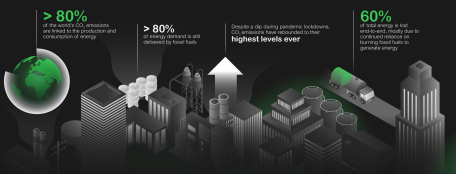


# Electricity 4.0

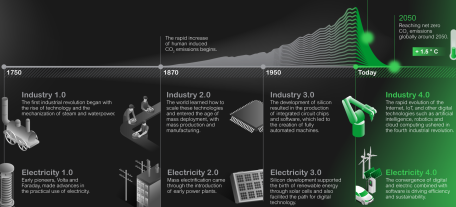
## Our fastest route to Net Zero

A more electric and digital world is key to a sustainable and resilient future.

### Climate change is an energy challenge

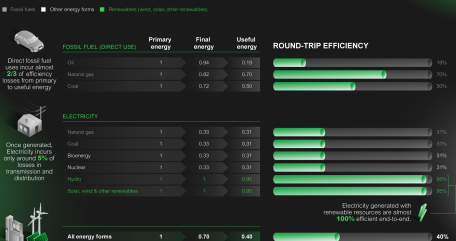


### From the Age of Fire to the Age of Electric and Digital



### Electricity makes energy green

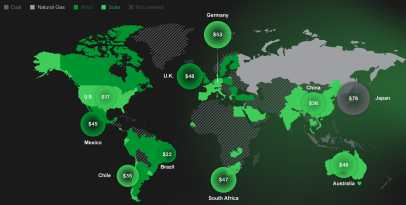
The efficiency of energy forms end-to-end (based on data extracted from World Energy Outlook 2019, in Twh)



**Primary energy:** The energy available in the raw resource. **Final energy:** The remaining energy after conversion and delivery costs to final end-use sectors. **Useful energy:** The actual units of service or heat effectively used by the consumer. **Round-trip efficiency:** The conversion of primary energy into final energy is 20% efficient, largely due to the massive waste of fossil fuels burning to generate electricity. The conversion of final energy into useful energy is ~10% efficient, mostly due to the very low efficiency of heat during the motor and heat 'loss' in a steam turbine. The current energy system is 40% efficient. 40% of primary resources are wasted in the process. The key test case is the continued reliance on resources burning to generate energy, what we've called the 'Age of Fire' (Chertin, 2020).

### Renewables are the cheapest source of new bulk electricity for more than two-thirds the world's population.

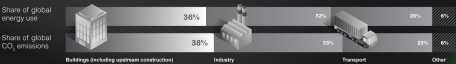
Cheapest source of Bulk Generation. Current LCOEs of New build solar, wind, coal and gas (2021)



Source: BloombergNEF. The map shows the technology with the lowest LCOE for new-build plants in each country where BNEF has data (H1, 2021). The dollar numbers denote the per-kWh benchmark level of the cheapest technology. \$0.022 is an assumed level. Calculations exclude subsidies, tax credits or grid connection costs. LCOE is calculated in \$/kWh.

### Digital technology makes the invisible visible, eliminating waste and driving efficiency

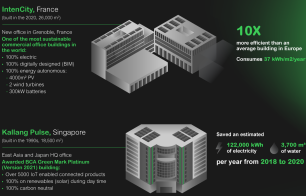
#### Buildings use more energy and produce more CO<sub>2</sub> than any other sector.



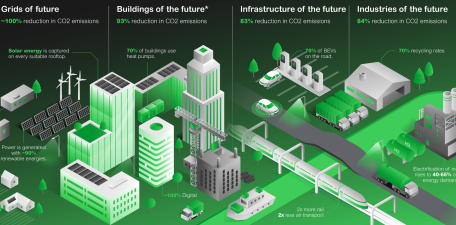
#### Digital technologies save energy and carbon, at competitive paybacks, across the entire existing building stock:



#### New buildings and retrofits make big efficiency gains.



### What a net zero future looks like in 2050



### The 1.5° scenario is within reach when we embrace sustainability as a business imperative

Best in class companies follow a 3-step approach:



Start and accelerate your journey now!



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Sources: Schneider Electric™ Sustainability Research Institute, Data.com, EA, Bloomberg, International Energy Agency, ILO Energy, International Administrative