

Climate & Sustainable Finance Research

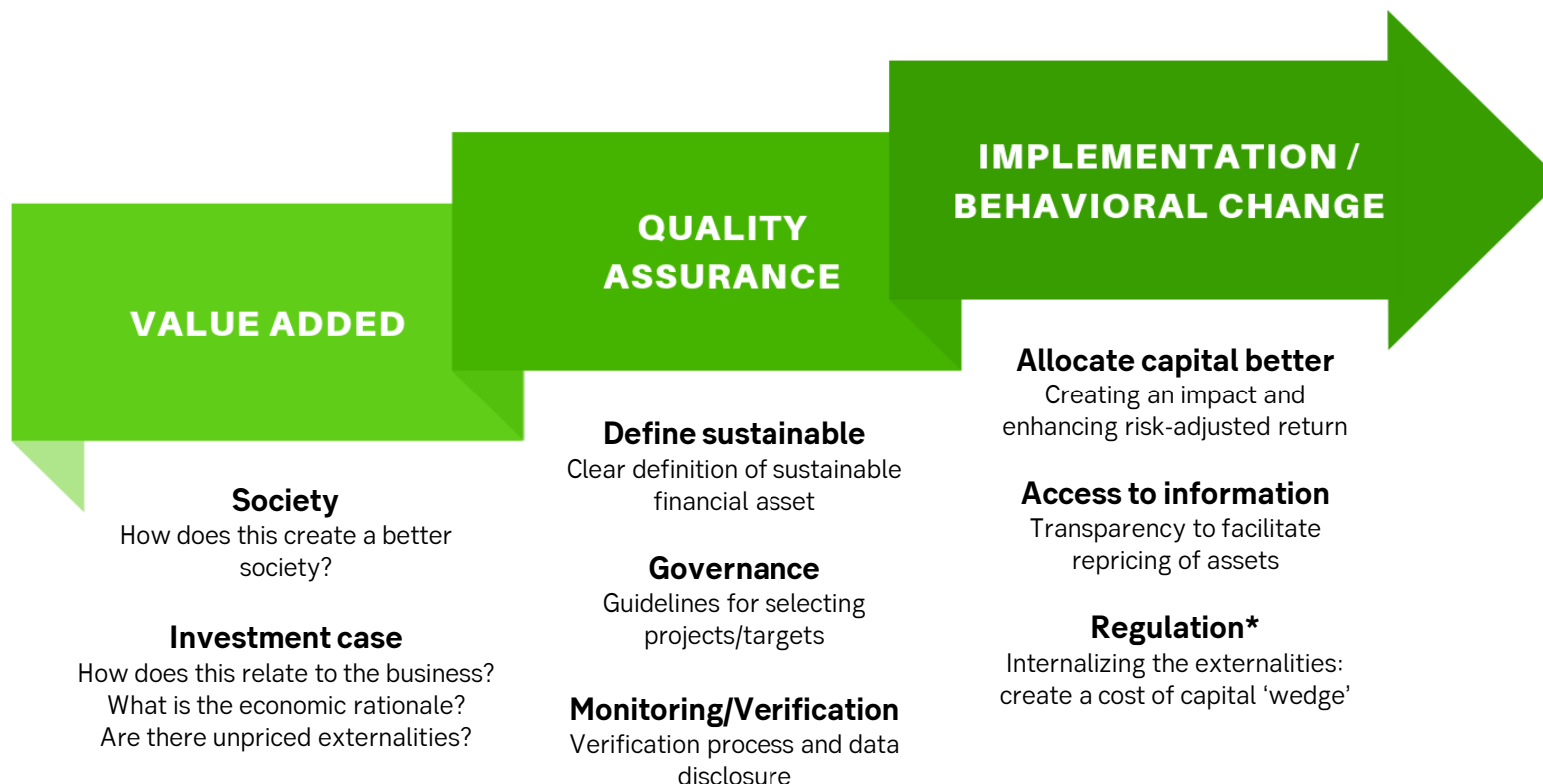
Sustainable finance update

17 October 2019



What is the role of sustainable finance v 2.0?

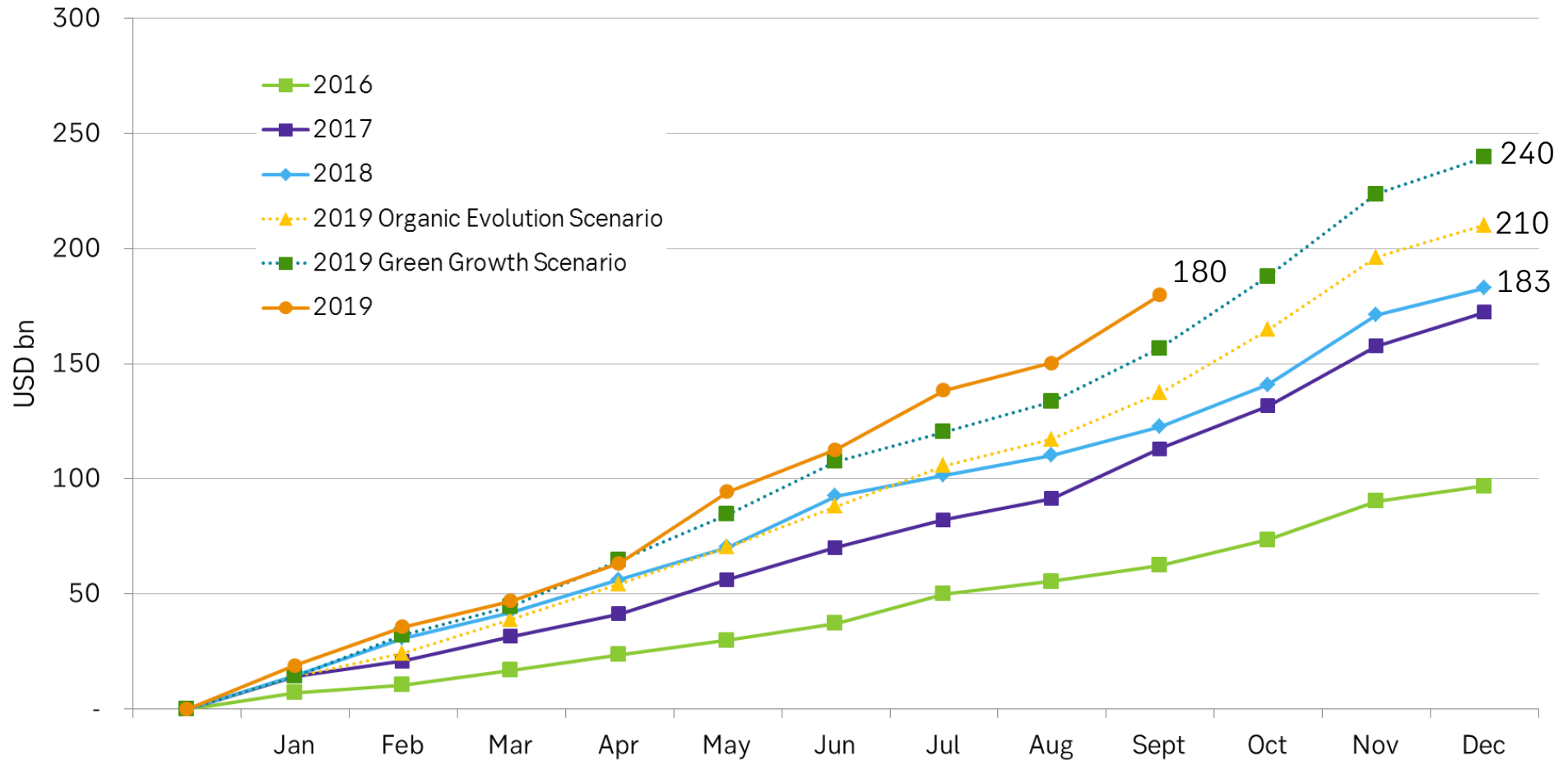
From raising awareness to changing the economic system



*: this is where central banks and regulators come in

Green bond market on track for record 2019

First 9 months of 2019 issuance is running above our bull case

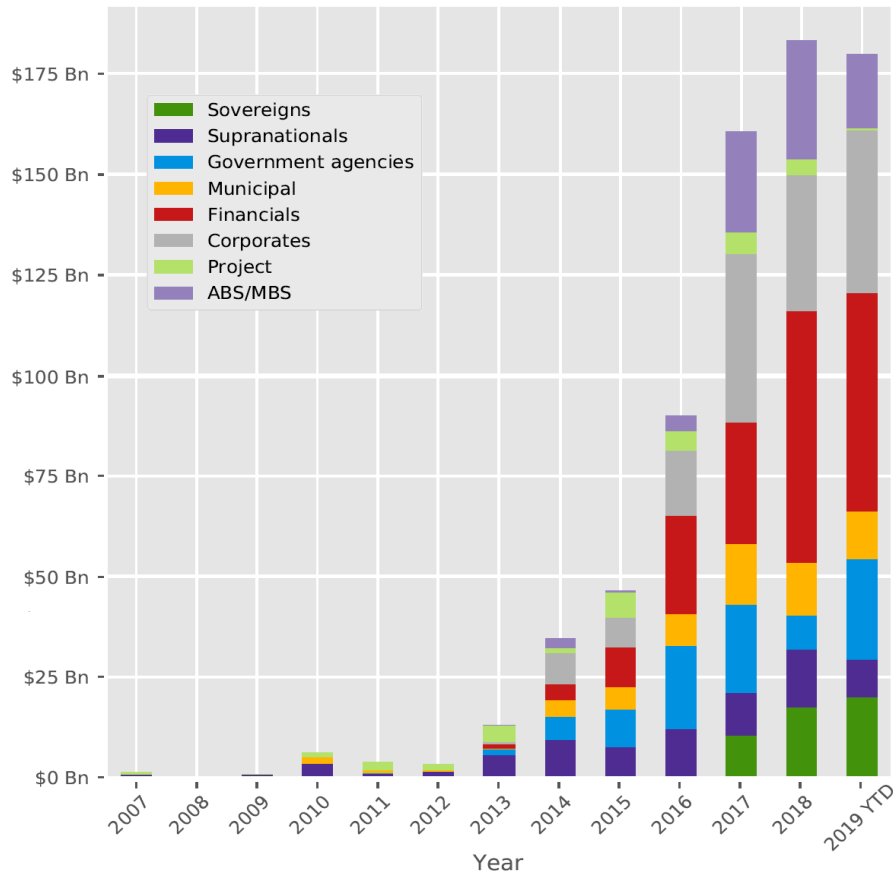


Source: SEB analysis based on Bloomberg and SEB data, as of 30 September 2019

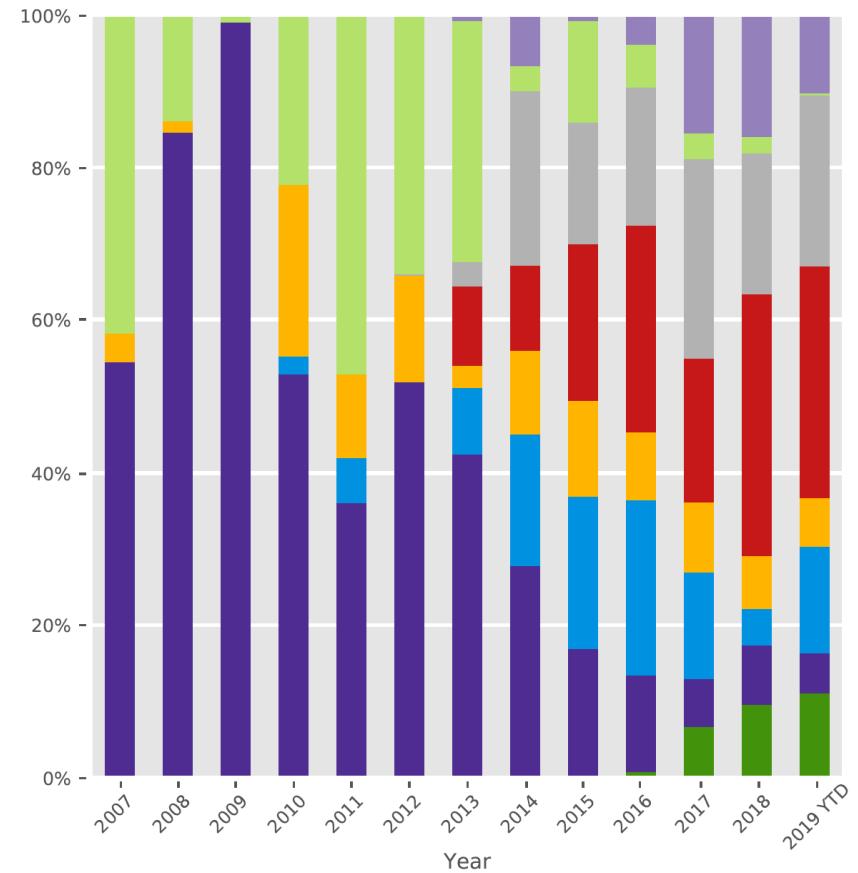
Sector distribution: private sector share rising

Corporates, financials and agencies now 60% of total issuance

Green Bond market growth by sector (USD bn)



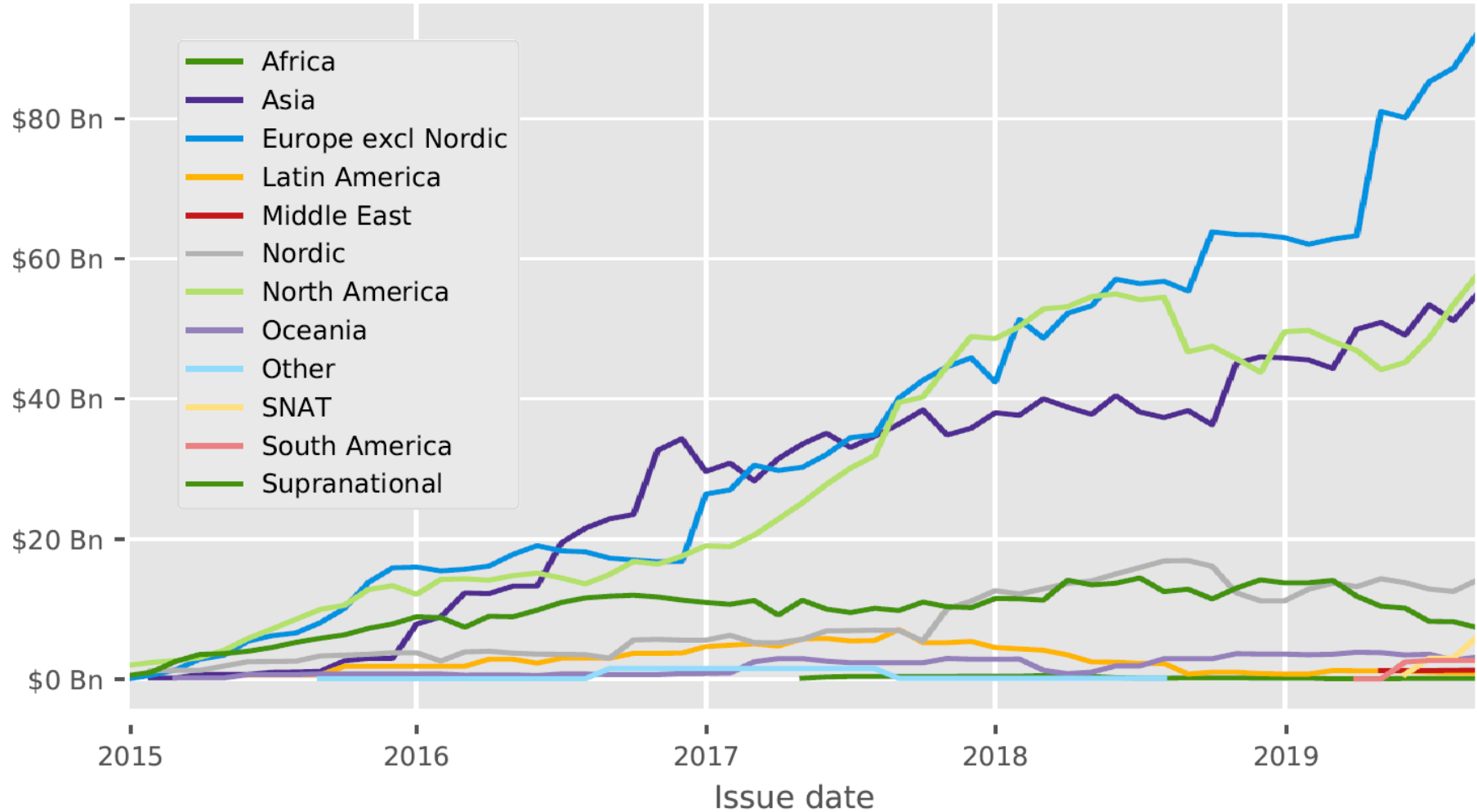
Sectoral evolution (% share of annual issuance)



Source: SEB analysis based on Bloomberg and SEB data, as of 30 September 2019

Europe and Asia lead the way

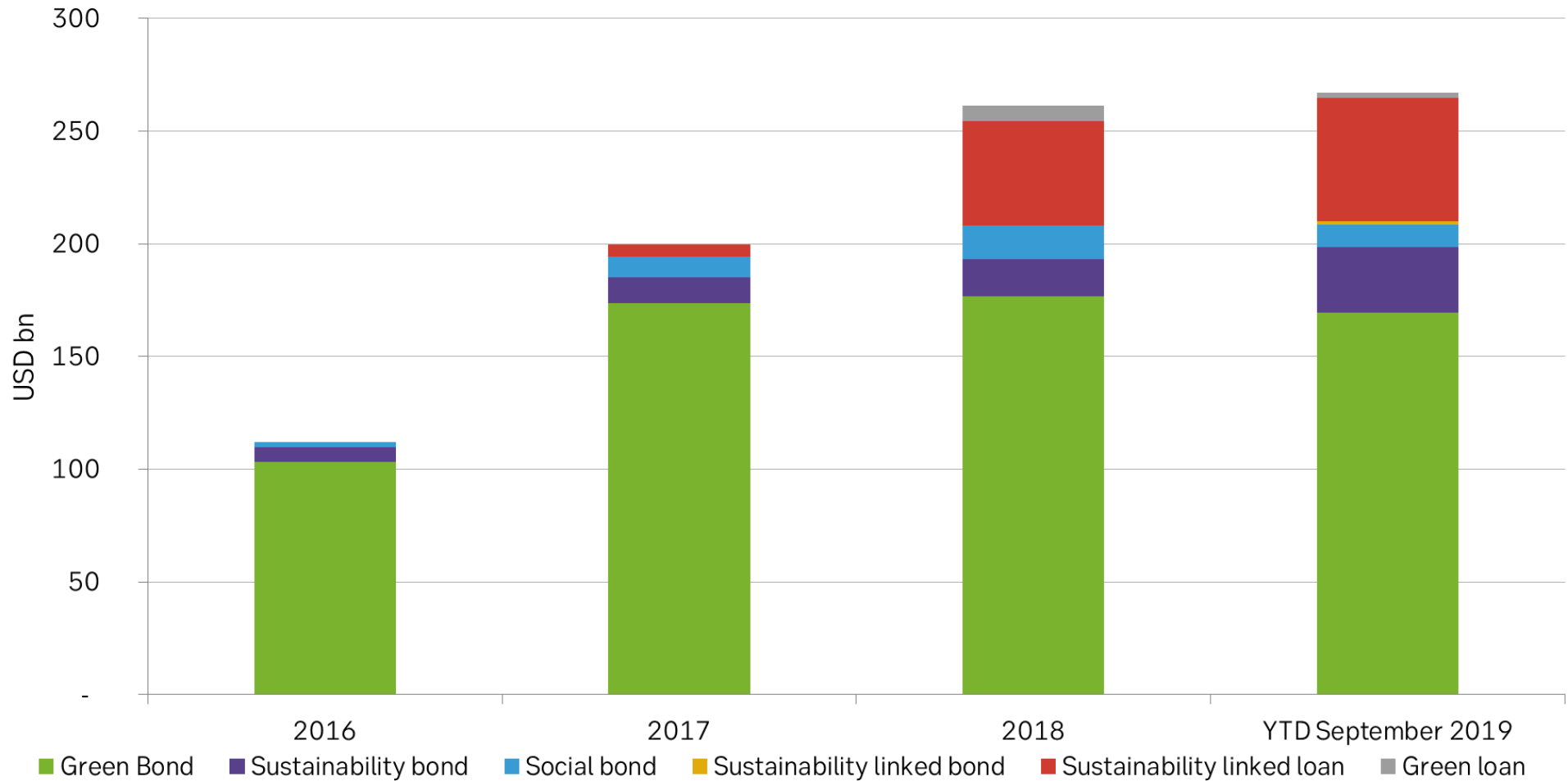
Last 12 months moving sum of issuance (USD bn)



Source: SEB analysis based on Bloomberg and SEB data, as of 30 September 2019

Not just green bonds: new instruments

Annual issuance (USDbn) across sustainable finance loan types



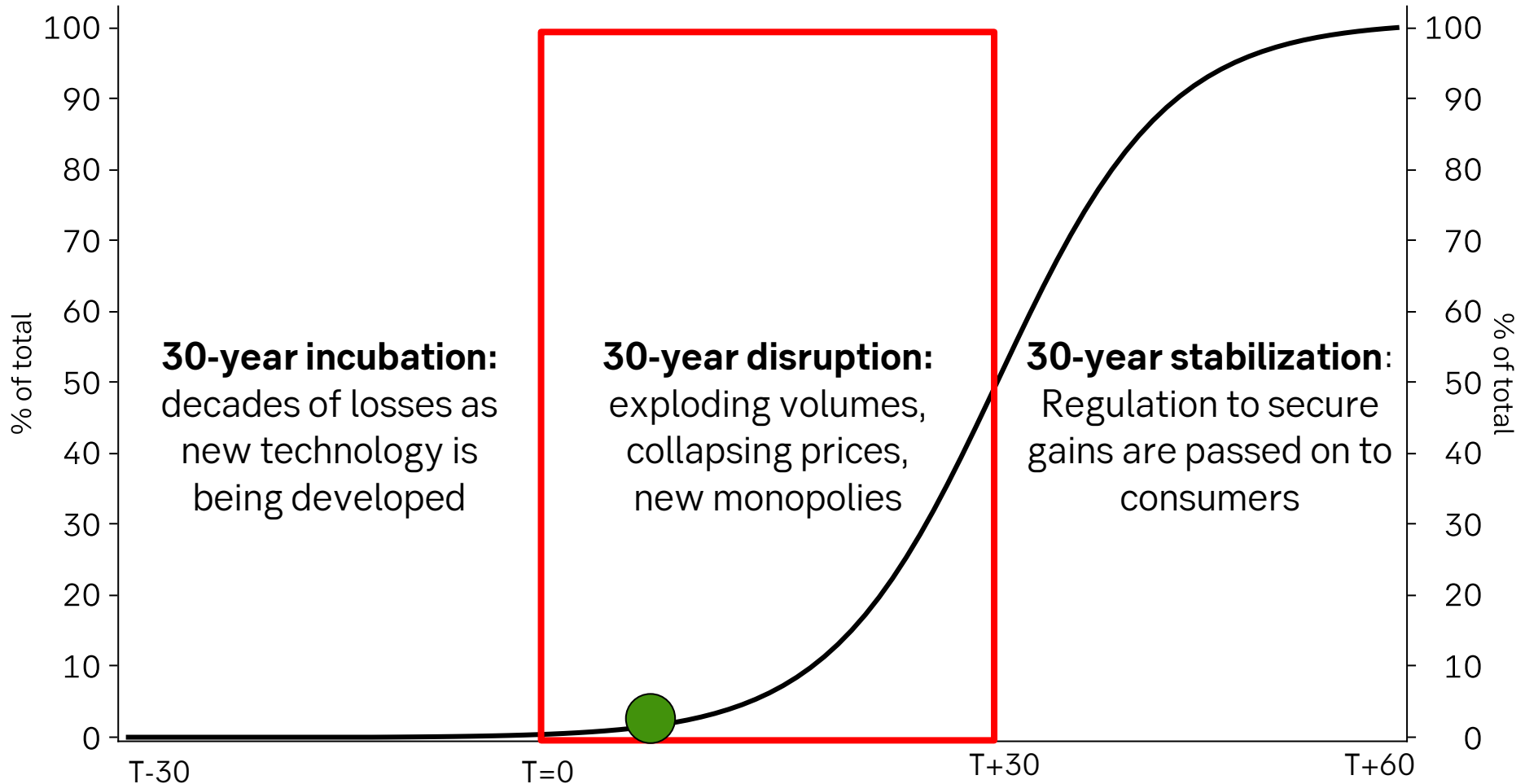
Source: Bloomberg (BNEF), as of 30 September 2019

Environmental and Biophysical Stress



Energy technology cycle: the 30-30-30 model

Renewables show same disruptive pattern as IT: it's profitable



All tech revolutions start with a tipping point

Disruption starts when 'killer app' cuts price below incumbents

Carnegie steel works, 1875



Ford T - Highland Park factory, 1914



IBM Personal Computer, 1981

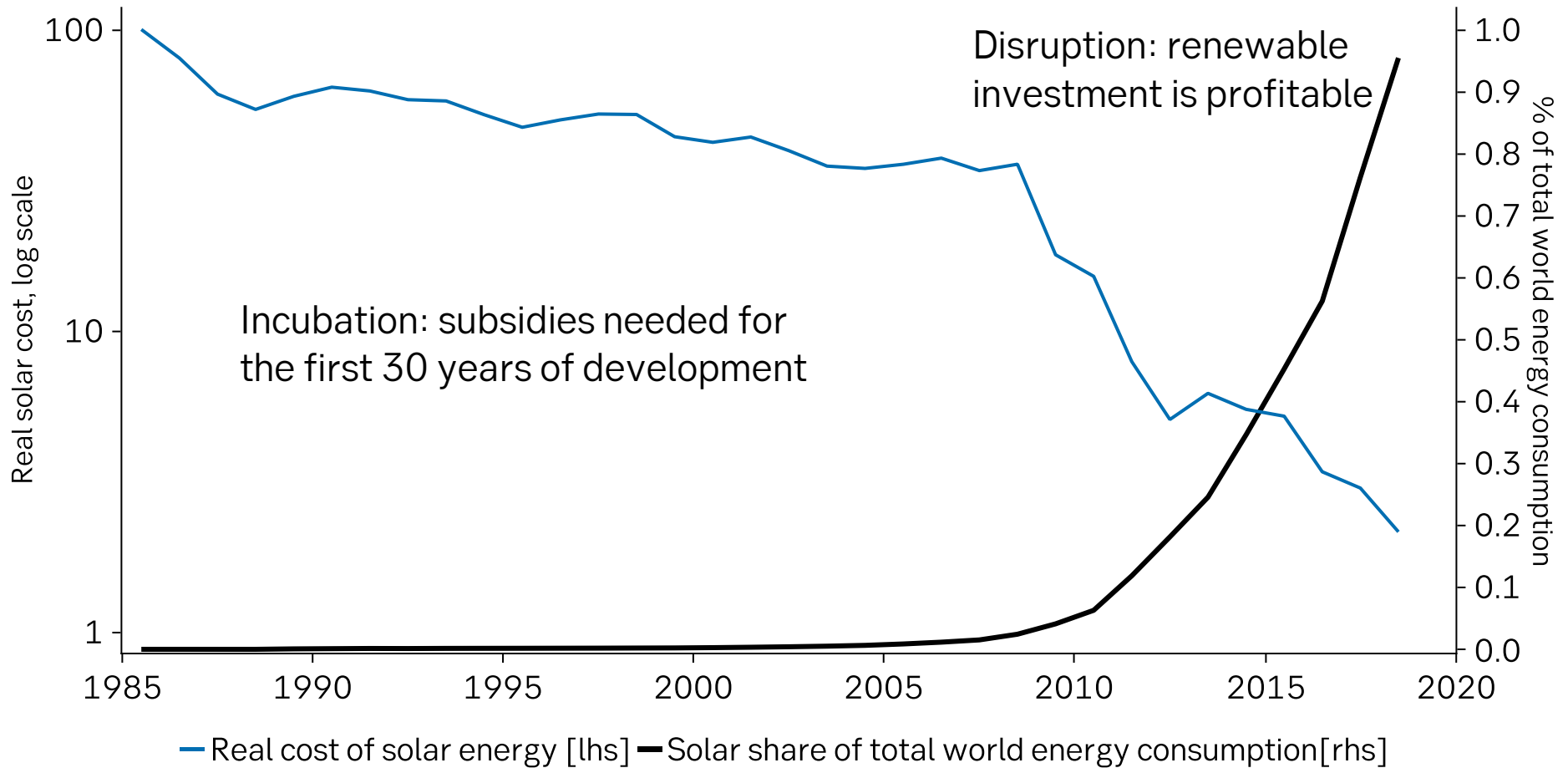


Tesla model S, 2012



Now renewable energy is past tipping point

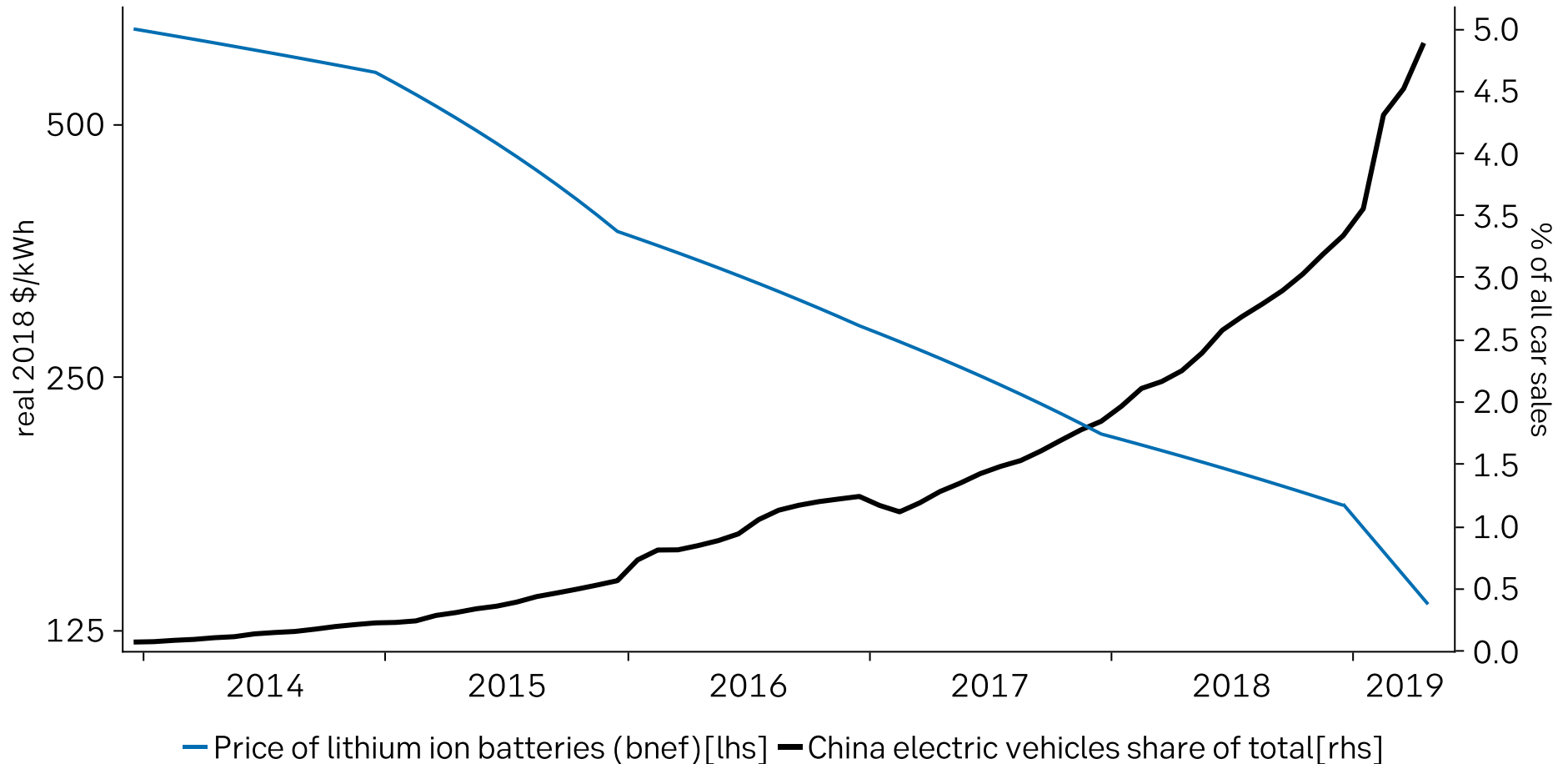
Over past decade, both explosive growth and collapsing prices



Source: Macrobond, SEB Strategy Research

The Great Electrification: technology is ready

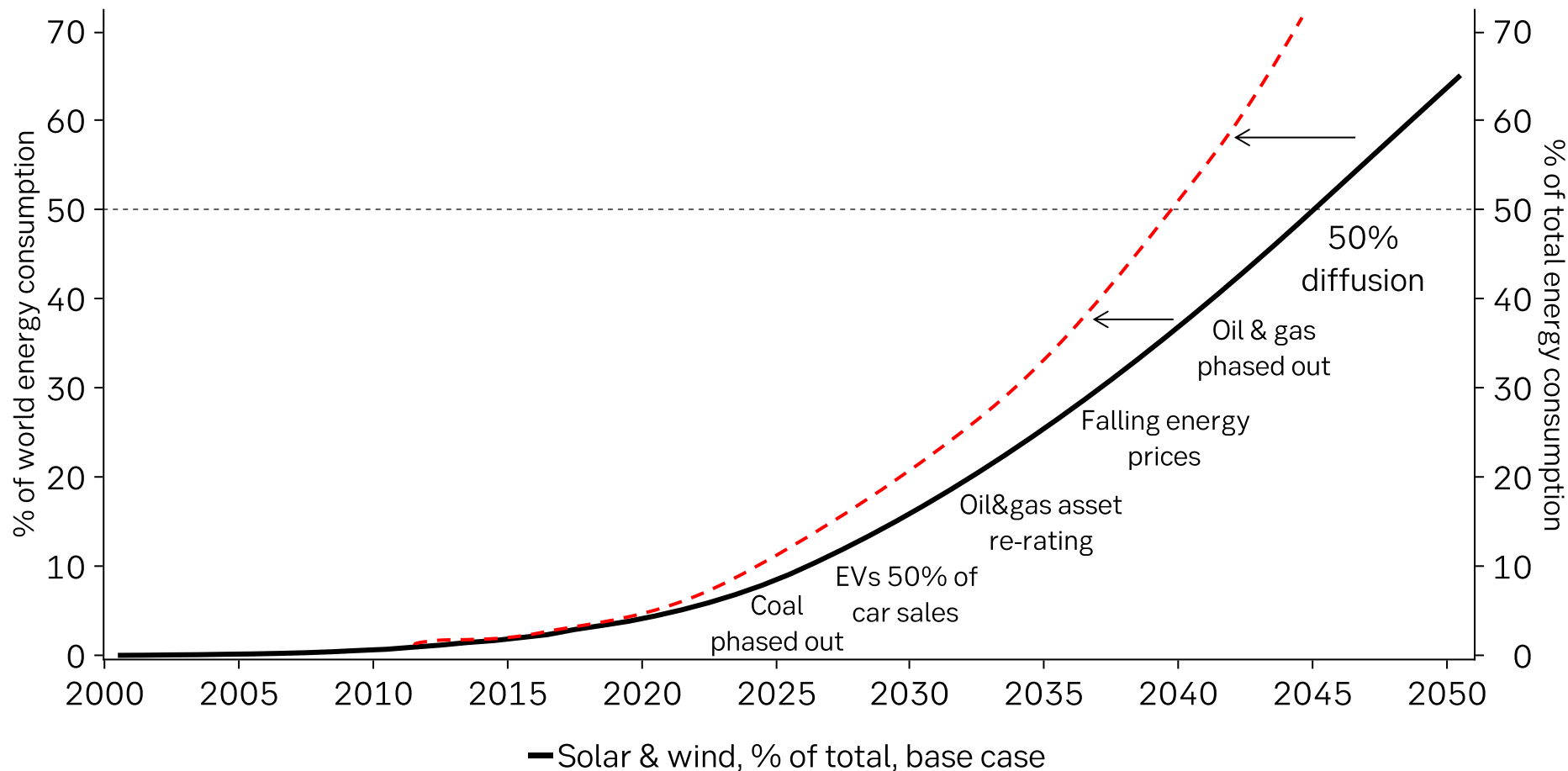
Electrification is cheap enough now, will become even cheaper



Source: Macrobond, SEB Strategy Research

Energy transition: markets are not fast enough

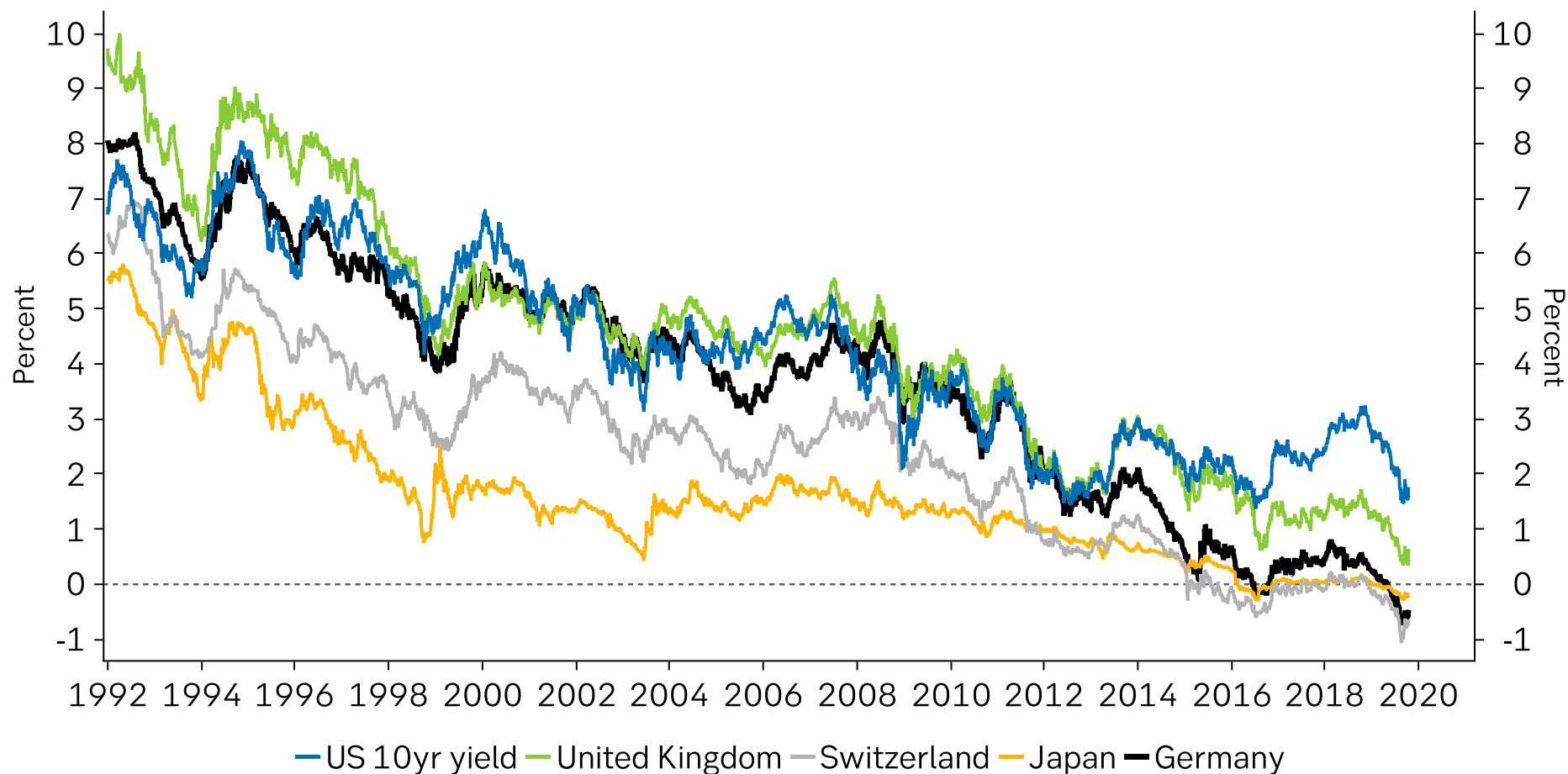
If we need to reach 100% in 2050, we have to lift capex faster



Source: Macrobond, SEB Strategy Research

Plenty of capital is waiting to be activated

The paradox: money is free, why not invest in energy transition?



Source: Macrobond, SEB X-Asset Research

Sustainable investment v 2.0: regulation

Environmental and Biophysical Stress

INVESTORS

ECONOMY &
TECHNOLOGY

SECURITY &
RISK
MANAGEMENT

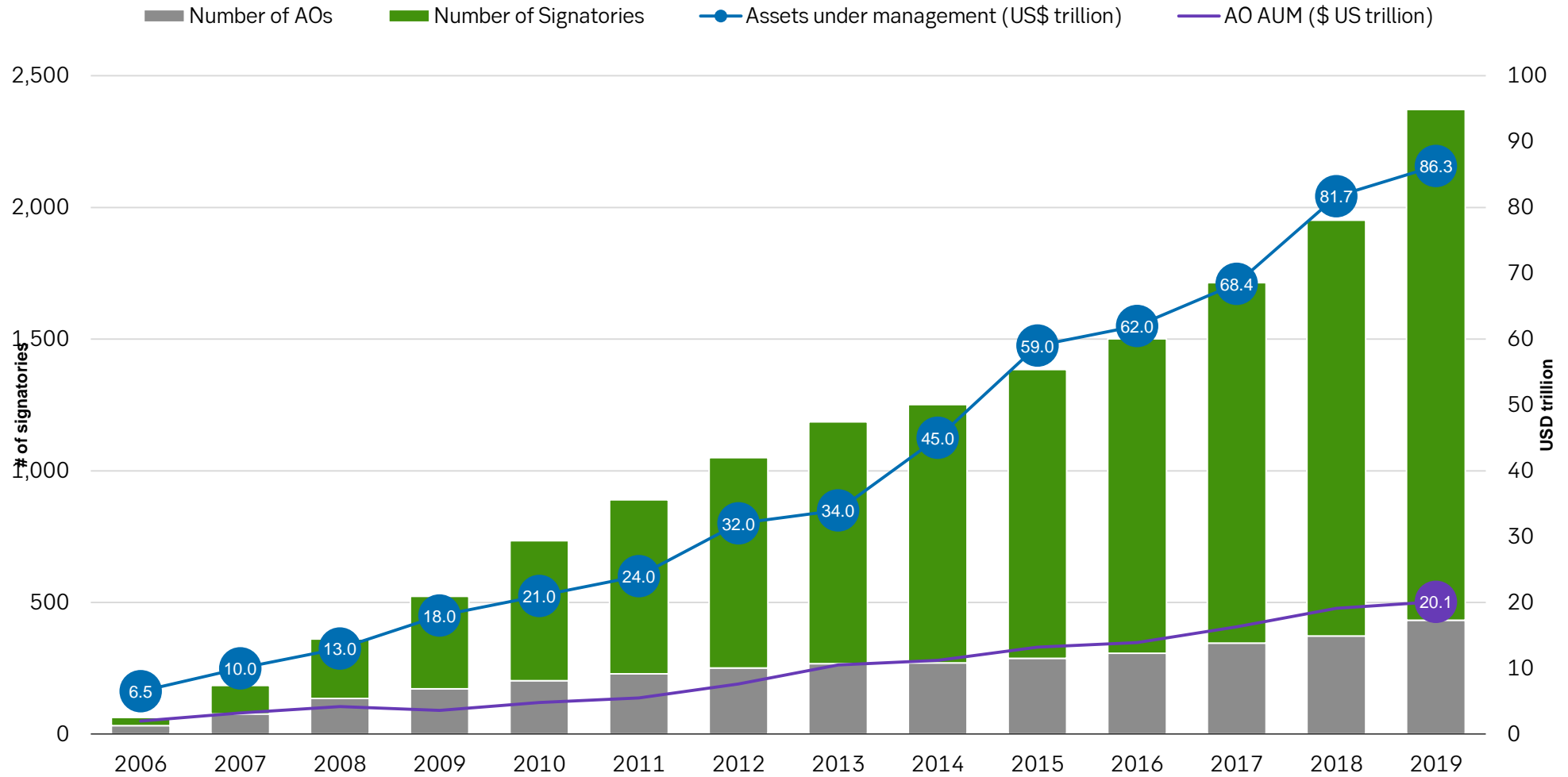
POLITICAL
FORCES

SOCIAL
FORCES

FINANCIAL
REGULATION

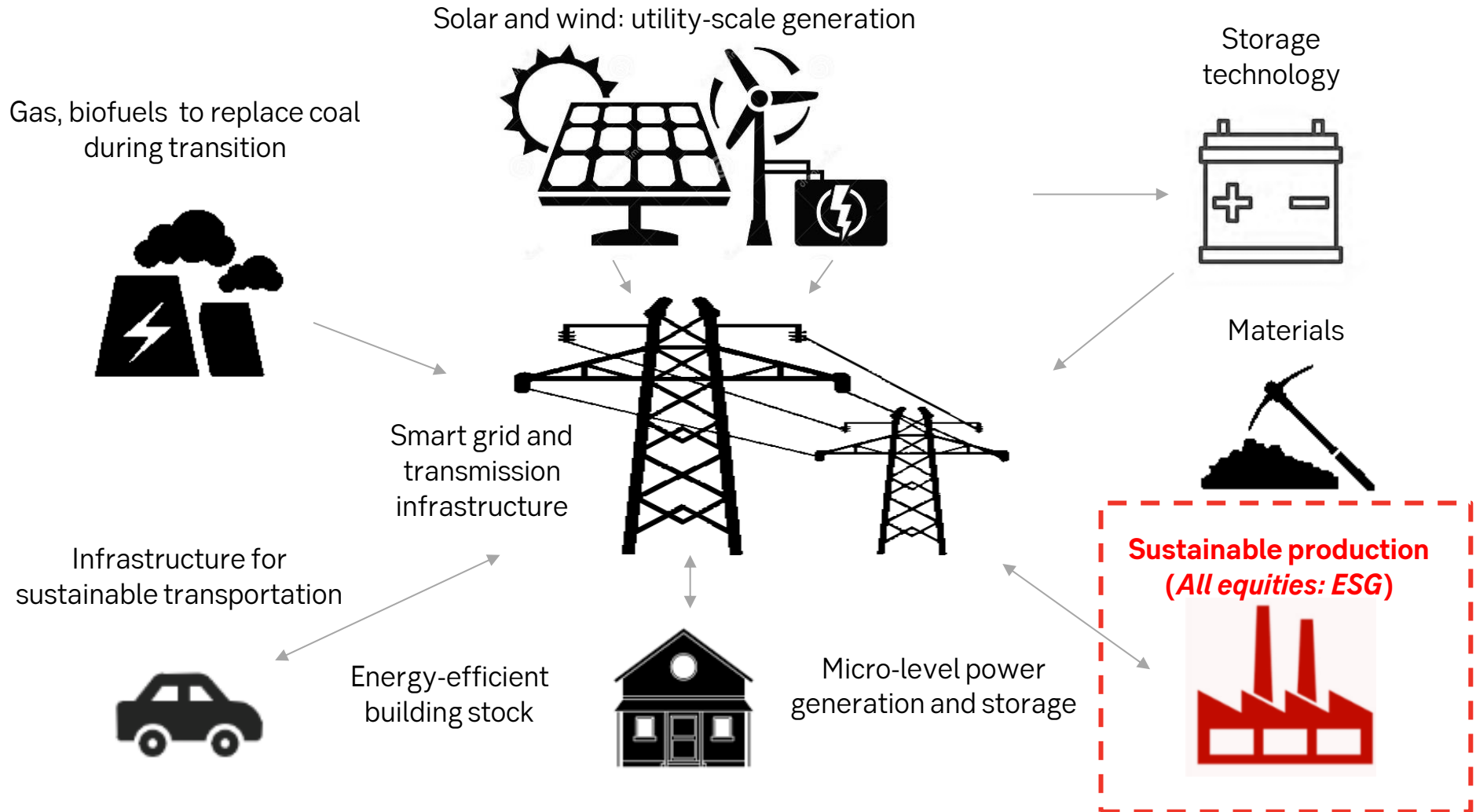
'Green' capital available – how to allocate it?

UN PRI signatories now represent more than 30% of global AuM



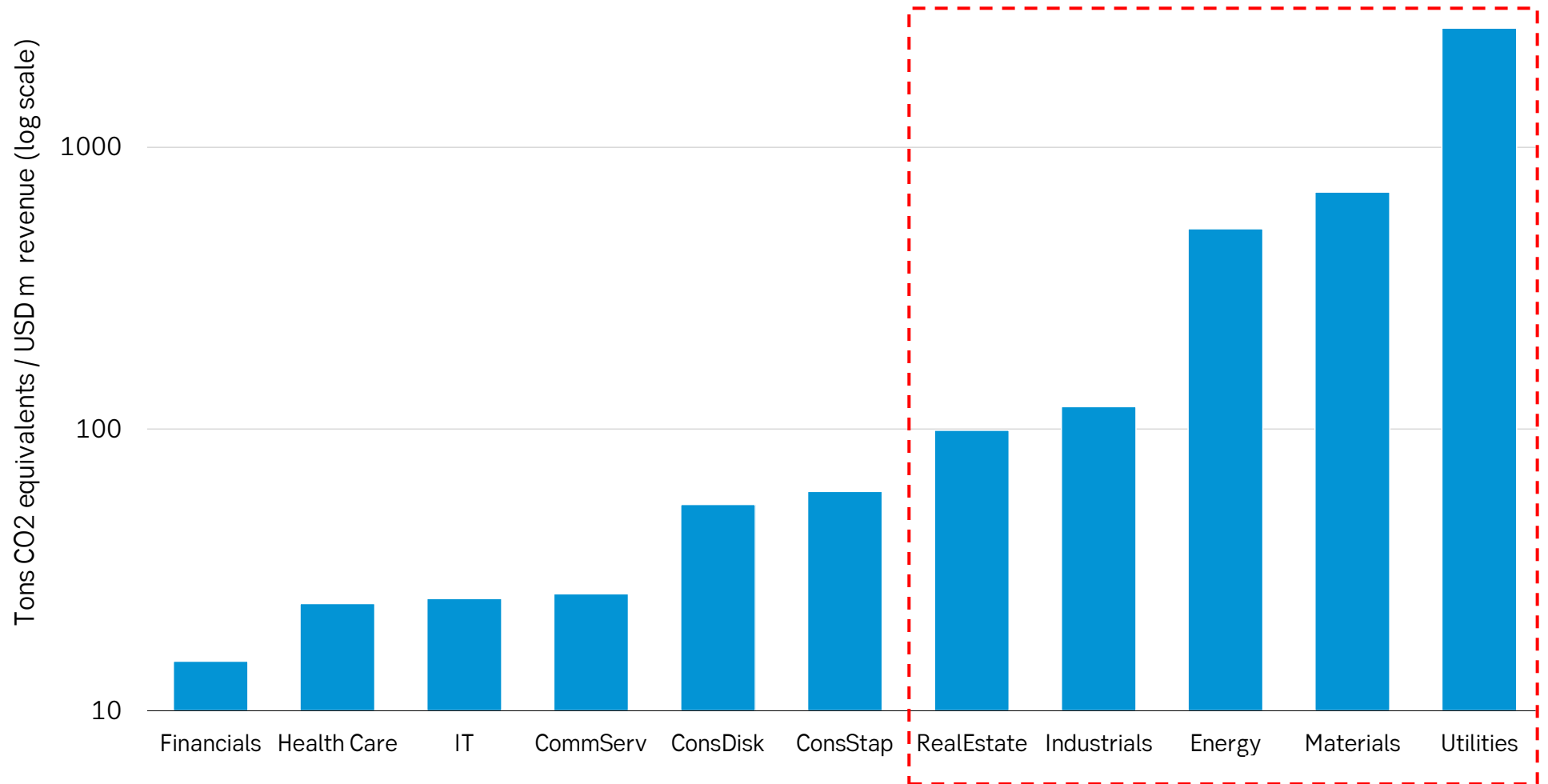
ESG 2.0: who will deliver energy transition?

Dirty sectors build infrastructure: we have to work with them



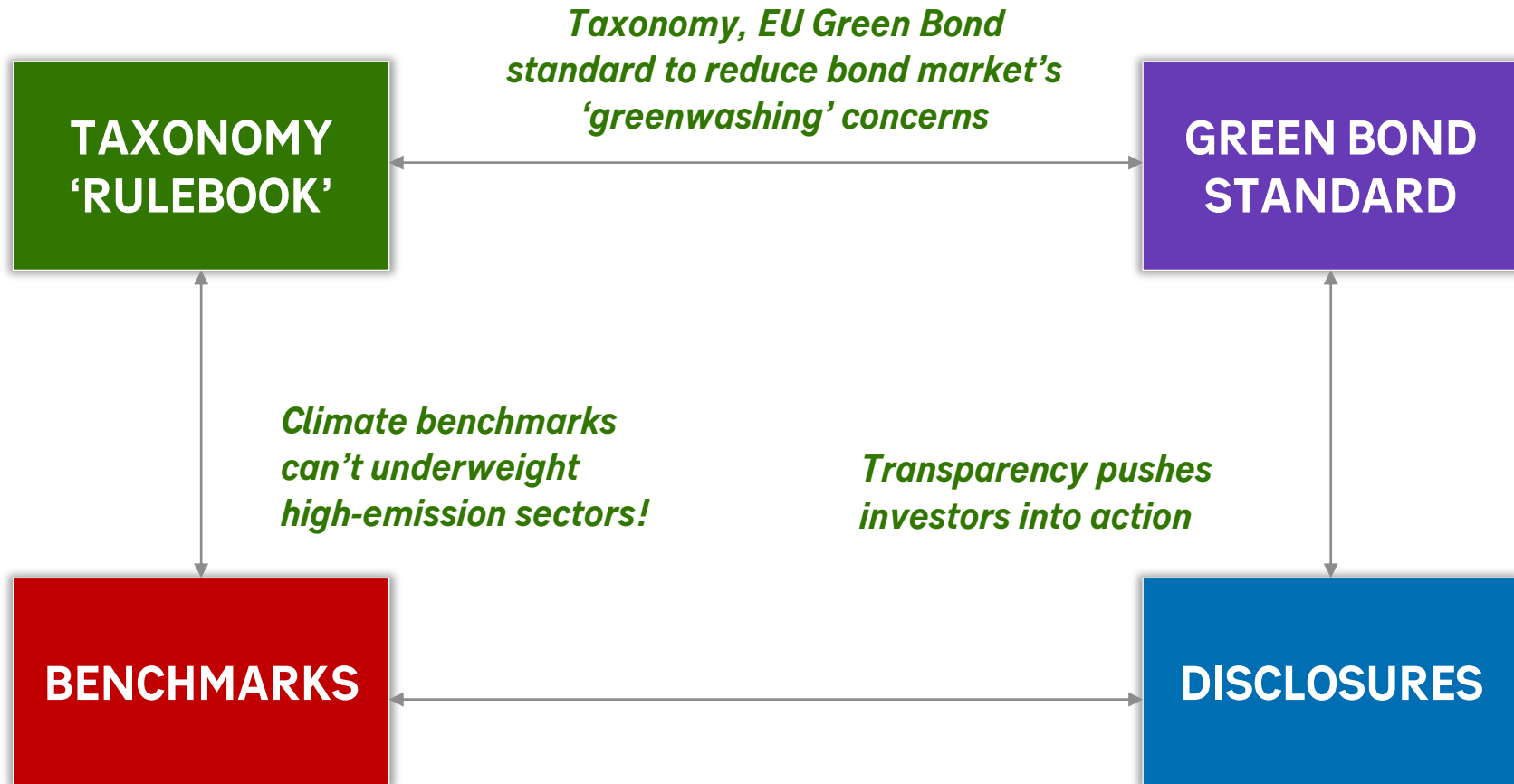
ESG 2.0: from exclusion to intra-sector 'wedge'

Markets will reward those who reduce emissions in 'dirty' sectors



EU taxonomy: internalizing the externality

Aim is to shift capital to transition leaders in high-emission sectors



Two examples highlighting new trends

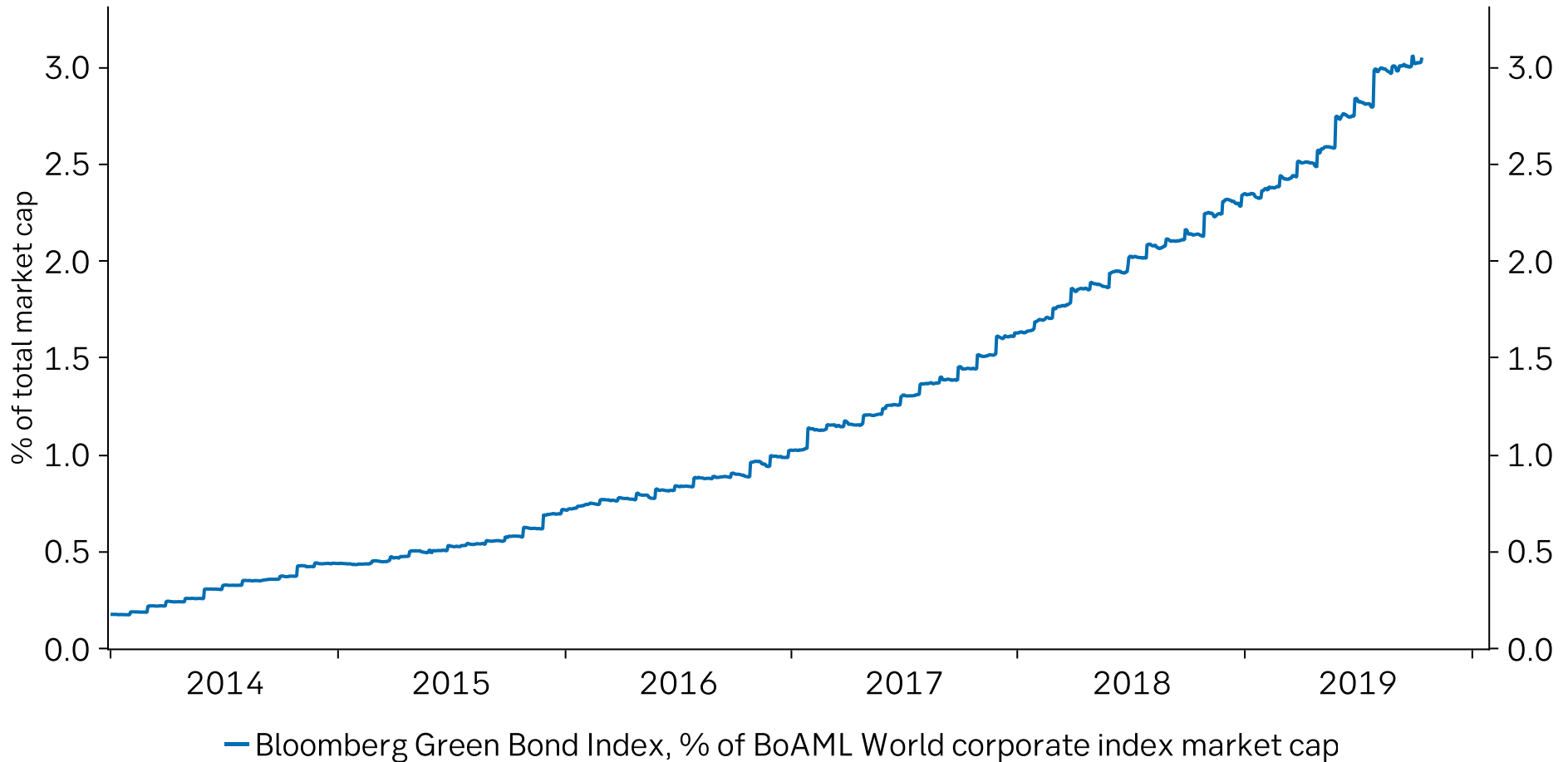
New types of sustainable bonds/new types of green bond issuer

Two recent bond issues that highlight new trends:

- **Enel SpA:** SDG-linked bond with built-in incentives
 - Not 'use-of-proceeds' – looks at whole company
 - Yield +25bp if renewable share <55% in '21
- **Teekay Shuttle Tankers:** Green bond, non-green sector
 - Green bond from high-emission sector with impact
 - Used to finance vessels that reduce CO2 emissions

Growth likely to come from 'transition bonds'

Taxonomy will expand Green Bond issuer base, range of projects



Source: Macrobond, SEB Strategy Research

Where is sustainable finance headed?

Building on initial successes, we are ready for the next stage

Sustainable finance is moving:

1. From Green Bonds to Transition finance
2. From bonds & loans to all financial instruments
3. From expert-driven niche to full integration

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