his corporate career, Charlie was most recently Head of Structuring and Valuation for Global Power at BP plc. He was part of the strategy team that launched BP Alternative Energy.

Charlie began his career as an Energy Policy Analyst with the US Environmental Protection Agency during the Clinton Administration.



Elena Philipova –
Global Head of ESG
Proposition at Refinitiv
and TEG member at the
European Commission

In her role at Refinitiv, Elena leads the end-to-end management of the ESG business, products and solutions, helping to provide financial markets data and infrastructure to more than 40,000 institutions.

Elena is a member of the EU Technical Expert Group on Sustainable Finance, working on key issues such as Taxonomy, EU Green Bond Standards, and ESG Disclosures.



Doug Baird –
Head of Climate Stress
Testing and Pension
Risk, NatWest Group

Within Group Risk, Doug leads the development of the Group's climate scenario and stress testing capabilities, focusing on the Climate Biennial Exploratory Scenario for the Bank of England. He also heads up the Group Pension Risk team.

Previously Doug has led teams in both operational risk capital. Before joining NatWest Group, Doug worked for KPMG advising corporates on managing pension risk.



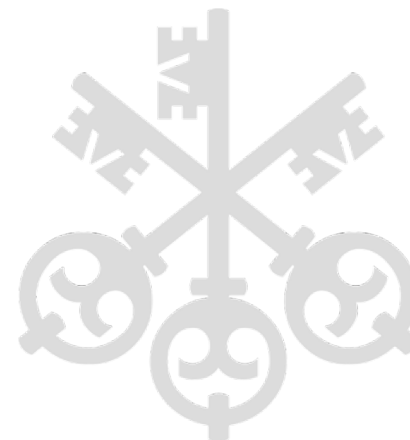
HERE WE GO!

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Roundtable on the Sustainable Economy, Climate and ESG Risks

Stephen Perich

November 24, 2020



“Energy Transition” is Now a Public Capital Markets Sector

Previous seed investments in the private capital markets are now maturing

- More than US\$1.5 trillion has been invested in ESG-committed funds over the past five years

Public markets now employing private market valuation metrics

- Revenue (instead of cash flow) multiples, often several years out, were previously used only in the VC and private equity contexts
- Today public market investors are increasingly comfortable with the explosive growth profiles shown by Energy Transition and ESG-focused technology companies

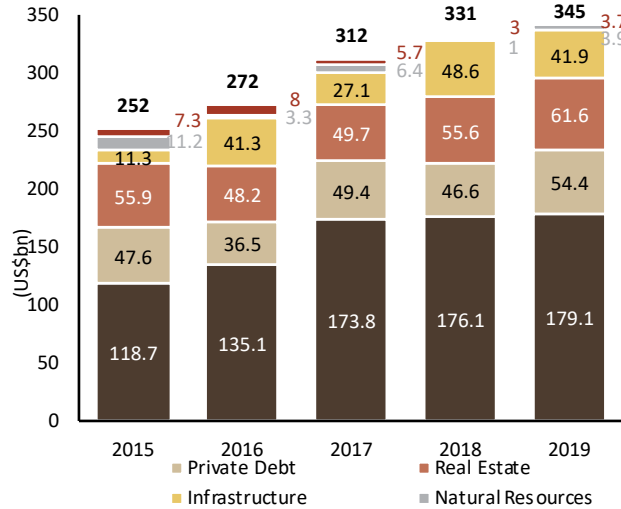
Equity and debt capital markets are hungry for more investment vehicles

- SPACs have led the way for the energy transition in the equity capital markets
- Share price performance and multiple expansion will lead to further investment and growth

Significant ESG Private Investment Seeking Public Markets Access

Increasing ESG-Focused Private Capital Will Be Seeking Exits

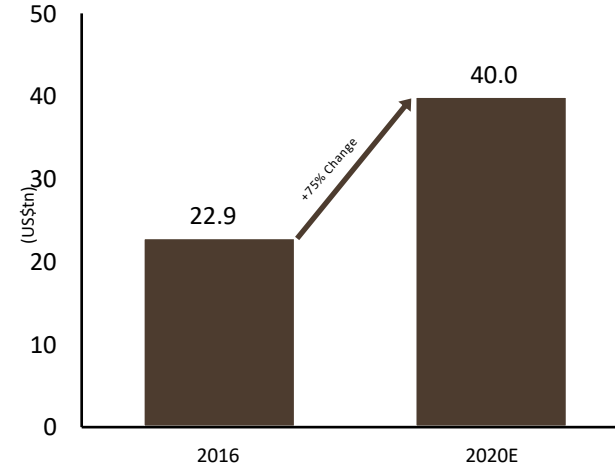
Aggregate Capital Raised by ESG Committed Funds by Asset Class



- US\$1.5 trillion invested in ESG-committed funds over past five years
- ESG-oriented private investments now ripe for exit

ESG-Focused Public Markets Capital Growth and Demand Accelerating

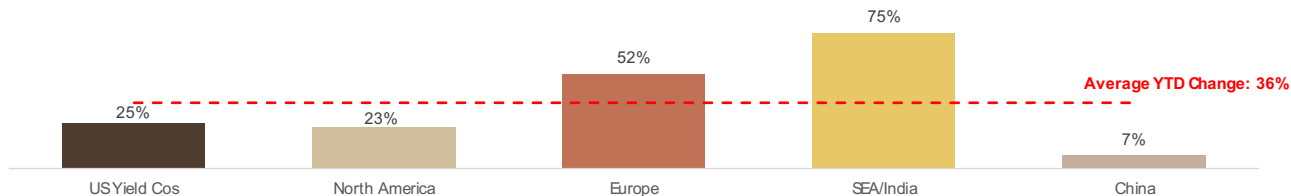
ESG Focused Public Funds



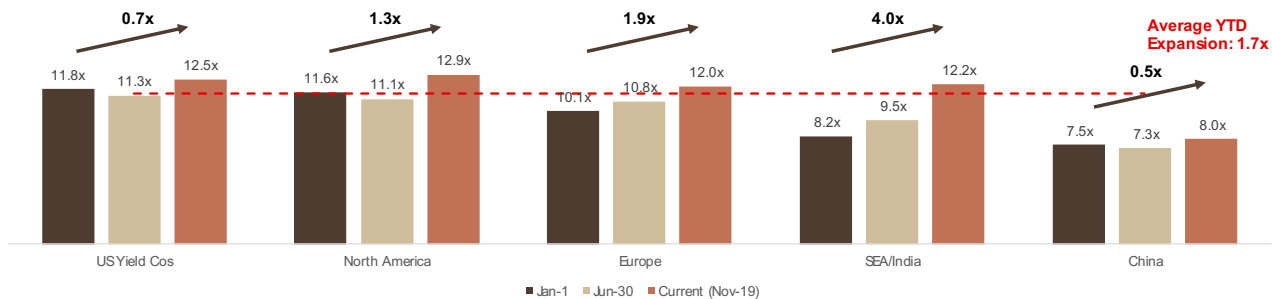
- Demand for ESG-oriented public companies increasing
- Opportunity to connect private investments to public markets

Renewables Valuations Have Increased Substantially in 2020

Renewable Utilities Stock Price Performance in 2020



Renewable Utilities Multiple Expansion in 2020 (TEV / 2021E EBITDA)



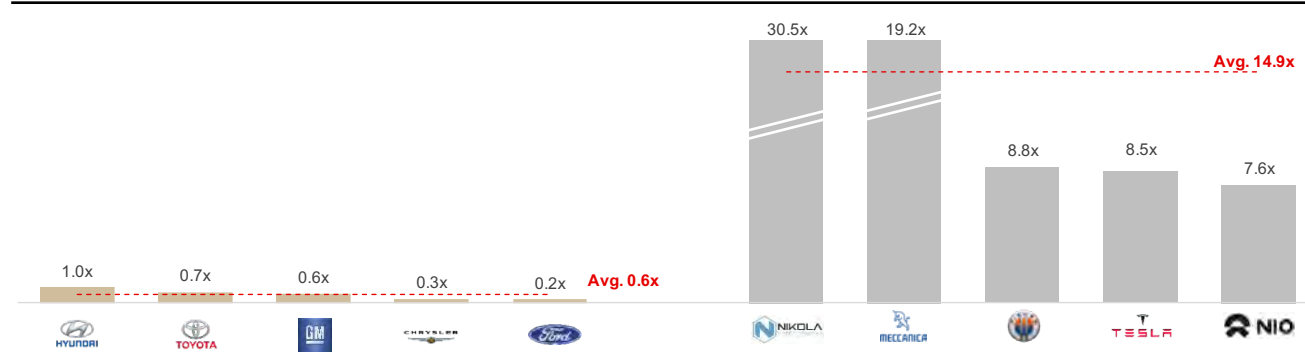
Source: Factset as of Nov 19, 2020

Note: Yildcos: Brookfield Renewable Partners, NexEra Energy Partners, Clearway Energy In, Atlantica Sustainable Infrastructure; North America: Ormat Technologies, TransAlta Renewables, Innegex Renewable Energy, Boralex Inc; Europe: Orsted, RWE, EDP Renewables, Acciona, Neonode, ERG SpA, Scatec, Capgemini, Solaria Energia y Medio Ambiente, Voltalia, Fisker, Albioma, Terna Energy, Audax Renewables, SPK, EnergieKontor, Grenergy Renewables, 7C Solarparken; India/SEA: Azure, Energy Absolute, Adani Green Energy, FGEN, CKP, BCPG, NHPC Limited, Gunkul Engineering, SPCG Public Co, TPC Power Holding Co; China: China Yangtze Power, Huaneng Lancang River Hydropower, China Everbright Environment Group, China Longyuan Power Group, Huadian Fuxin Energy Corp, Beijing Jingeng Clean Energy Co, China Suntieng Green Energy Corp, Concord New Energy Group, China Datang Corp Renewable Power Co

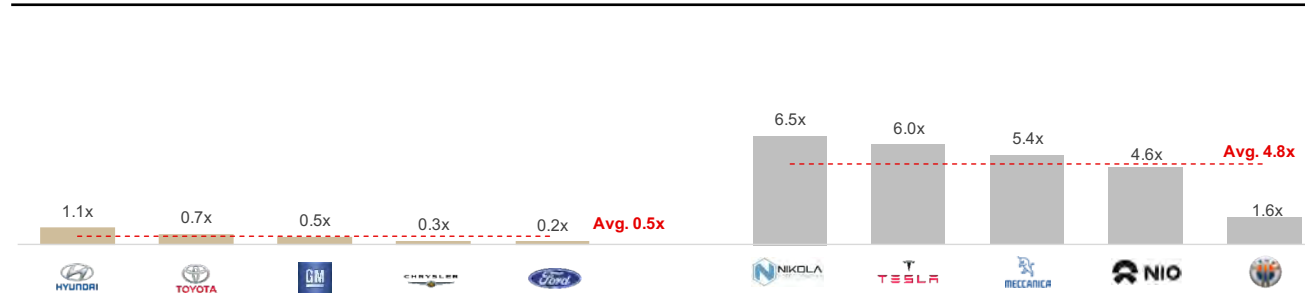
Revenue Multiples are the New Cash Flow Multiples

Electric vehicles trade at significant premiums vs. traditional auto manufacturers

Current EV / 2022E Sales

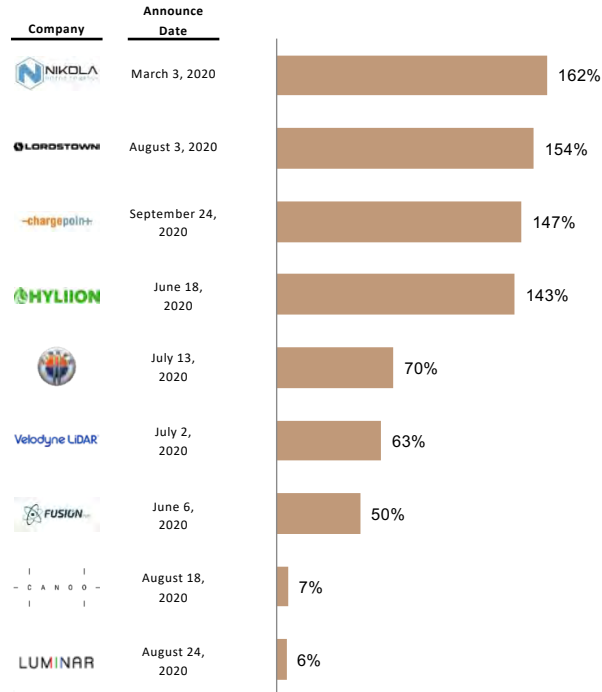


Current EV / 2023E Sales



SPACs Leading the Way In the Energy Transition Public Markets

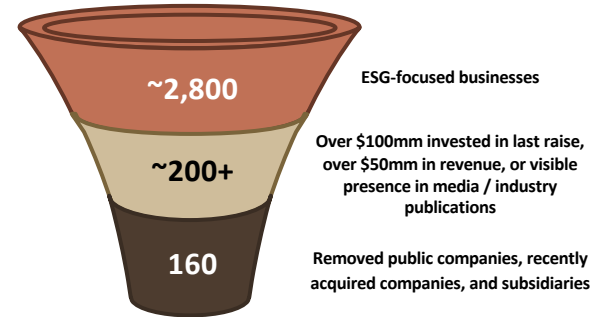
Clean Mobility Price Performance Since De-SPAC¹



Growing Opportunity Set

- ✓ Energy transition sponsors actively looking to invest in energy transition via SPACs: **15 SPACs currently looking for targets**
- ✓ Top sponsors actively investing in the sector; ~\$11 billion invested in 2020, 2x of 2019
- ✓ Energy private equity has raised energy transition funds; Apollo, NGP, Quantum
- ✓ International capital seeking opportunities in the US; \$2-5bn of cross border M&A in the last 3 months
- ✓ 500+ private companies active in the space looking for either monetization and / or funding capital

Selected Private Landscape



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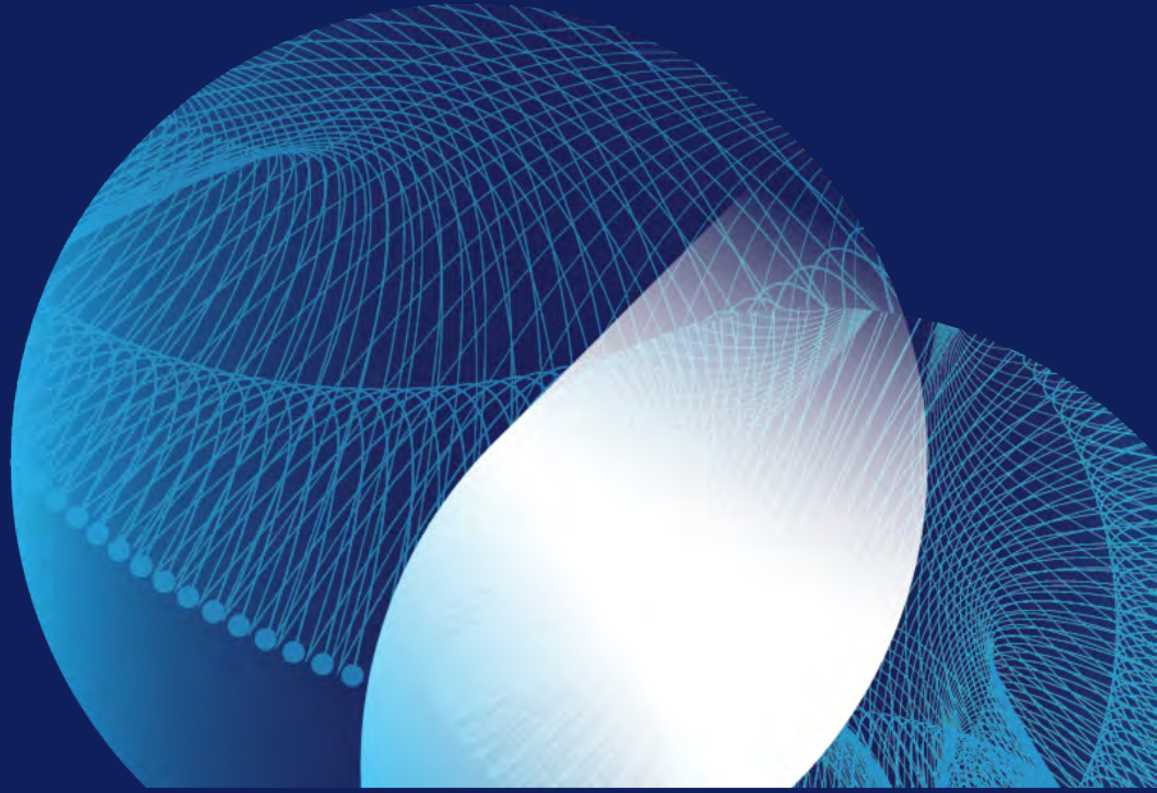
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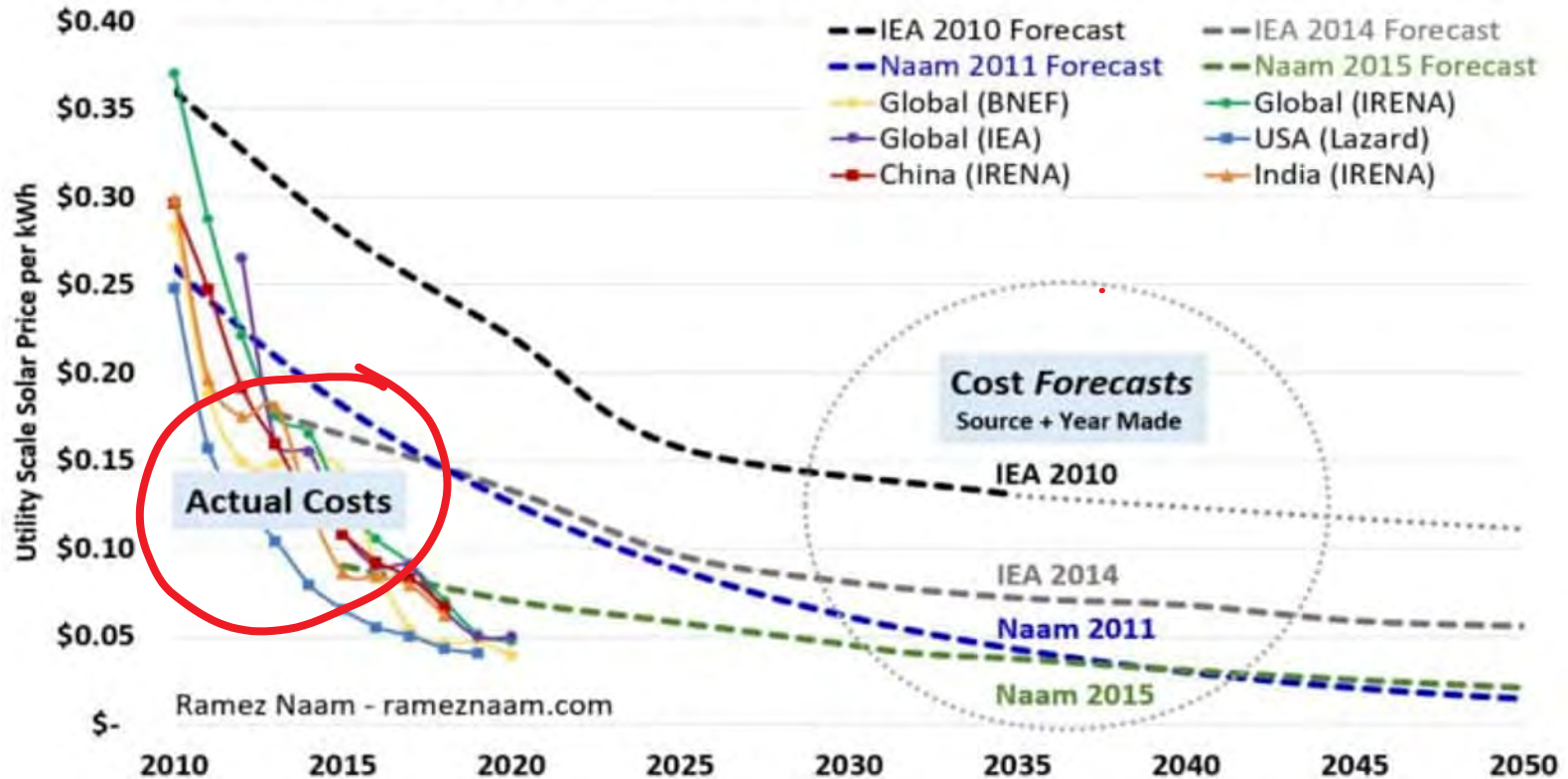
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Dr Charles Donovan
Executive Director



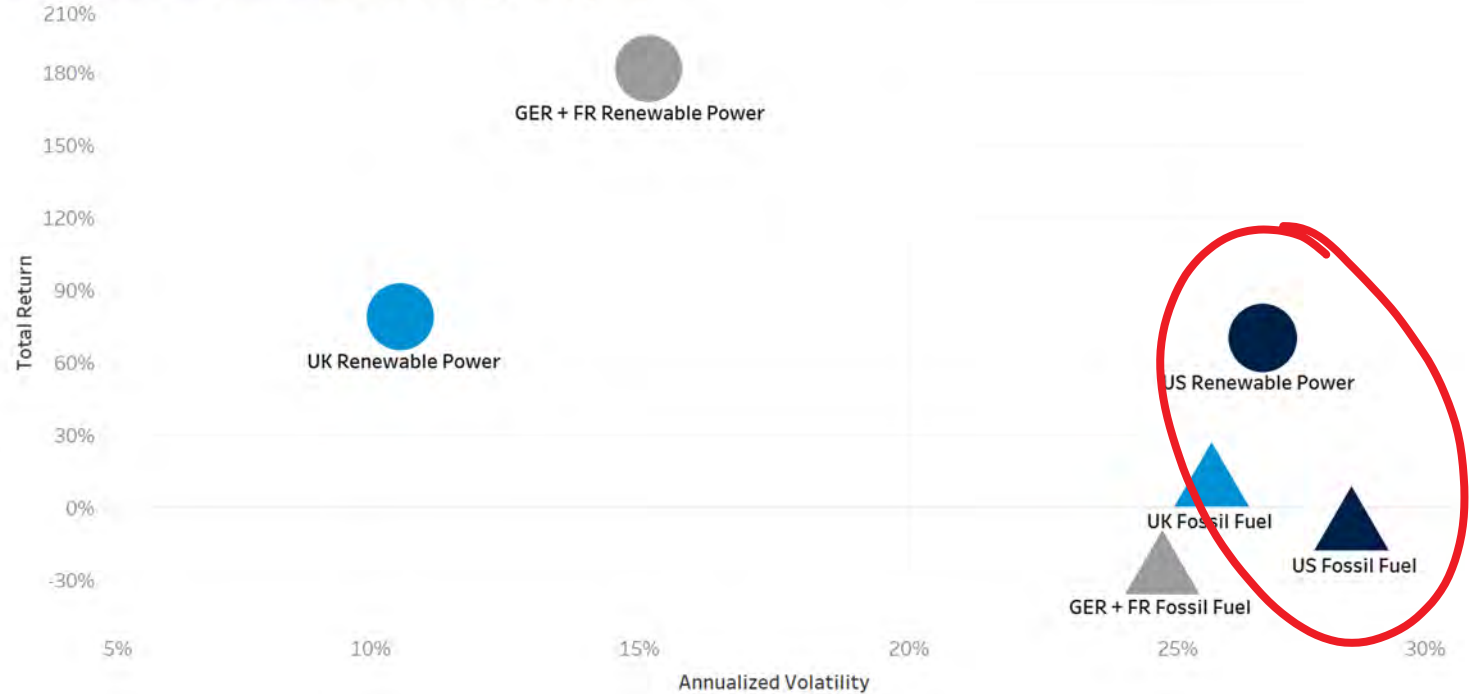
We are in the midst of a “Clean Tech Miracle”

Solar Costs Are Decades Ahead of Forecasts



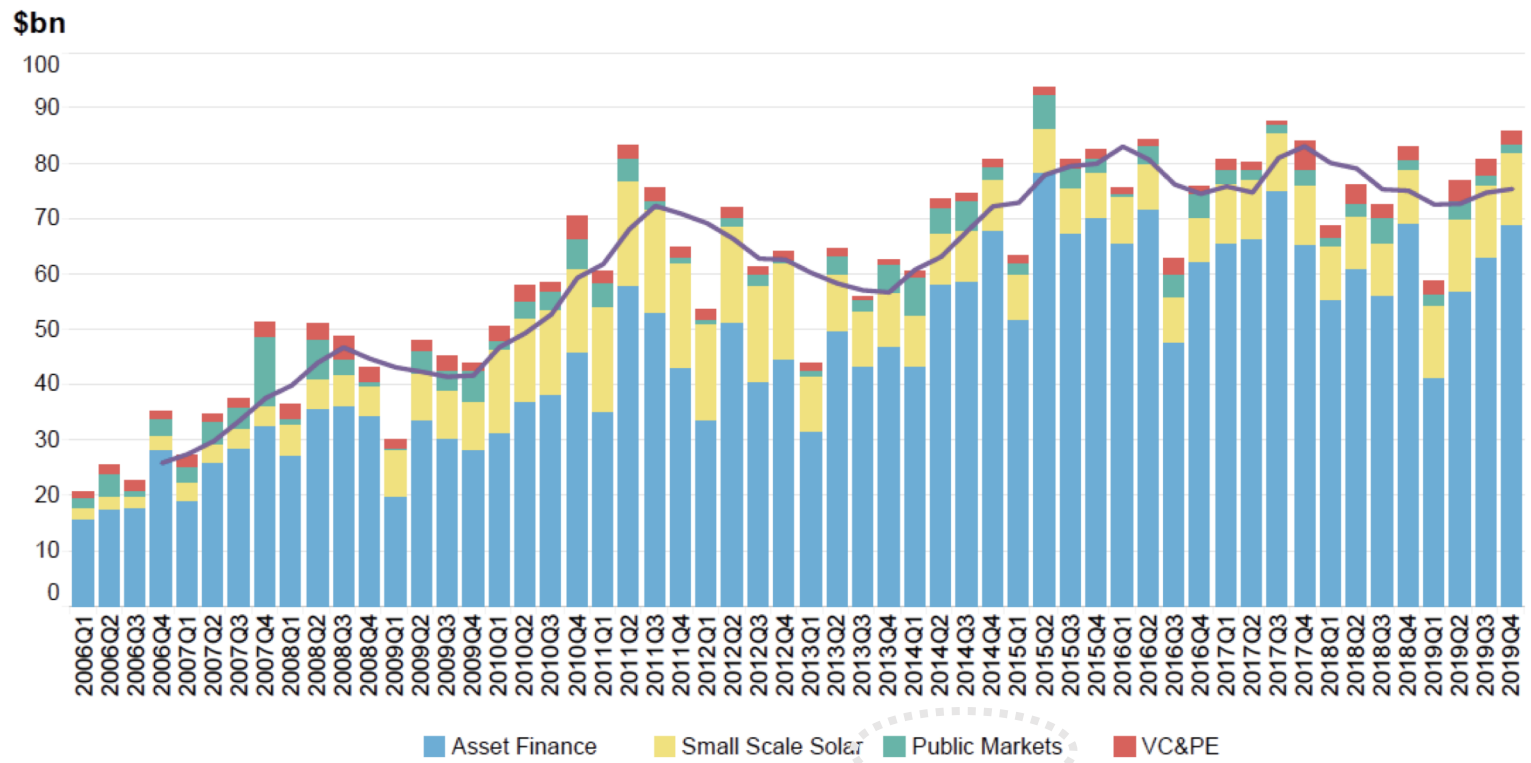
Historically, Higher Financial Returns (in Listed Equity Markets) for Renewable Power than for Fossil Fuels

Total Return and Annualized Volatility (5 years)



Source: Imperial & IEA

Yet Public Markets Are Making A Weak Contribution Towards New Investments in Clean Energy (Chart 2006 – 2019)



Source: BNEF Clean Energy Investment Trends 2019

To Drive Capital Flows, We Need Better Information About the Factors Driving Investment Returns

Style Factors



Value



Size



Momentum



Volatility



Quality

Drivers of Financial Return (2/3)

Macro Factors



Growth



Interest Rates



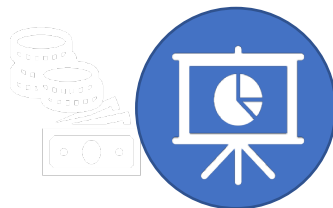
Inflation

Drivers of Financial Return (3/3)

Emerging Climate-Related Factors



Market
Regime



Carbon



Commodity
Prices

Summary

- 1) Technology is not the bottleneck**
- 2) Capital markets need to evolve, now**
- 3) Choices today lock-in the energy system of the future**

To access the joint Imperial/IEA report

- <http://imprl.biz/energyinvesting>

For more resources on teaching and research

- <http://imprl.biz/WhatIsClimateRisk>

B Imperial College
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Finance & Investment

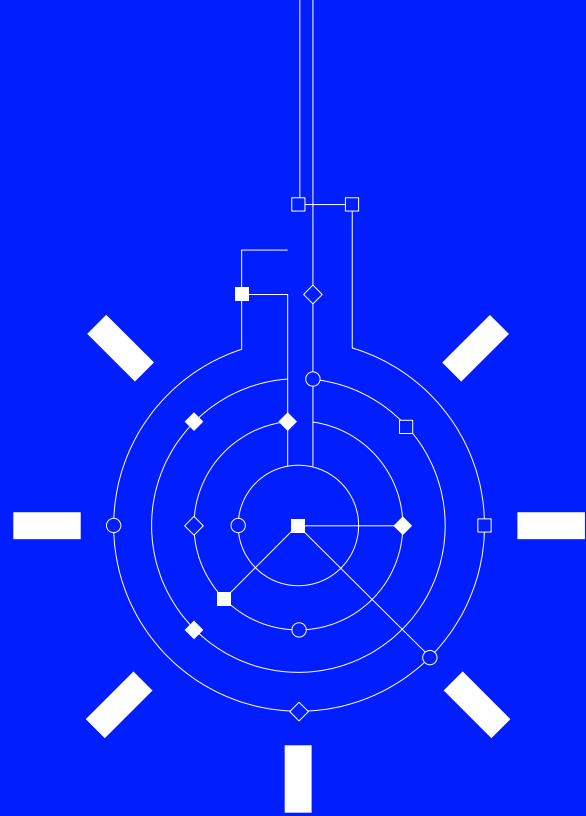


Sustainable Finance Regulation

Elena Phillipova

Global Head ESG, Refinitiv

Technical Expert Group (TEG), European Commission



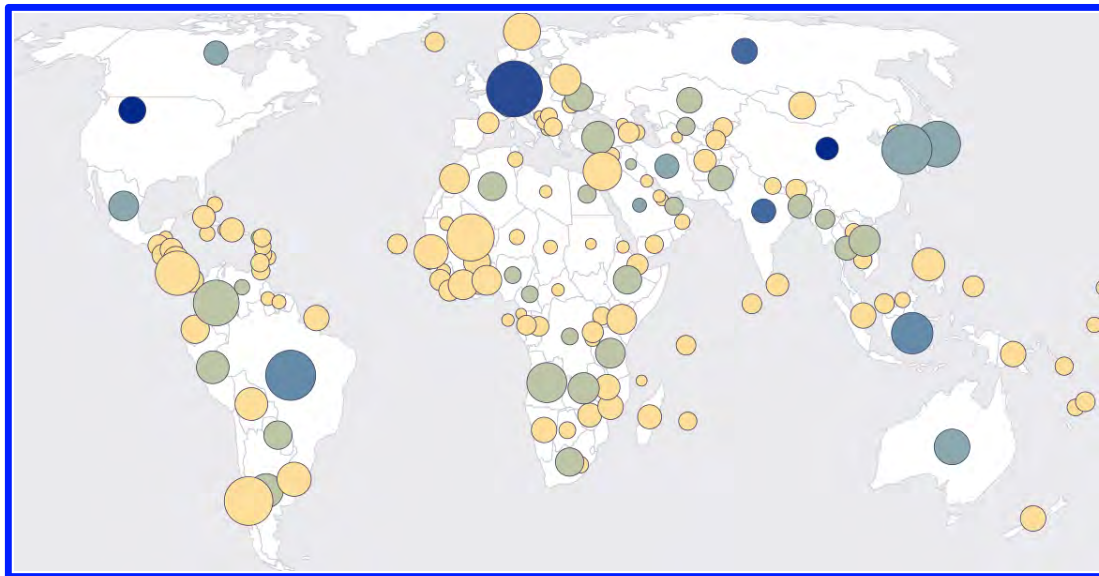
REFINITIV™

DATA IS JUST
THE BEGINNING



Sustainable Finance Regulation is Growing Rapidly

The impending climate crisis, which will have a potentially disastrous impact on our economies and requires urgent policy action (IPCC 2018),



The **size** of the circle represents the number of climate laws and policies. The larger the circle, the higher the number of climate laws and policies

The **colour** of the circle represents Carbon dioxide emissions from the use of fossil fuel and the manufacture of cement, land-use change, and forestry (MtCO₂e). The darker the circle, the higher the emissions.

25 countries and over 1,250 local governments have officially declared the existence of a climate emergency.

There are over 1,800 climate laws and policies globally

A climate emergency declaration is often accompanied by new or revised climate-related policies, regulations and measures to reduce greenhouse gas emissions.

Expect: Converging standards and ESG Innovation

Investors continue to identify inconsistent information as one of the primary hurdles for investing in ESG, and as a result, regulators are trying to provide a platform to facilitate the production of better and more comparable data.

The EU Sustainable Finance Action Plan is in the process of introducing measures that seek to improve the consistency of information — whether through a green taxonomy or disclosure regulation — further technical guidance will be produced in 2020.



The EU Green Deal as Motor for Recovery



There is **no trade-off** between incentivizing a speedy economic recovery and supporting the sustainability transition, especially given that our 2050 deadline for climate-neutrality cannot be postponed. On the contrary, the sustainability transition is a **source of economic and job opportunities**.









Sustainable Finance and the Renewed Strategy will play a key role in the EU recovery

A more sustainable financial system means **economies and societies will be more resilient** toward climate and environmental risks

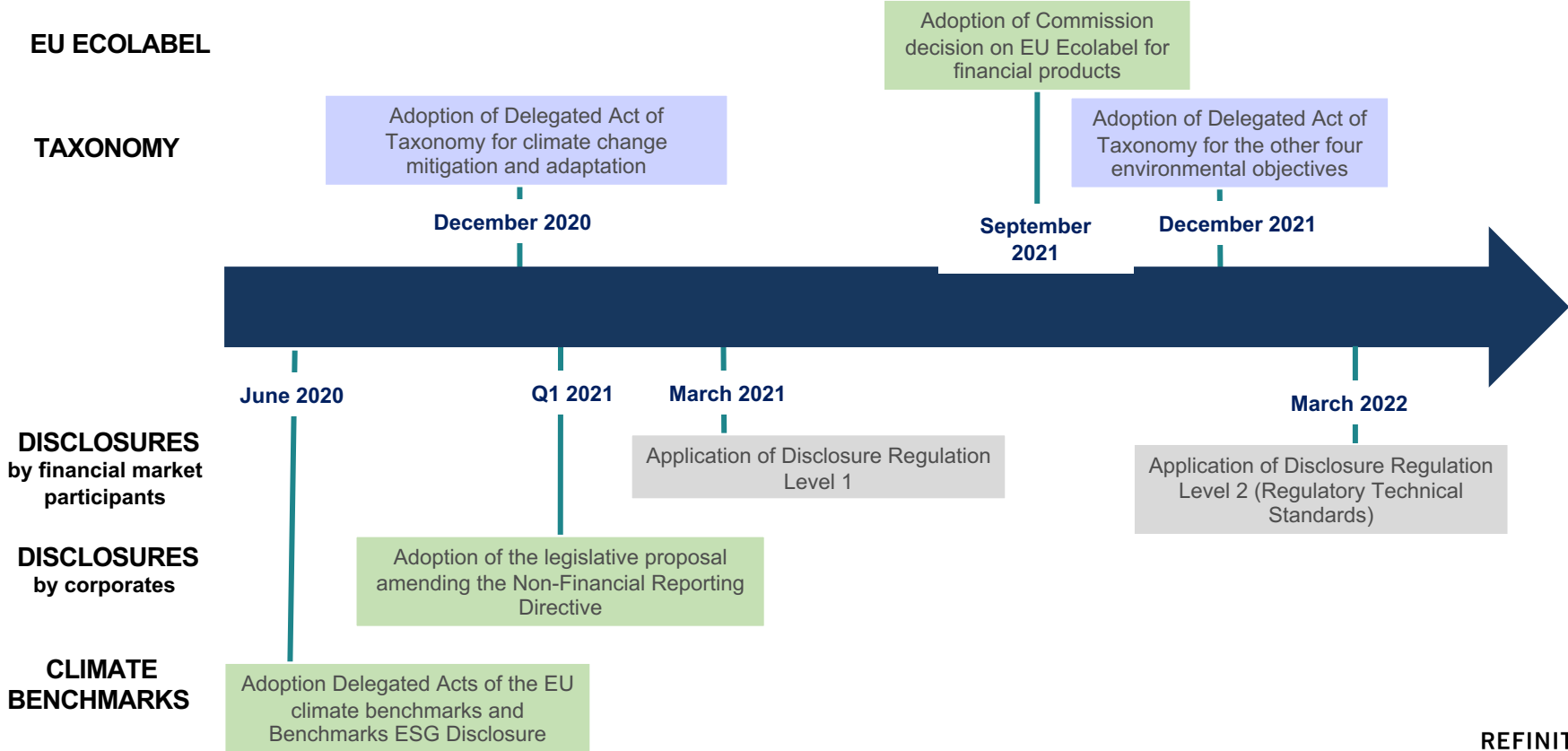
The **EU sustainable finance taxonomy** will guide investment in Europe's recovery to ensure they are in line with our long-term ambitions.

EU Action Plan on Financing Sustainable Growth

The Action Plan 2018 stretches across the whole investment chain

1	Taxonomy  	Develop an EU classification system for environmentally sustainable economic activities	6	Sustainability in research and ratings	Explore how credit rating agencies could more explicitly integrate sustainability into their assessments. Study on sustainability ratings and research and exploring possible measures to encourage their uptake.
2	Standards and labels 	Develop EU standards (such as EU Green Bond Standard) and labels for sustainable financial products (via Ecolabel) to protect integrity and trust of sustainable finance market	7	Disclosures by financial market participants 	Enhance transparency to end-investors on how financial market participants consider sustainability
3	Fostering investment in sustainable projects	Exploring measures to improve the efficiency and impact of instruments aiming at investment support. Mapping on investment gaps and financing.	8	Sustainability in prudential requirements	Explore the feasibility of reflecting sustainability in prudential rules (where justified from a risk perspective)
4	Incorporating sustainability in financial advice 	Amend MiFID II and IDD delegated acts to ensure that sustainability preferences are considered in the suitability assessment.	9	Strengthening sustainability disclosures by corporates 	Enhance climate and sustainability-related information provided by corporations
5	Developing sustainability benchmarks  	Develop climate benchmarks and ESG disclosures for benchmarks	10	Fostering sustainable corporate governance & promoting long-termism	Collect evidence of undue short-term pressures from capital markets on corporations and consider steps for promoting corporate governance that is more conducive to sustainable investments.

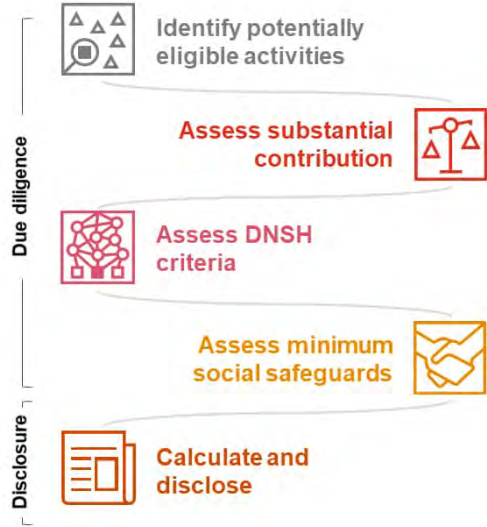
Timeline of Key Actions of the Plan



The EU Taxonomy, the foundational piece from the Action plan on financing sustainable growth, is a classification tool to help investors and companies consistently determine whether an economic activity is environmentally sustainable or not. It provides specific, quantitative thresholds on environmental performance for economic activities to be considered compliant with the EU Taxonomy.



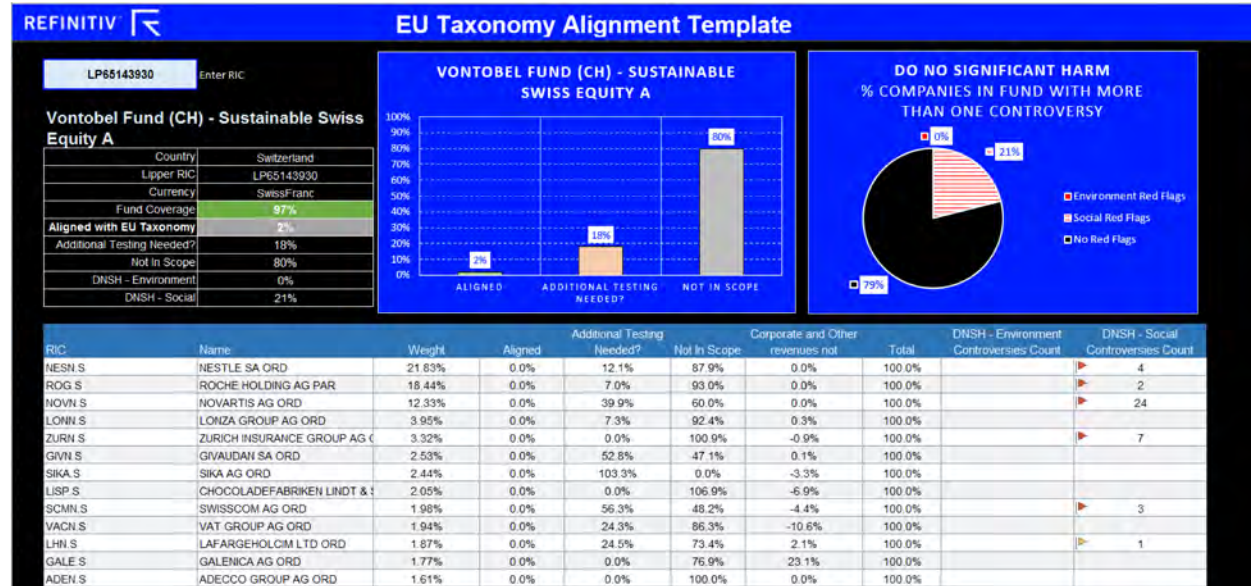
2020	Dec	<ul style="list-style-type: none"> EU Taxonomy Delegated Acts for climate change mitigation and adaptation
2021	Dec	<ul style="list-style-type: none"> Companies in scope of NFRD must disclose % of revenues generated from EU Taxonomy eligible activities for climate change mitigation and adaptation Financial market participants must disclose to what extent they invest in EU Taxonomy eligible activities for climate change mitigation and adaptation Delegated Acts for the remaining 4 environmental objectives
2022	Dec	<ul style="list-style-type: none"> Companies in scope of NFRD must disclose % of revenues generated from EU Taxonomy eligible activities for the remaining 4 environmental objectives Financial market participants must disclose to what extent they invest in EU Taxonomy eligible activities for the remaining 4 environmental objectives



EU Taxonomy – Refinitiv’s Solution

Refinitiv is working on creating EU Taxonomy aligned products to help users fulfill their compliance obligation and evaluate their portfolio against the Taxonomy before the regulation is in force.

- Refinitiv EU Taxonomy template in Eikon Excel
- EU Taxonomy App on Workspace and integration into Portfolio Analytics as well as reporting capability for compliance purposes in 2021
- EU Taxonomy Bulk Datafeed planned for 2021 (targetted release Q3)
- Regulatory Compliance reporting services on-demand (2021)



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Key points for discussion in Sustainable Finance

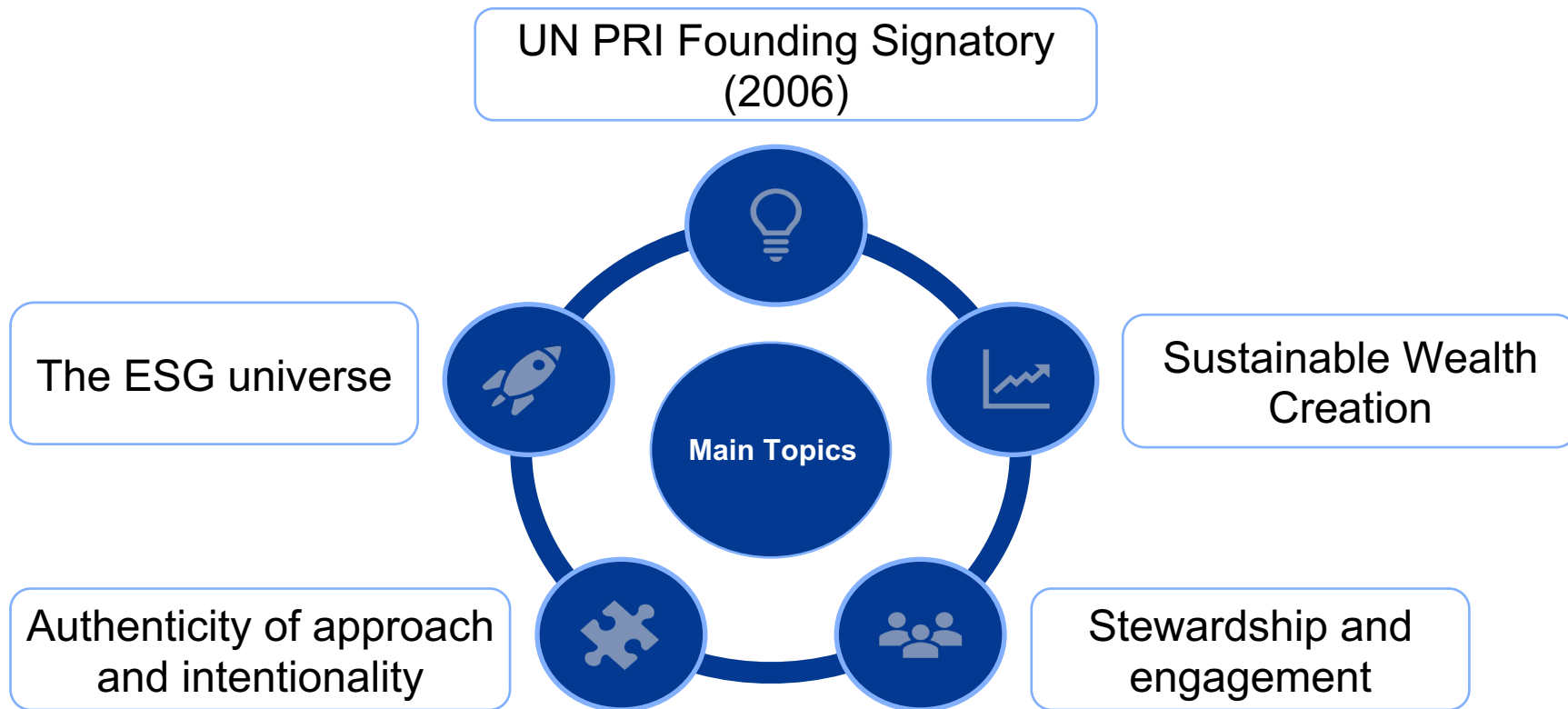
Dr Michael Viehs

Director, Head of ESG Integration

Federated Hermes International

FEDERATED HERMES

Key points for discussion in Sustainable Finance



Climate Risk Stress Testing

Doug Baird
Head Climate Stress Testing and Pension
Risk, NatWest Group
November 2020

NWG Climate Ambition

- central to our purpose as an organisation



Climate Risk Stress Testing

- regulatory backdrop driving rapid change

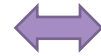
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Governance - Embed the consideration of the financial risks from climate change in governance arrangements.

Disclosure - develop an approach to disclosure on the financial risks from climate change.

Risk Management - incorporate the financial risks from climate change into existing financial risk management practice.

Scenario Analysis - use (long term) scenario analysis to inform strategy setting and risk assessment and identification.



Task Force for Financial Related Climate Disclosure

Core Elements of Recommended Climate-Related Financial Disclosures



Governance

The organization's governance around climate-related risks and opportunities

Strategy

The actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning

Risk Management

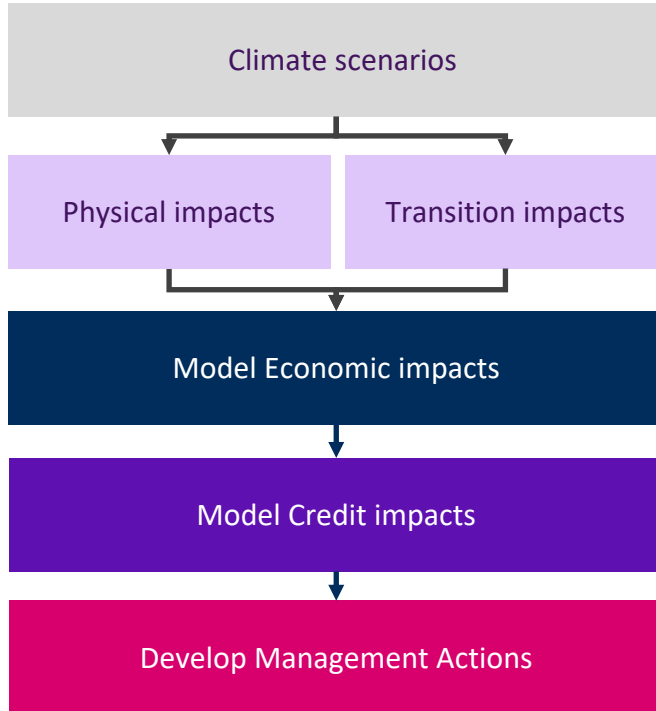
The processes used by the organization to identify, assess, and manage climate-related risks

Metrics and Targets

The metrics and targets used to assess and manage relevant climate-related risks and opportunities

Climate Risk Stress Testing

- Modelling climate risks is an essential part of managing them



- Climate scenarios (emissions; temperature; policy; land use and technology pathways); based upon **Network for Greening the Financial System** (NGFS) standards
- The approach uses a **discounted cashflow** model to translate the scenarios' physical and transition impacts into **economic impacts** at the asset level.
- These are blended into incumbent **Credit stress test models** to translate into a **re-assessment** of PD and LGD to enable calculation of **Credit impairments**.
- These impairments will be used to develop response plans, a number of which will require direct engagement with our counterparties around their own mitigation plans

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CONTACTS

The Panellists



Stephen Perich
UBS
stephen.perich@ubs.com



Michael Viehs
Federated Hermes
Michael.Viehs@hermes-investment.com



Charlie Donovan
Imperial College
climatefinance@imperial.ac.uk



Elena Philipova
Refinitiv
elena.philipova@refinitiv.com



Doug Baird
NatWest Group
doug.baird@natwest.com

Moderator



Christopher Rossi
Avantage Reply
c.rossi@reply.it

Additional Reply Contacts



Frederic Gielen
Executive Partner
f.gielen@reply.com



Giorgio Pavia
Partner (IT)
g.pavia@reply.it

Hadrien van der Vaeren
Senior Manager (UK)
h.vandervaeren@reply.com

Sergio Gianni
Partner (IT)
s.gianni@reply.it

Nicolas Pavlovitch
Partner (BE)
n.pavlovitch@reply.com

Matteo Oldani
Manager (IT)
ma.oldani@reply.it

Vishwas Khanna
Ass. Partner (UK)
vi.khanna@reply.com

Stephan De Prins
Partner (FR)
s.deprins@reply.com

Louis De Meester
Senior Manager (BE)
l.demeester@reply.com

Gwenaël Gavray
Ass. Partner (Lux)
g.gavray@reply.com

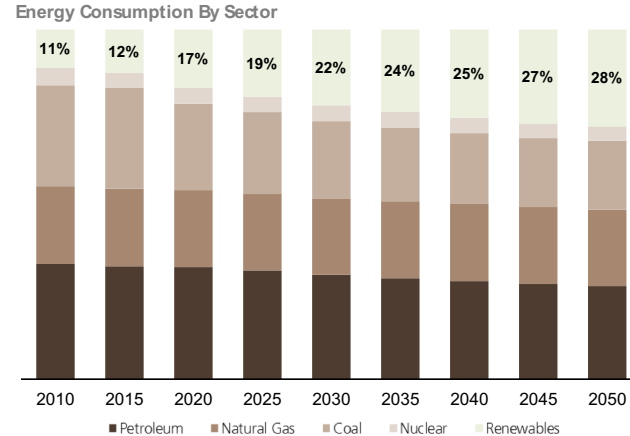
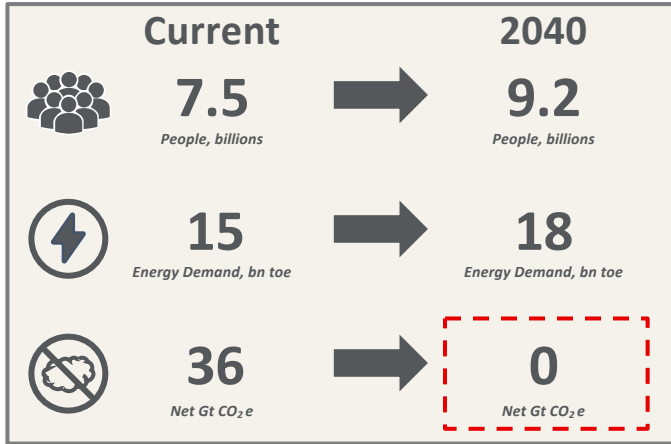
Nathanaël Sebbag
Ass Partner (FR)
n.sebbag@reply.com



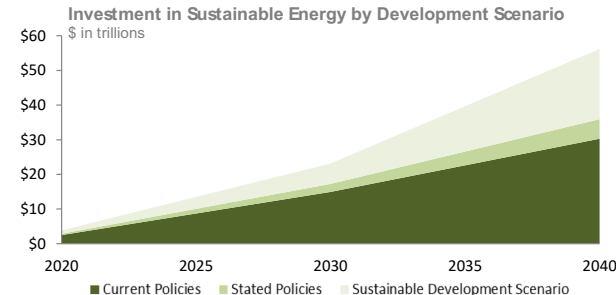
ANNEX: ADDITIONAL MATERIAL

The Energy Transition Requires Substantial Investment to Succeed

Increasing global population and energy needs coupled with extensive recognition and support to address climate change sets the stage for unprecedented investment into the energy transition sector



44% <i>energy growth</i>	According to the IEA, energy demand will increase 44% by 2050
137% <i>renewable growth</i>	Renewable energy consumption is set to increase 137%, or 4.4% annually by the year 2050
\$30-60tn <i>of investment</i>	IEA projects \$30 to \$60 trillion of sustainable resources investment by 2040



Source: IEA, EIA and BP Energy Outlook

Energy Transition Sub-Sectors

	Renewables	Clean Fuel Transportation	Energy Storage and Efficiency	Environmental Infrastructure	Carbon Capture, Utilization and Storage
Average Annual Investment (\$bn)	\$426	\$233	\$269	\$86	\$100
Key Themes	<ul style="list-style-type: none"> Wind and solar are expected to contribute the largest absolute gains in global power generation, accounting for >50% of net adds Wind and solar market share to grow 2x to 10% and 7% by 2030 Renewable facilities beginning to compete with base load power through the combination of solar (day), wind (night), and storage Solar and wind being cost competitive, if not cheaper, than coal gas in most countries 	<ul style="list-style-type: none"> Sales of battery electric and plug-in hybrid electric cars tipped over the two-million-vehicle mark for the first time in 2019 Public and private infrastructure build out for EV charging while decreasing charge times Shift to mobility as a service as a result of movement away from private vehicle ownership Growing demand for advanced driver assistance systems (ADAS); North America is the leading market 	<ul style="list-style-type: none"> Renewable energy, microgrids, utility scale batteries, and the advent of EVs will require a massive upgrade to the electrical grid Battery storage installations becoming more prevalent in conjunction with solar / wind development Utilities increase spending on software tools for their grid infrastructure – i.e. digital twinning Use of AI and development of metering technology to improve energy consumption predictions and conservation 	<ul style="list-style-type: none"> With rapid population growth and urbanization, water infrastructure requires substantial investment, and waste generation is expected to increase over 50% by 2050 Companies who monetize waste by-products and focus on water management / remediation can attract investors focused on resource-efficient technologies Continued privatization of municipal waste management should provide opportunities to grow through acquisitions Government and societal pressures to reduce emissions is setting the stage for robust growth in the recycling and air emissions control markets 	<ul style="list-style-type: none"> CCUS remains expensive and a lot of the technology is proprietary Minimum carbon price of \$90/tonne is needed for most applications to be economically viable If the world is to get onto a 2-degree pathway by 2050, we could need up to 100x the capacity of what we have today This will require an exponential growth in investment supported by policy support and high carbon prices
Market Leaders					

Source: FactSet, IRENA, BP Energy Outlook, UBS Estimate, World Bank, Global Waste Management Outlook, ASCE