

# Fossil Fuels...but not with Fossilized Thinking

THE CLIMATE IS  
CHANGING   
SO SHOULD WE!  
#ACTNOW

# GaffneyCline: Advising the Energy Industry since 1962

A boutique advisory firm with an established worldwide reputation for providing trusted, impartial advice based on technically robust analysis and commercially astute recommendations.

Our global experts comprise diverse backgrounds and disciplines to deliver integrated technical, commercial and strategic insights

Our clients include private and public energy companies, government ministries and regulators, legal firms, private equity, financial institutions, technology providers, original equipment manufacturers, and construction companies.



## Capability focus areas include

- Resource assessment & development
- Policy & commercial advice
- Gas & LNG
- Refining & chemical production
- Carbon management & energy transition

## Service focus areas include

- Sovereign advisory
- Regional market and technology insights
- Independent engineering
- Acquisitions and divestment
- Litigation and arbitration



# Carbon Management and Energy Transition Practice



Carbon intensity evaluations

1



Evaluation of policies and regulations

2



Assessment of carbon solutions

3



Accreditation of emissions reduced

4

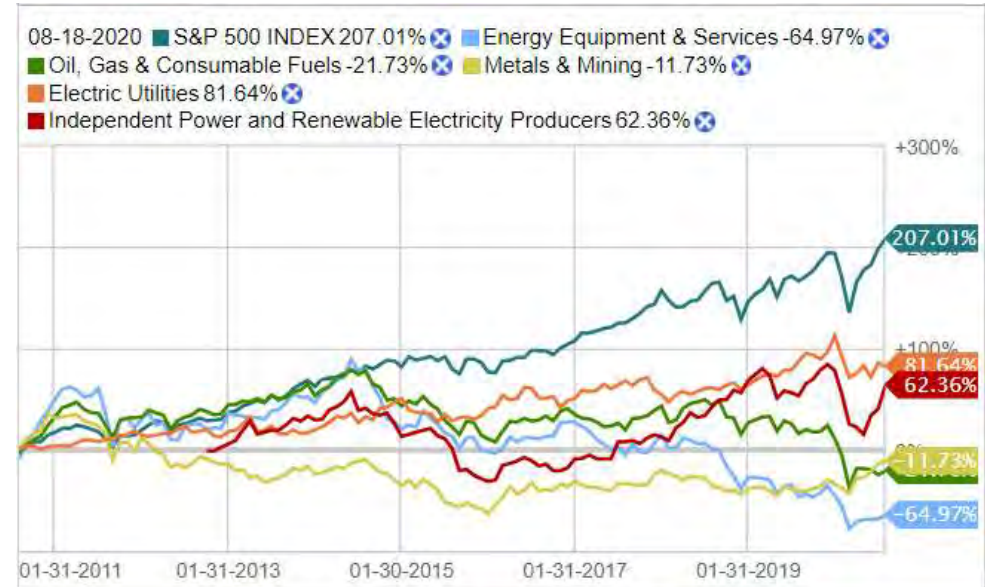
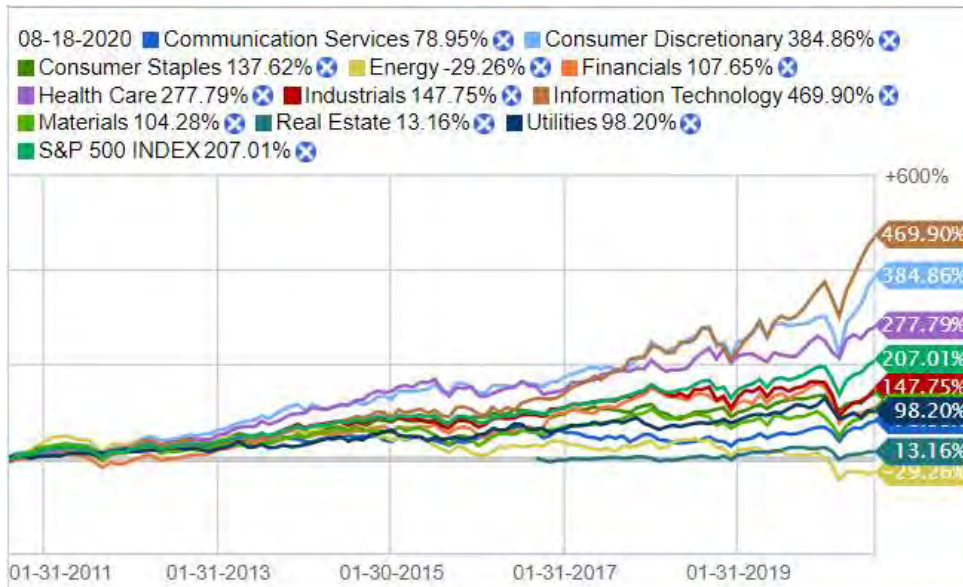


Economic Evaluation

5

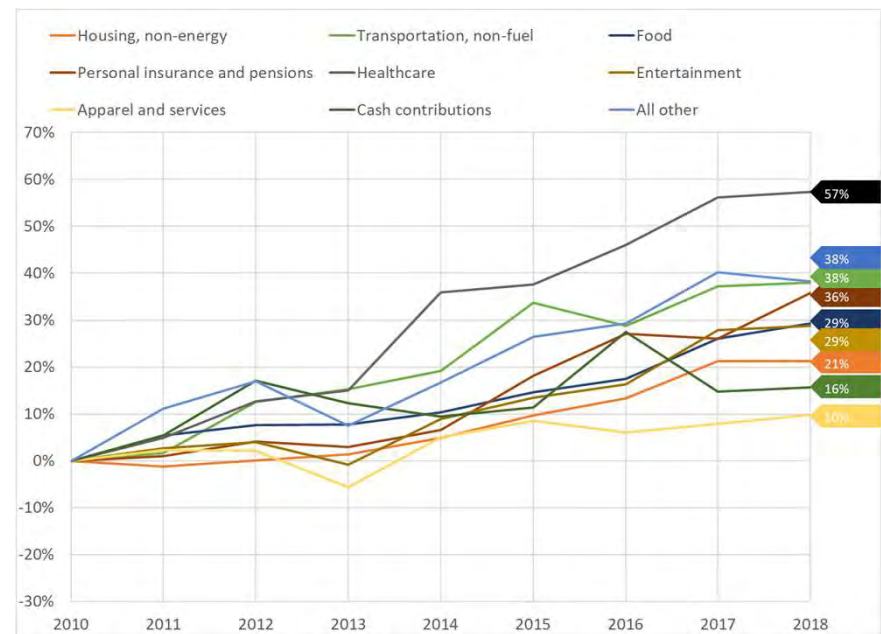
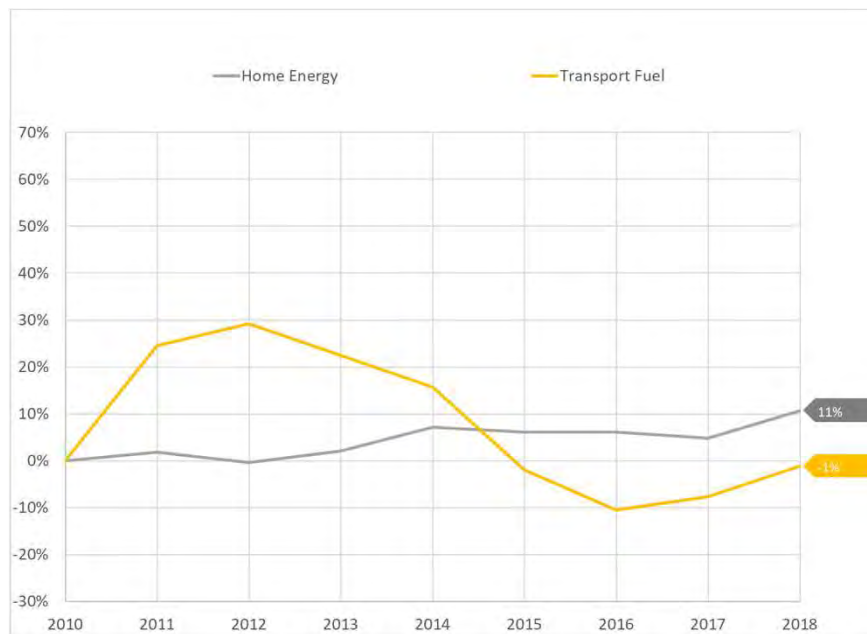
# The energy sector performance for investors over the last 10 years...

...has underperformed against other sectors due to commodity price cycles impacting returns



However the U.S. energy sector performance for customers has been very effective to manage costs...

...but this is not recognized or rewarded by society



# Oil and Gas companies have new visions for the future...

...but is it enough to bring back the investors and maintain their social license?



Reduce net carbon footprint by 20% (2035) and 50% (2050)



Net zero target (2050), large structural reorganisation to achieve



Carbon neutral (2030), reduce net CI by at least 50% (2050)



Reduce CI by 40% (2040)



Carbon neutral for Scope 1 & 2 emissions (2030)



Carbon neutral (2030)



Reduce emissions by 52% per kWh of energy production (2030)



Target net zero on upstream operations (2030)

**Parliament pension fund cuts fossil fuel investments**

The Guardian, 24 Mar 2020

**CITING CLIMATE CHANGE, BLACKROCK WILL START MOVING AWAY FROM FOSSIL FUELS**

The New Yorker, 16 Jan 2020

**Norway's Government Pension Fund Global gets go ahead to divest \$13bn of investments**

The Guardian, 12 Jun 2019

**World Bank to end financial support for oil and gas extraction**

The Guardian, 12 Dec 2017

**European Investment Bank to phase out fossil fuel financing**

The Guardian, 15 Nov 2019

***Global Financial Giants Swear Off Funding an Especially Dirty Fuel***

The New York Times, 12 Feb 2020

**Danish pension provider ATP to halt fossil fuel investments via external funds**

Reuters, 04 Feb 2020

**JP Morgan to withdraw support for some fossil fuels**

The Guardian, 25 Feb 2020

# Continued investment in oil and gas is needed through the Energy Transition...

...in both existing and new fields to offset natural decline

- Existing field production decline at ~8% per year is larger than any plausible fall in global demand
- However the type of resources, how they are developed and operated will need to be significantly different
- Markets will become increasingly competitive. Those with lower-costs and better environmental performance will benefit

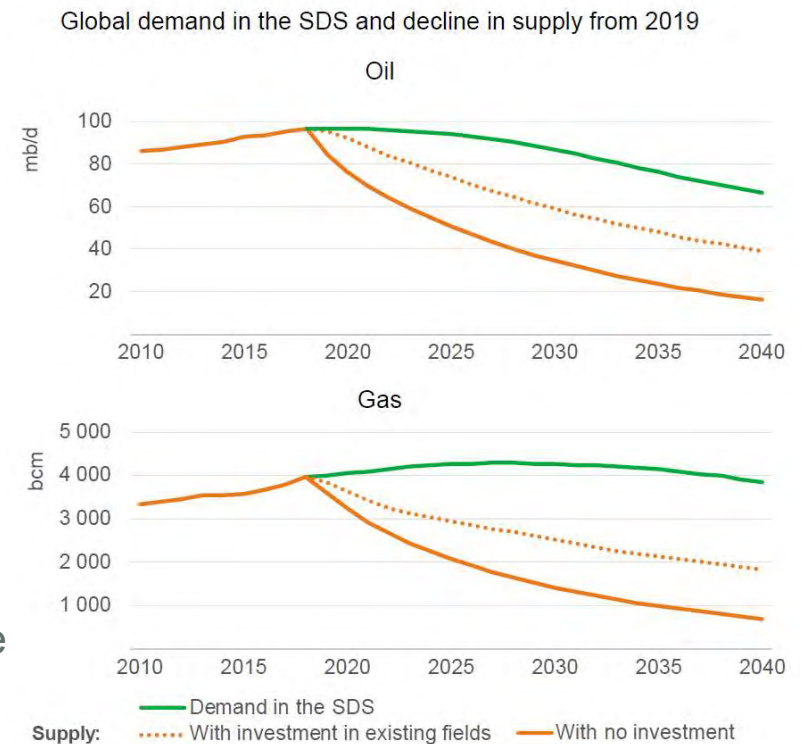


Image courtesy: IEA 2020, The Oil and Gas Industry in Energy Transitions

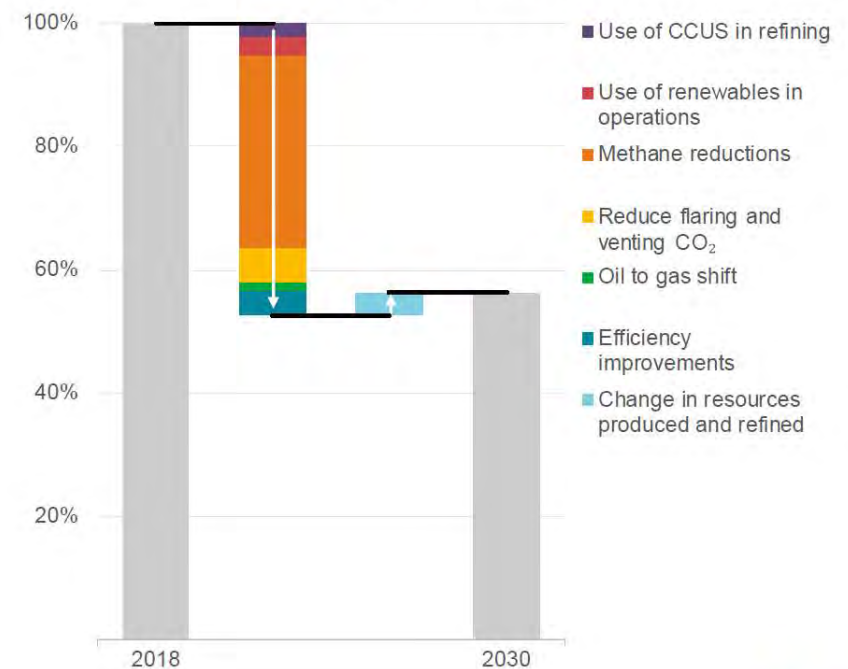
# The way we produce oil and gas needs to include systematic Carbon Management...

...to avoid, reduce, replace, offset and sequester GHG emissions

- Oil and gas supply is responsible for nearly 15% of global energy sector GHG emissions today
- Carbon Management can be cost-effective today without incentives/regulation, with investment pay-back in weeks/months not years, increasing production and reducing operating costs
- CCUS in the absence of revenues from utilization and a market for lower carbon products, relies on public policy to address the externality

Image courtesy: IEA 2020, The Oil and Gas Industry in Energy Transitions

Changes in the average global emissions intensity of oil and natural gas operations in the SDS





## Multiple approaches exist to perform Climate Change Scenario Analysis...

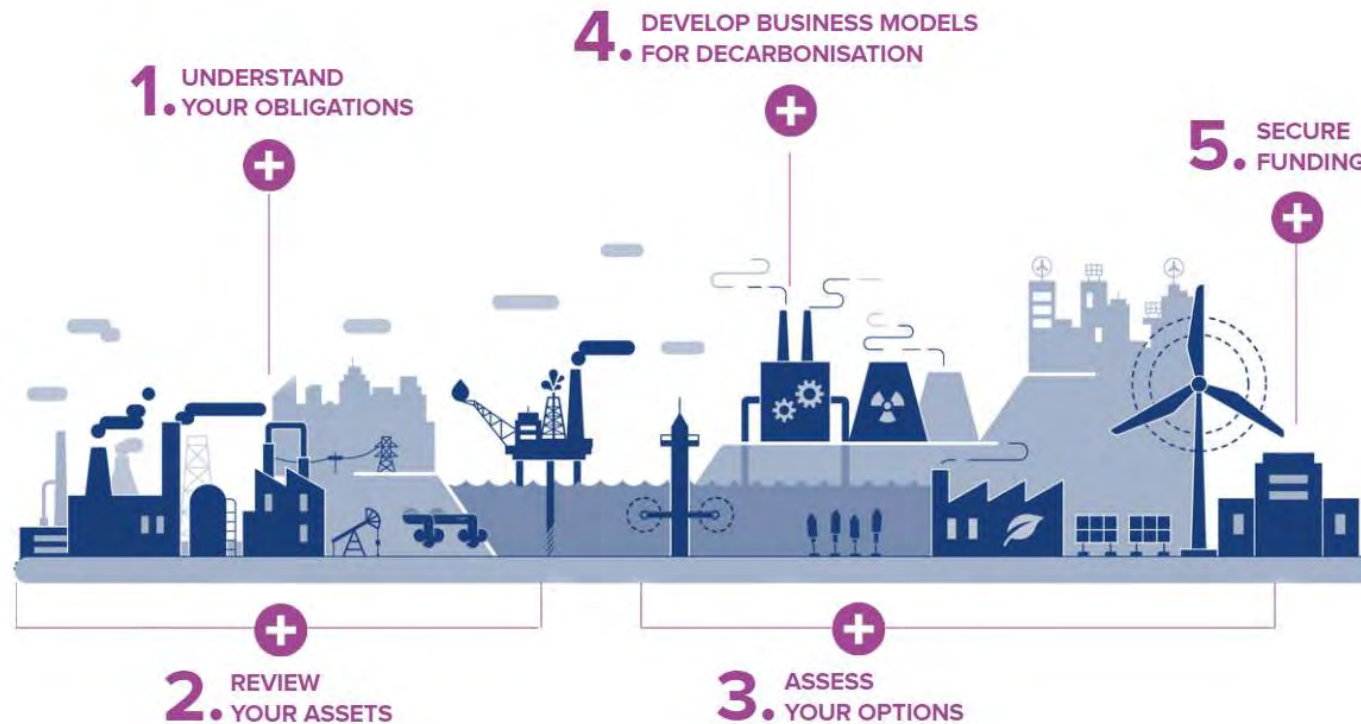
...to assess the impact of energy and climate scenarios on oil and gas projects and portfolios that provide clarity to stakeholders and a basis for ESG reporting requirements

- Commodity pricing impacts can be assessed with supply/demand models
- Supply cost impacts can be assessed with regional marginal supply cost curves
- Carbon Intensity of oil and gas supply can be assessed with global/regional CI benchmarks from our database
- Carbon price impact on oil and gas reserves can be assessed with a production and GHG emissions forecast

Please contact us for further information on our work on any of the above methods at [CarbonMGT@gaffneycline.com](mailto:CarbonMGT@gaffneycline.com)

# The road to a low carbon economy is a long and challenging one...

...and companies will increasingly need to report, disclose and provide transparency



# GaffneyCline

Energy Business Experts

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