



# Fortunes to be made and lost

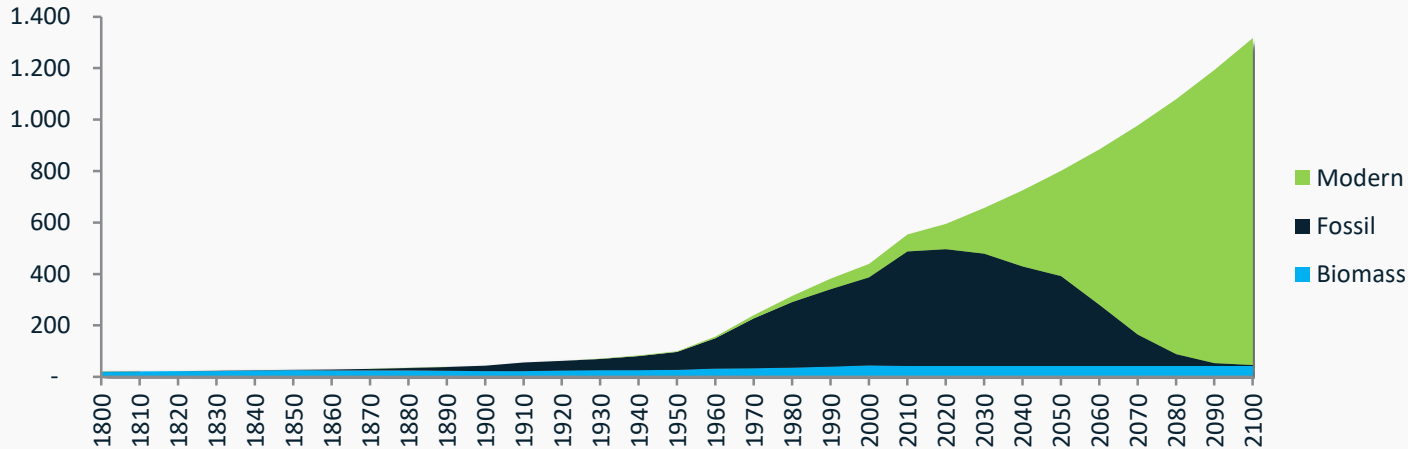
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Investor Presentation Berlin.

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# The world is moving from fossils to renewables

Sources of energy (EJ)

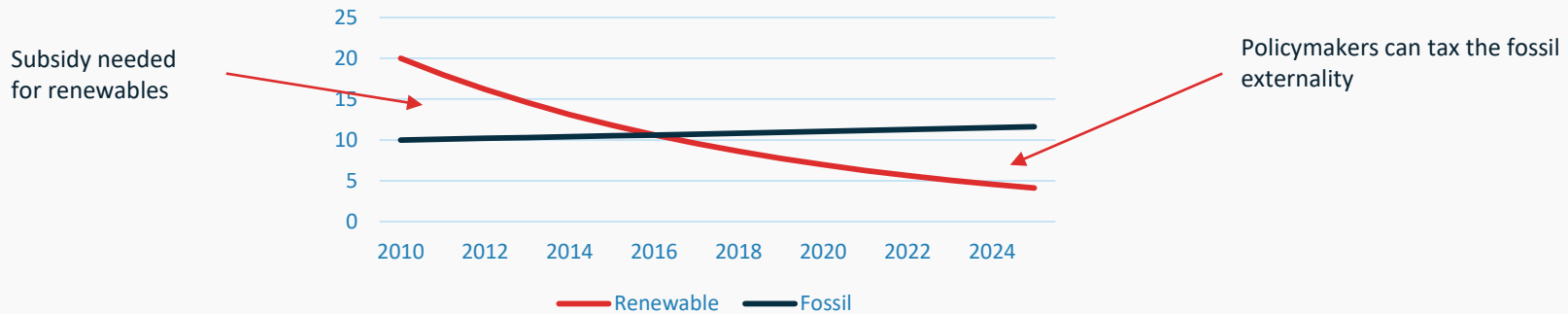


Source: BP, Smil, Carbon Tracker

- Carbon was the first driver. Which drove policy, efficiency and innovation.
- Costs are the new driver.
- Pollution and energy security are additional imperatives.
- The emerging market leapfrog will complete the shift.

# Helped by a positive feedback loop

Normalised cost framework

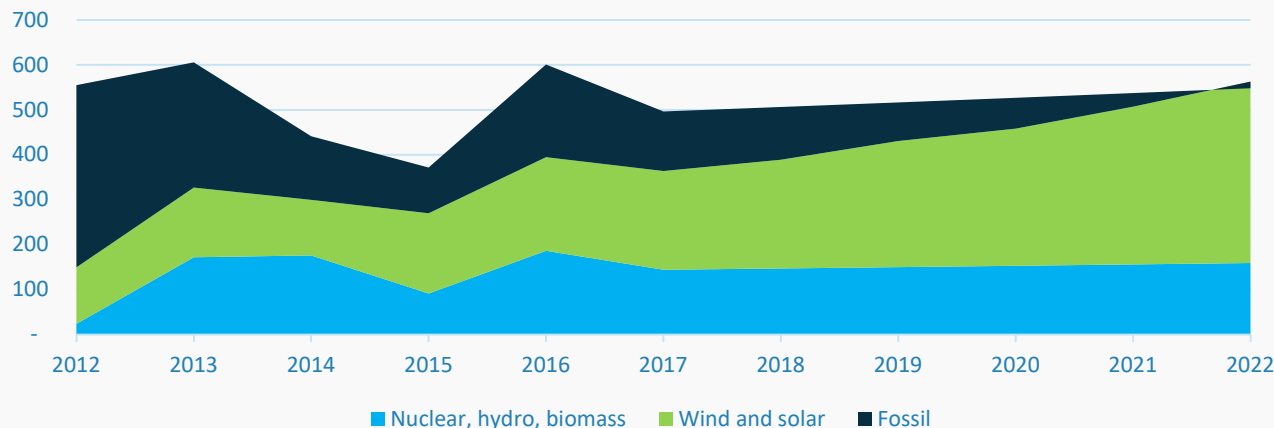


Source: Carbon Tracker

- The cost of renewable technologies continue to fall rapidly and to below the costs of fossil fuel alternatives.
- As this tipping point is reached, so policymakers can stop subsidies. Which drives the costs of renewables lower.
- And start to tax the externality. Which makes the environment harder for fossil fuels.

# Demand for fossil fuels is about to peak

Incremental supply of electricity (TWh)

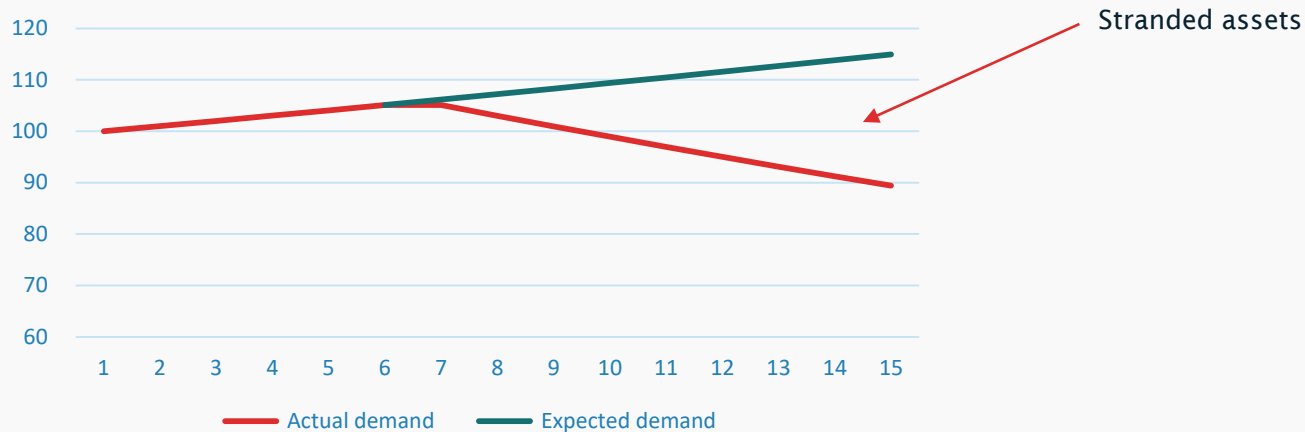


Source: BP, Carbon Tracker

- Two thirds of incremental electricity supply came from non-fossil sources in 2016. At current growth rates for solar and wind, all incremental electricity supply will come from non-fossil sources by 2021.
- Energy for electricity is 80% of incremental energy supply. So total demand for fossil fuels will peak shortly after. Around 2022.
- We have seen this before many times. Incumbent demand usually peaks when challengers are small. And incumbents rarely see change coming.

# Investors in incumbents lose money at the peak

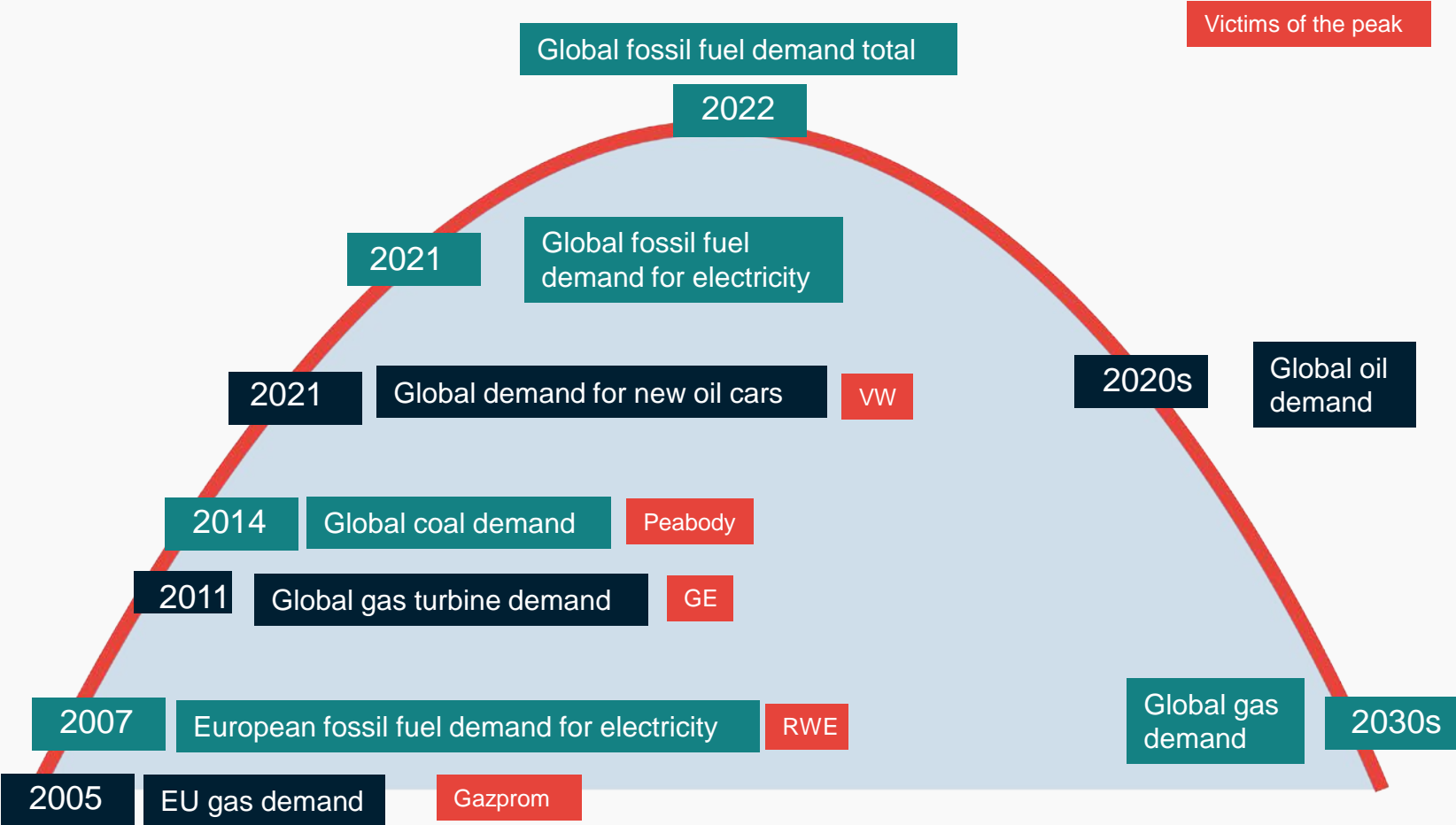
## Expectations and reality



Source: Carbon Tracker. Normalised volume

- Financial markets are driven by change not by size.
- At the peak you get stranded assets. The European electricity sector.
- Falling prices. The coal sector.
- New competition. The car sector.

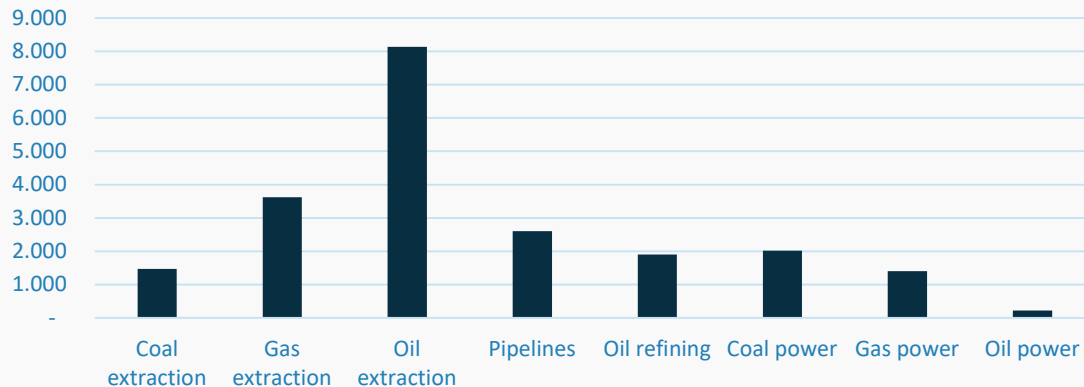
# We have been warned



Source: BP, Bloomberg, Carbon Tracker

# There are fortunes to be lost

Fossil fuel built asset value \$bn

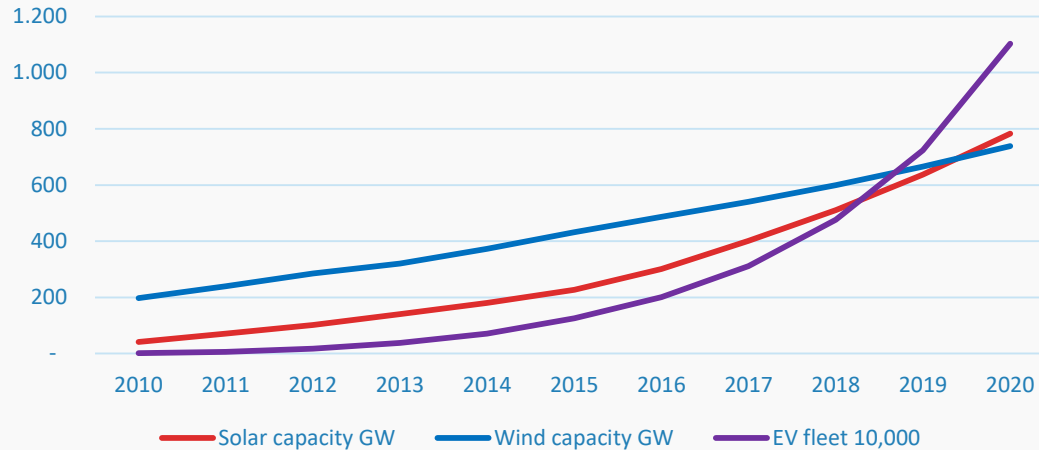


Source: IEA, Carbon Tracker

- The built value of the current fossil fuel infrastructure is around \$25,000 billion. This will all be worthless by the end of the century.
- \$1,300 billion is already stranded. Stranded assets grow every year as renewable costs fall.
- Fossil fuel and related industries compose up to one third of equity and debt markets.

# And new business empires to be built

## New energy capacity



Source: IRENA, GWEC, BNEF, Carbon Tracker

- Growth.
- Innovation.
- New business models.
- Who do you want to be?





For more information please visit:

[www.carbontracker.org](http://www.carbontracker.org)

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