Green Finance & Electricity

Sean Kidney / Climate Bonds Initiative

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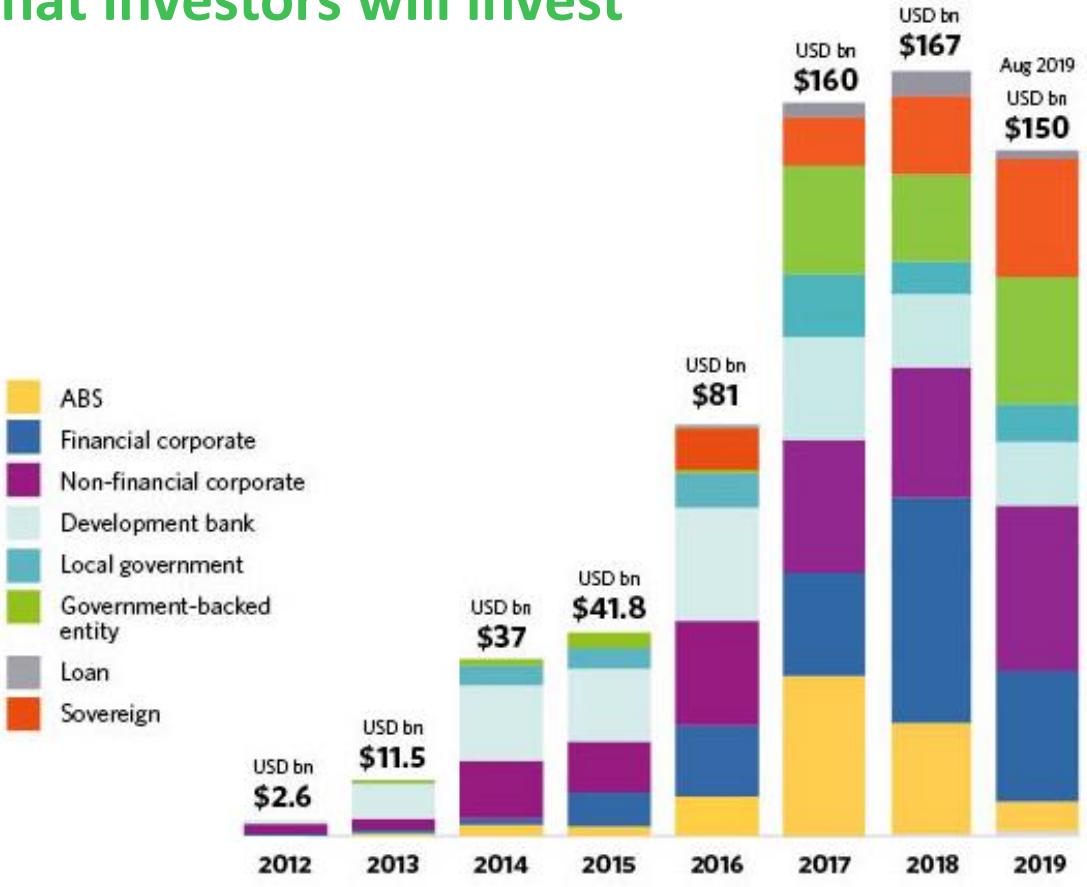
Proof that investors will invest



Benefits

New investors

Pricing

Halo

Visibility

Staff retention

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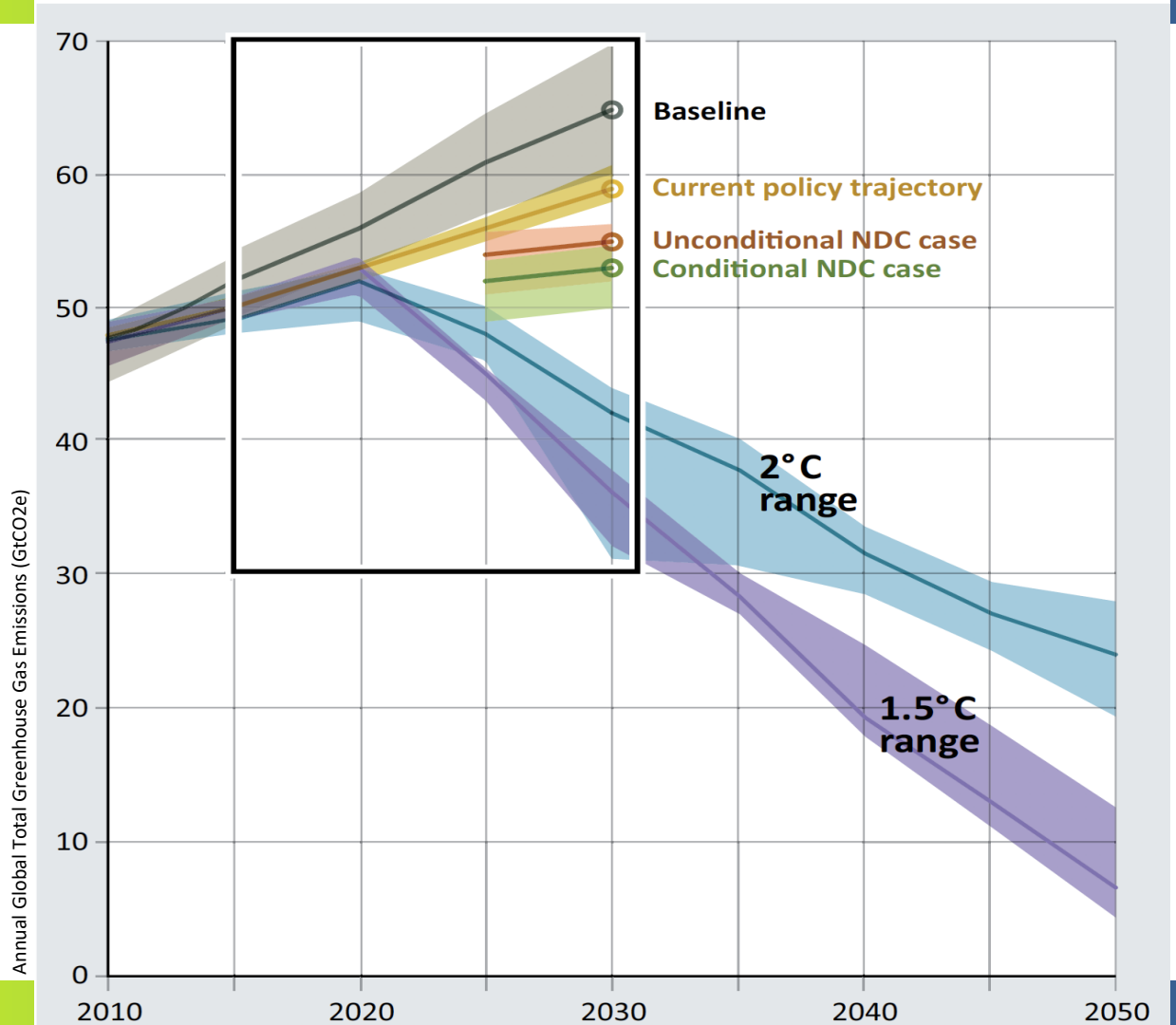
We have a problem



EU Taxonomy

https://ec.europa.eu/info/publications/sustainable-finance-teg-taxonomy_en#190618

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European Commission

The aim of a taxonomy is to:

Create a uniform and harmonised classification system – this can be used for reference internationally.

Avoid market fragmentation.

Protect against greenwashing.

Provide the basis for further policy action such as standards, labels, incentives, etc.

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Climate change mitigation & transitions

Characteristics	Type of activity	Criteria
"Greening of"	Already low carbon (very low, zero or net negative emissions). Compatible with net zero carbon economy by 2050.	Likely to be stable and long term. E.g. renewables, zero emissions transport, afforestation
	Contribute to a transition to a zero net emissions economy in 2050 or shortly thereafter, but are not currently close to a net zero carbon emission level.	Likely to be revised regularly and tightened over time. E.g. Building renovation, cars <50g CO2/km
"Greening by"	Activities that enable emissions reductions in either of the two previous categories.	Some likely to be stable & long term, some likely to be revised regularly. E.g. manufacture of wind turbines, installing efficient boilers in buildings

Activities that undermine mitigation objectives are not included.

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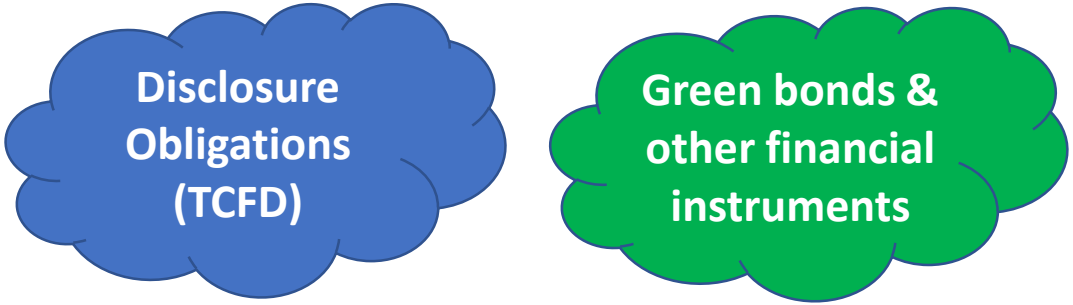
Expected Taxonomy users

Financial markets: investors, banks, corporates



EU Member States

Potential: regulators

Central banks climate stress-testing
Risk weighting adjustments in capital requirements for banks
Haircut for brown assets in collateral policies
Green QE

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Climate change focus: 67 economic activities in 7 sectors

Buildings
Top 15%, or 30% improvements
Supply chain / SMEs

ICT Efficient data centres

Landuse

CO2 sequestration
Best practice farming

Transport Zero tailpipe & very low emissions: electric, hydrogen

Manufacturing
Transitions
Components

Aluminium
Steel
Concrete
Plastics

Water
Waste management

Energy efficiency, adaptation

Electricity

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Production of Electricity

Electricity

100 gCO2e/kWh, declining to 0 by 2050.

Technology agnostic

Threshold reduced every 5 years in line with a trajectory towards zero net-CO2e.

LCE analysis *not* required

- Solar photovoltaic (PV)
- Wind power
- Existing hydropower *in the EU*
  - Investments which improve capacity of a hydro facility, without enlarging reservoir
- Existing geothermal *in the EU*
- Ocean energy
- Concentrated solar power (CSP)

Nuclear (still to be assessed for DNSH)

- LCE analysis (ISO 1404) *required*
  - New hydro & geothermal
  - Fossil fuels
  - Bioenergy

- Unabated coal & gas will not meet threshold. Coal with CCS will not; gas with CCS might.
- Mixed molecules – e.g. gas with hydrogen – will need to meet the threshold
- *Measurement* of fugitive emissions is required
- For activities which go beyond 2050, it must be technically feasible to reach zero emissions.

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Carbon Capture and Storage

Electricity

If it enables the respective economic activity to operate under its 100gCO2e/kWh threshold.

- Captured CO2 has be go to a qualifying CO2 transportation operation & permanent sequestration facility.
- Transport of CO2: <0.5% leakage/tonne of CO2 transported from head of pipeline to delivery.
- Upgrade of existing pipelines to enable transport of CO2.
- Operation of a permanent CO2 storage facility (compliant with DNV Storage Certification Framework, based on ISO 27914:2017 for geological storage of CO2).

Investments in Direct Air Capture operations

Relevant ISO standards:

- ISO/CD 27919-2 - Carbon dioxide capture -- Part 2: Evaluation procedure to assure and maintain stable performance of past-combustion CO2 capture plant integrated with a power plant
- ISO/CD 27920 - Carbon dioxide capture, transportation and geological storage (CCS) -- Quantification and Verification
- ISO/DTR 27921 - Carbon dioxide capture, transport and storage -- CO2 stream composition
- ISO/AWI TS 27924 - Lifecycle risk management for integrated CCS projects

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Transmission and Distribution of Electricity

Electricity

All investments in T&D infrastructure, **EXCEPT** those:

- Dedicated to directly connecting, or increasing connections to, plants that are more CO2 intensive than 100gCO2e/kWh
- Dedicated to connecting additional consumption load without demand-side management capability.

Upgrades to T&D System Architecture which incorporate either:

- Third generation smart meters, and operation of smart meters and communication system
- Equipment where objective is increase of RE used (e.g. voltage control measures to allow more RE infeed)
- Sensors for forecasting RE production, automation of substations/feeders, control rooms and software that increase control of the grid
- Software and Equipment enabling Demand Side Management and improved control of grid, or enables exchange RE between users.

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Energy other

Electricity

All energy storage - BUT, anything which uses hydrocarbons is excluded

- Infrastructure to store **hydrogen** is included.
- Hydrogen production is governed by electricity & manufacturing thresholds

Cogeneration - 30g Co2e/kWh for thermal & 100g CO2e/kWh for electricity, reducing every 5 yrs.

District Heating and Cooling - Efficient* pipes and infrastructure

Electric heat pumps - If using climate friendly refrigerant (GWP <10)

Production of Biomass, Biogas and Biofuels – Only feedstocks listed in Annex 9 EU REDII eligible

Upgrade of Gas Networks for hydrogen or CCS

- Investment which enable network **to increase the blend of hydrogen** in the gas system.
- Pipeline repairs *IF* **pipelines are hydrogen-ready**. *Repairs to plastic pipelines – Yes; metal - No.*
- Investments whose main purpose is the **transport of CO2 for sequestration**.
- No gas network *expansion* is eligible

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Next

Feedback addressed. Final TEG Recommendations to Commission

- CBI synchs guidance Taxonomy
- CBI works with other countries on Taxonomy development
- Project to harmonise with China begins

Commission decides on final criteria

- CBI updates criteria
- Draft criteria from collaborating countries proposed for inclusion inn EU Taxonomy

Commission establishes "Platform" for ongoing development

- EIB participation confirmed
- CBI participation expected

Regulation in Europe

- Matching regulation begins to appear inn other countries

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