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Fossil fuel-burning utilities will benefit from a greener world

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Portfolio Construction **Forum**

Fossil fuel-burning utilities will benefit from a greener world

Regulated electric utilities *– even those burning coal and gas today to keep the lights on – are well positioned to navigate climate change and not only face very little asset stranding risk, but will be* ***beneficiaries in a greener world***

Economic Model

Two types of utilities

- Unregulated *(competitive)* utilities
- Regulated *(monopoly)* utilities

Electric utilities are made up of

- Power generation
- Poles and wires
- Retail / customer facing

Utilities – Nature of Returns

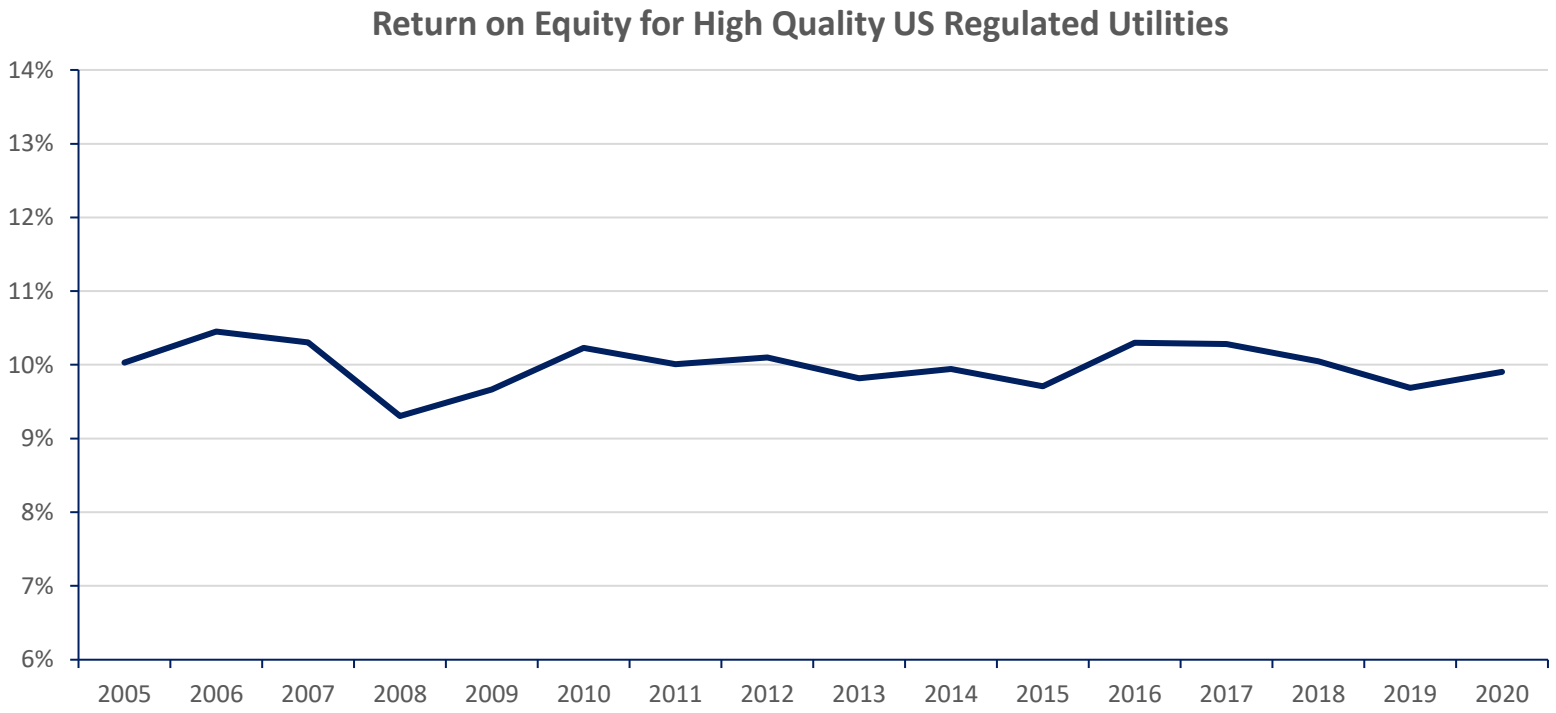
The regulation of utility earnings leads to stable financial results and ultimately stable investment returns

Regulation allows utilities to earn fair returns with low potential for loss.

Earnings regulation leads to stable financial results

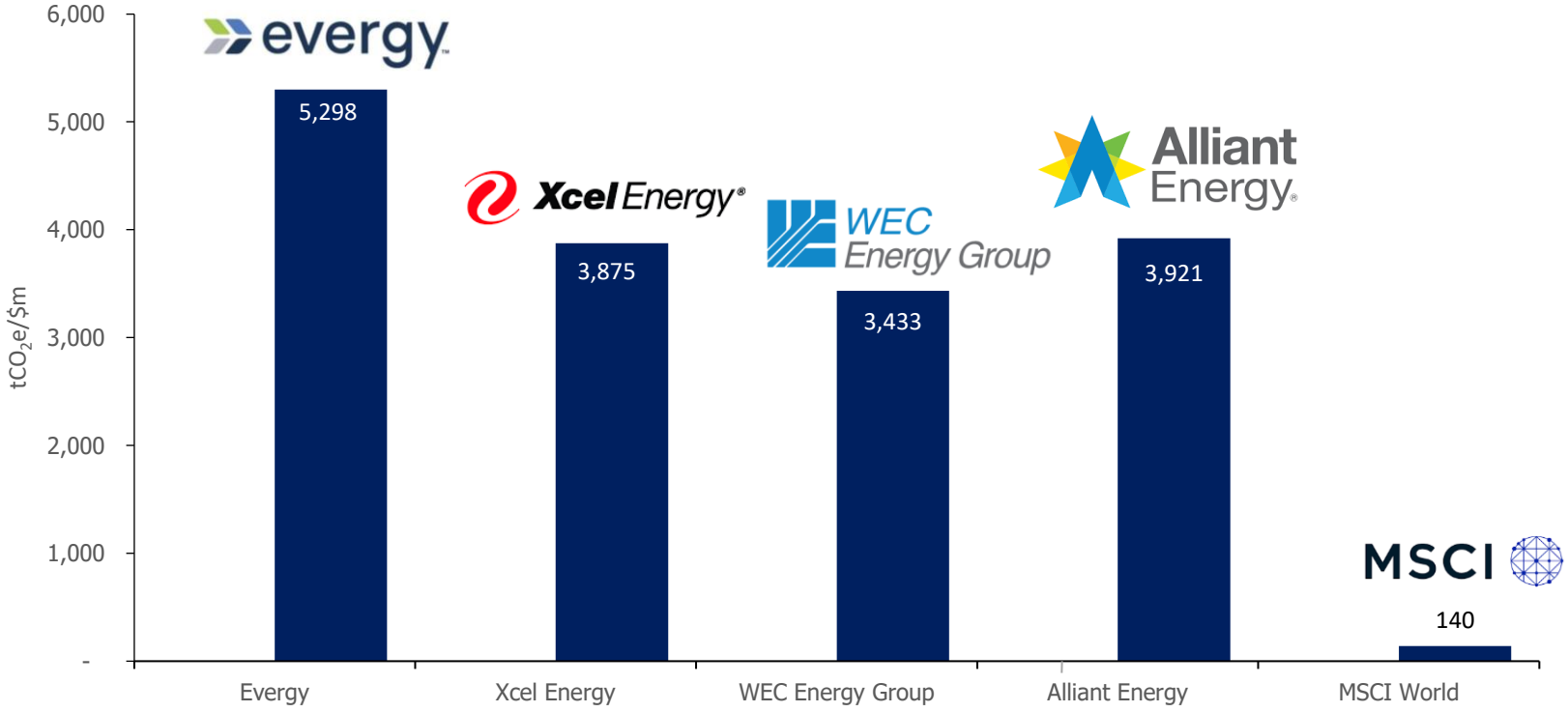
Regulation Leads to Stable Financial Performance

The earnings of US regulated utilities were stable through the recession



Source: Magellan, Sentieo

Utilities screens with high emissions



Source: MSCI; MAM analysis. As at 31 December 2020.

Carbon intensity ≠ investment risk

Myopic focus on carbon accounting yields false inferences about investment risk

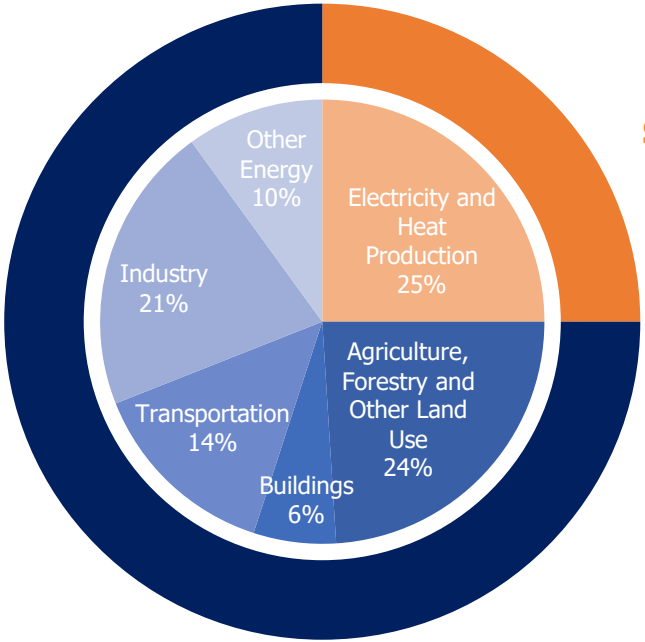
	spark infrastructure	Vopak	bp
Key sector exposures	Electric T&D	Fossil fuel & chemical storage	Fossil fuel production and development
Emissions intensity (tCO_2e/$m revenue)	1,303.0	290.5	179.3
Stranding risk	Nil	Meaningful in the medium-term	Significant near-term risk
Growth upside from decarbonisation	Meaningful	Limited	Limited

Source: MSCI, MAM analysis. As at 31 December 2020

Regulated utilities are impact investments

Electrification is counterproductive without clean power

Global Emissions by Sector (%):



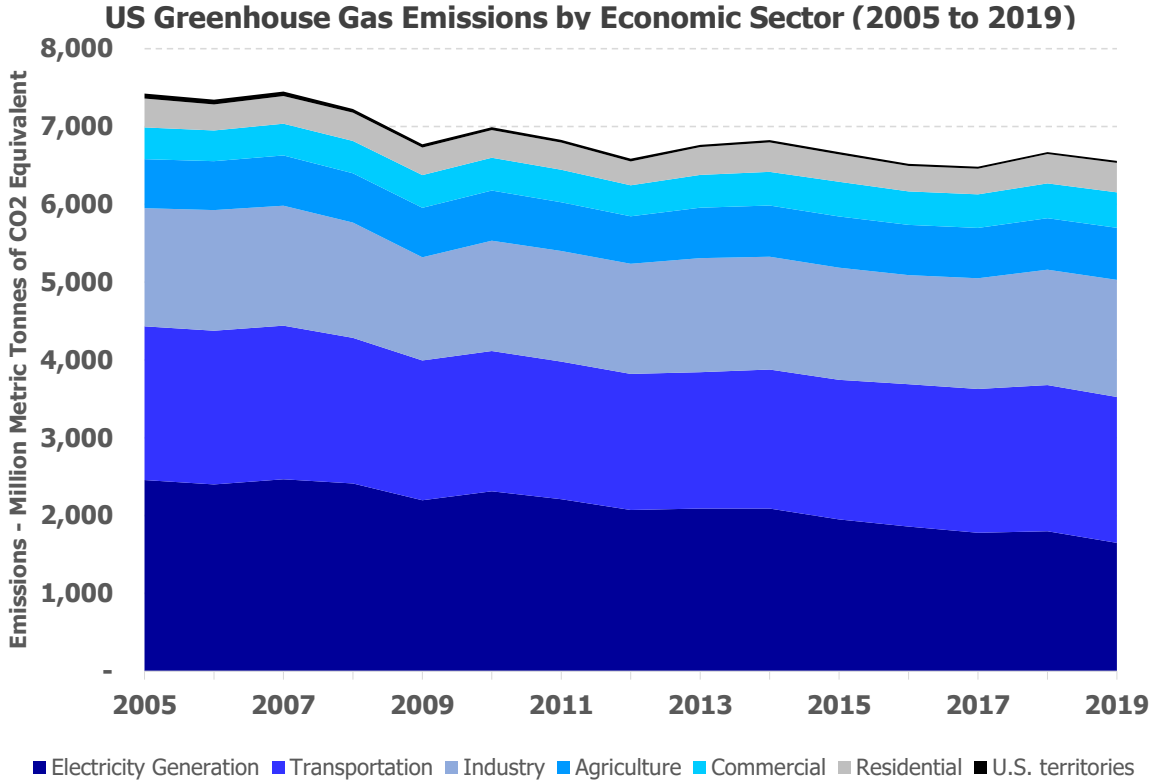
Central solution: Sustainable energy generation

Central solution: Electrification

Source: IPCC global emissions by sector

Utilities – Part of the Solution

The power generation sector has already significantly reduced emissions.



Change in Emissions from 2005 to 2019

Sector	*% change*
Electricity Generation	-49%
Transportation	-5%
Industry	-1%
Agriculture	6%
Commercial	10%
Residential	2%
Total	-13%

Reduction in Emissions from 2005 to 2019

Sector	*Change in MMT CO_2*
Electricity Generation	808 MMT CO_2
Transportation	100 MMT CO_2
Other	-43 MMT CO_2
Total	865 MMT CO_2

Source: US EPA's Inventory of US Greenhouse Gas Emissions and Sinks: 1990-2019
MMT CO_2 = Million Metric Tonnes of Carbon Dioxide

Electric Transmission & Distribution

Are transmission and distribution networks affected by decarbonisation?

Clear beneficiary

Substitute technology	Technological capability	Cost competitiveness	Policy support
			
The grid is an enabler of electrification and critical to carbon reduction	Renewable penetration continues to grow. EVs showing strong momentum	Low carbon technology continues to climb down the cost curve	Strong policy support for electrification and renewables

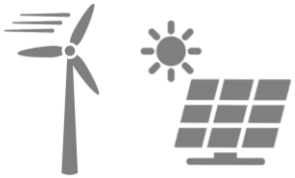
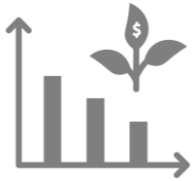
Investment View

Sector carbon emissions are an artefact of carbon accounting and will fall as more renewables are connected. Connecting renewables and load growth from electrification represents an opportunity.

Integrated Power

Are integrated power investments winners or losers in a rapidly decarbonising world?

Clear beneficiary

Substitute technology	Technological capability	Cost competitiveness	Policy support
			
Renewable Power and Storage	Intermittent power and lower capacity factors, but penetration improving	Significant – cheapest in many regions	Renewable targets, subsidies, tax credits

Investment View

Switch to renewables for integrated utility companies will drive ongoing growth.
Asset stranding risk of aged thermal plants minimised through regulatory structure

An indispensable part of the climate solution

The utilities within the top quintile of strategy carbon intensity are leading the transition

	evergy	Xcel Energy	WEC Energy Group	Alliant Energy
Emission reduction achievements	↓ **51%** since 2005	↓ **51%** since 2005	↓ **>50%** since 2005	↓ **42%** since 2005
Target	↓ **Net Zero** by 2045	↓ **Carbon free** electricity by 2050	↓ **Net zero** generation by 2050	↓ **Net zero** generation by 2050

Source: Company filings

Decarbonisation is driving growth

The energy transition delivers compelling growth rates for low-risk regulated utilities

	evergy	Xcel Energy	WEC Energy Group	Alliant Energy
Guided Long-Term EPS Growth (% p.a.)	**6 - 8%**	**5 – 7%**	**5 – 7%**	**5 – 7%**
Guided Capital Investment	**>$9b** 2021 - 2025	**$24b** 2021 - 2029	**$16b** 2021 – 2025	**$14b** 2021 - 2029

Source: Company filings

And it’s just getting started

Historic investments will sustain attractive growth rates for a generation

Estimated Investment Required to Achieve Net-Zero in the US by 2050

New wind and solar capacity	New transmission capacity
$3.4 – 6.2 trillion	**$2.5 – 3.7** trillion

Source: Princeton University, Net-Zero America: Potential Pathways, Infrastructure, and Impacts

Key takeaways

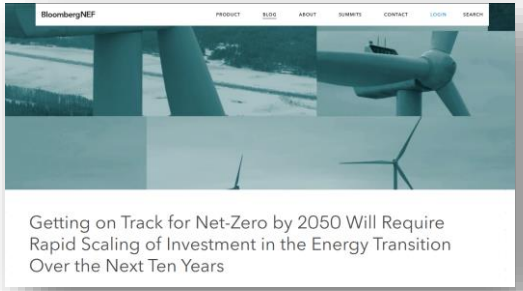
1. Carbon intensity ≠ Investment risk
2. Decarbonisation and net zero targets will increase electric demand
3. High quality utilities are making the shift to net zero
4. …and investing to grow their business as the trend plays out

Further reading

Example of a major (coal burning) US utility's opportunity to invest and decarbonise

XCEL ENERGY - WOLFE CONFERENCE INVESTOR UPDATE PRESENTATION

Summary of the global investment need for energy transition over next 10 years



BNEF - GETTING ON TRACK FOR NET ZERO WILL REQUIRE RAPID SCALING OF INVESTMENT IN THE ENERGY TRANSITION OVER THE NEXT 10 YEARS

Long-range (detailed) review of the US infrastructure needs and spending to reach net zero

PRINCETON UNIVERSITY STUDY NET-ZERO AMERICA: POTENTIAL PATHWAYS, INFRASTRUCTURE, AND IMPACTS

Research links:

Xcel Energy - *https://s25.q4cdn.com/680186029/files/doc_presentations/2021/09/Wolfe-Conference-09-29-21.pdf*

BNEF - *https://about.bnef.com/blog/getting-on-track-for-net-zero-by-2050-will-require-rapid-scaling-of-investment-in-the-energy-transition-over-the-next-ten-years/*

Princeton University: *https://netzeroamerica.princeton.edu/the-report*

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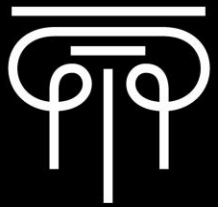

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