Institute and Faculty of Actuaries

Grant Thornton

GIRO Conference 2022

21–23 November, ACC Liverpool

#GiroConf22

Institute and Faculty of Actuaries

Grant Thornton

Net Zero and Offsets

Raluca Stefan, Vaibhav Agarwal

#GiroConf22

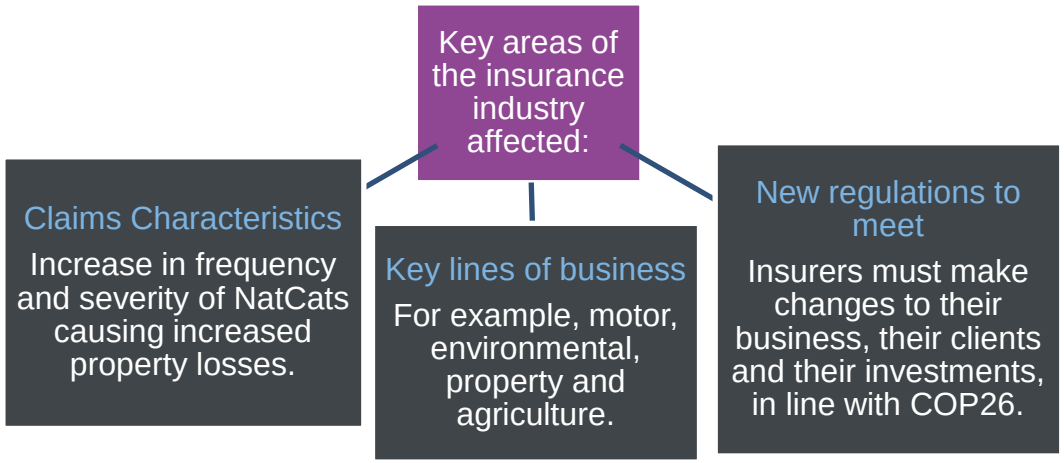
Agenda

Climate change and the Net Zero goal

The effects of climate change are becoming increasingly concerning for the insurance industry. Climate change has led to significantly more secondary peril events, such as floods, wildfires and other extreme events, which are thought to have accounted for over 50% of global insured losses in 2019.

Currently, this is only getting worse. The concentration of carbon dioxide (CO_2) in the atmosphere, as of July 2021, was 416ppm - the highest it has been in human history.

This has led to the creation of: The Net Zero goal: to achieve Net Zero by 2050. Explicitly, this means: Net Carbon released = Net Carbon Removed.



The Paris Agreement

196 parties at COP 21, held in Paris in 2015, adopted a legally binding international treaty on climate change, with the goal to limit global warming to below 2˚C, compared to pre-industrial levels. It covers climate change mitigation, adaptation, and finance.

The agreement set a global goal of reaching Net Zero Emissions by 2050.

Cop26

The UN Climate Change conference held in Glasgow in 2021 built upon the Paris Agreement, and requested that countries revisit and strengthen their climate pledges by the end of 2022, called for a phasedown of coal and set up processes towards delivering a global goal on adaptation, higher levels of climate finance and finance for loss and damage.

For Non-Life insurers, this implied key learnings for investment strategy, underwriting and reserving assumptions, and regulatory complications.

Grant Thornton

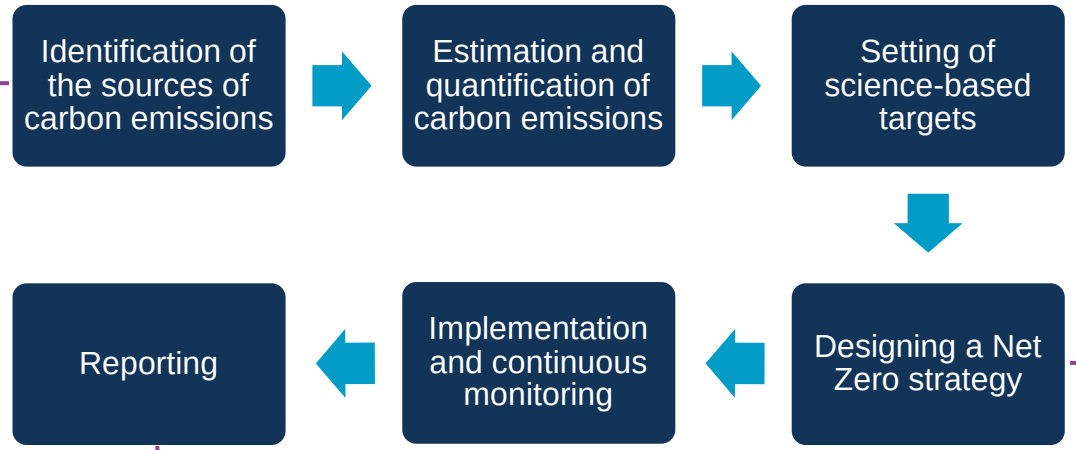
Institute and Faculty of Actuaries

The Net Zero roadmap

Measuring Carbon Emissions:

The different types of emissions can be categorised to better understand their source. We have:

- Scope 1 – emissions from sources an organisation owns directly.
- Scope 2 – emissions caused indirectly from energy being used.
- Scope 3 – emissions coming from up or down its value chain.



Internal:
Understand and reduce one's own operational emissions. Implement a strategy with timescales and publicly commit.

External:
Reduce supply chain emissions & include carbon reduction in client contracts. This includes making 'green' investment choices.

Offsets:
It is often not cost efficient or feasible to remove carbon emissions entirely. You can deal with unavoidable emissions through offsets.

The TCFD (Task Force on Climate-related Financial Disclosures) has created a framework for climate-related reporting, in order to improve the quality, consistency and transparency of such reports.
The UK are mandating climate risk disclosures in line with TCFD by 2025 – this will directly impact insurers.

Grant Thornton

Institute and Faculty of Actuaries

Net Zero progress

2021 - The UN convened the Net Zero Insurance Alliance (NZIA), which brings together world's leading insurers and reinsurers to play their part in the transition to net-zero. 4 of the biggest insurers, all founding members of NZIA, provide 20% of global oil and gas insurance at present. Members of the NZIA individually committed to transition their underwriting portfolios to net-zero greenhouse gas emissions by 2050.

2021 - AXA XL announced a new innovative tool that integrates the protective benefits of coastal ecosystems into insurance risk models for flood hazards.

2021 - Insure-our future published a scorecard that considers the 30 leading insurers' response to climate risk in relation to their policies on divestments from non-green assets, underwriting of risks for non-green projects, and providing coverage for oil and gas undertakings. On a scale of 10, the best insurers scored below 5.

2021 - Legal & General Investment Management announced that it will divest from AIG for unsatisfactory responses to engagement and/or breaches of 'red lines' around coal involvement, carbon disclosures or deforestation.

2021 - At COP26, there was good progress on phasing down coal as compared to oil and gas. 35 coal exit policies vs 3 oil and gas exit policies were announced, however, an allowance for exceptions exists.

2021 - Swiss Re announces ambitious carbon reduction target for its investment portfolio of 35% by 2025. The Group also moves ahead with full phase-out of thermal coal; new exit strategy in treaty re/insurance by 2030 (OECD) and 2040 (rest of the world).

Grant Thornton

Institute and Faculty of Actuaries

Net Zero timeline

Investment
- 25% Reduction – Allianz, Aviva, Phoenix, Zurich and Prudential
- 20% Reduction - AXA
- 18.5% Reduction - L&G

Operation
- Net Zero - Phoenix
- 20% Reduction - AXA
- 50% Reduction – Zurich

Investment
- 50% Reduction – Phoenix, LBG, L&G, M&G, DLG, AXA and Royal London
- **60% Reduction** - Aviva

Operations
- Net Zero - Aviva, LBG, L&G, M&G, Munich Re, Royal London(*)
- 50% Reduction - RSA
- 25% Reduction – Prudential

Investment
- Net Zero – Aviva, AXA

Investment
- Net Zero - Phoenix, M&G, Zurich, Prudential, L&G, LBG, Royal London, Allianz, AIG, Canada Life and Munich Re

Operations
- Net Zero –Prudential, Allianz, AXA, AIG, Canada Life, DLG and RSA

Operations
- 70% Reduction – Zurich(*)

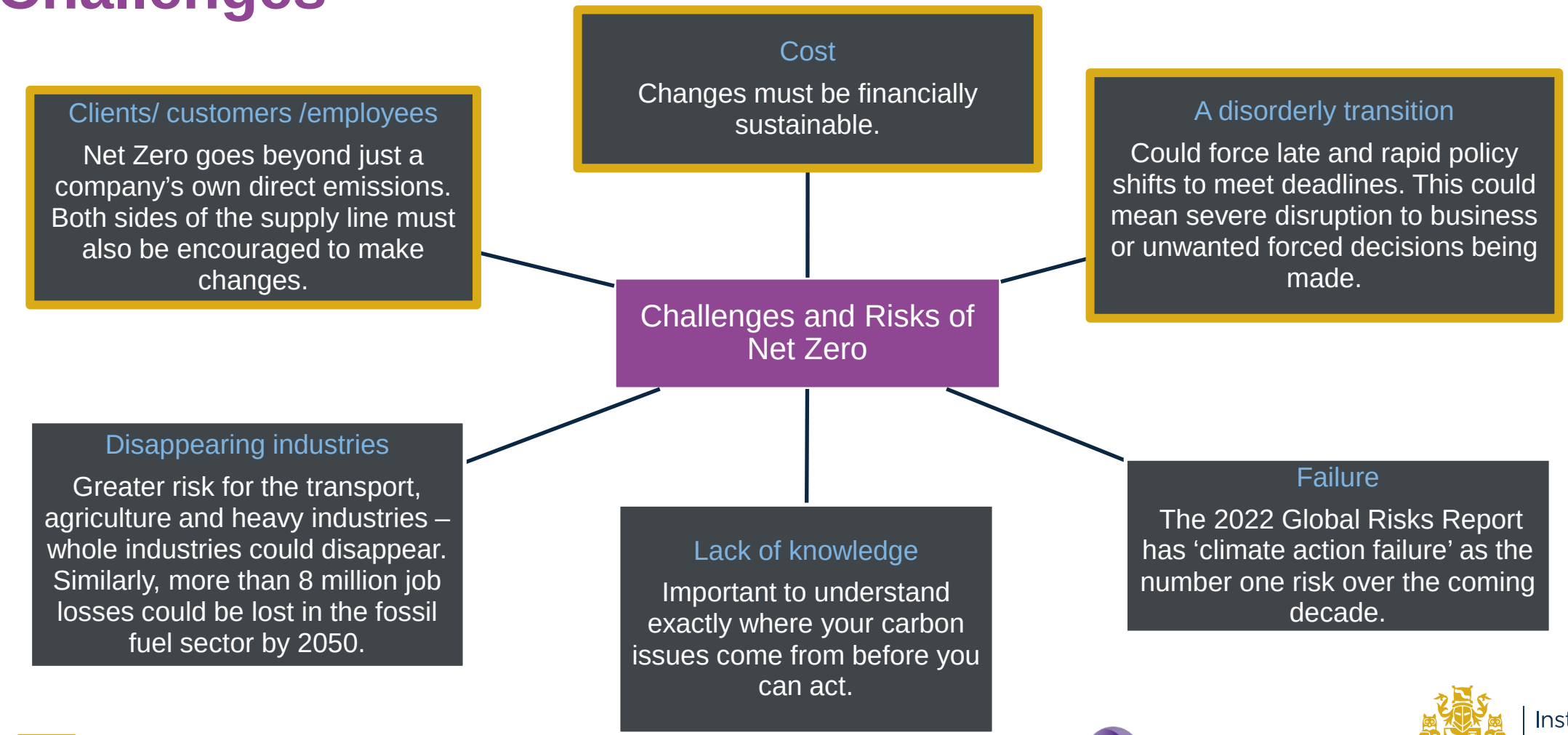
Interim investment targets generally relate to carbon intensity – the exact metrics vary between companies. These targets relate to proprietary assets or a subset of assets where a company has full investment control.

(*)Operational –
- Zurich – subsequent media release states they are aiming for net zero by 2030
- Royal London net zero by 2030 (scope 1&2 only), scope 3 target not stated in report

Grant Thornton

Institute and Faculty of Actuaries

Challenges



Can be tackled using offsets

Grant Thornton

Institute and Faculty of Actuaries

Offsets

Offsets provide a way of dealing with unavoidable carbon emissions. They are linked with activities that lower the level of CO_2 in the atmosphere.

1 Offset ⇔ 1 tonne of CO_2 removed or emission avoided.

Companies looking to balance their own CO_2 emissions can purchase offsets, helping them achieve Net Zero by tackling the challenges we saw previously:

Clients/ customers/ employees

Even emissions that are beyond your full control (clients/supply chain emissions) can be balanced out by offsets to achieve Net Zero.

Cost

It is most likely not financially optimal to reduce emissions to zero entirely. Offsets can be used to deal with the emissions that can't realistically be removed.

A disorderly transition

Using offsets to balance difficult to remove emissions can ease the pressure and stop rapid, dramatic policy shifts that disrupt business close to deadlines

However, only 5% of offsets actually remove CO_2 permanently, the majority of which comes from afforestation / reforestation.

The remaining 95% sequester carbon or find alternative uses/ storage solutions.

Grant Thornton

Institute and Faculty of Actuaries

Examples of offsets

Type of Offset	How it works	Advantages	Disadvantages	Cost to purchase	Difficulty of implementation
Reforestation/ afforestation	Trees are (re)-planted to convert carbon dioxide to oxygen.	Greatest potential to sequester carbon globally. Currently, 11% of all global greenhouse gas emissions caused by humans are due to deforestation.	Restricted by land availability. Permanency issues. Time lag before effects are seen.	Low	Low
BECCS (Bio-energy with carbon capture and storage)	Burns biomass to convert it to energy. The carbon released is captured and locked away underground.	Provides a reliable, renewable energy source – reduces the demand for electricity from fossil fuels.	Requires a significant amount of cropland. Could lead to food shortages and starvation.	Medium	Medium
DACCS (Direct air carbon capture and storage)	Uses industrial scale fans to suck in air and filter the carbon out for storage.	Can be located anywhere, not just at a carbon source. 15 plants already capturing 9000 tonnes of CO_2 per annum.	Costs significantly more than other capture technologies. Requires a large amount of electricity, adding to the already high demand.	High	Medium
The Blue Carbon Initiative	Aims to restore coastal and marine ecosystems, where Blue Carbon is stored.	Great potential – experts estimate 1.02 billion tonnes of CO_2 are being released annually from degraded coastal ecosystems.	Needs advanced marine expertise to implement.	High	High

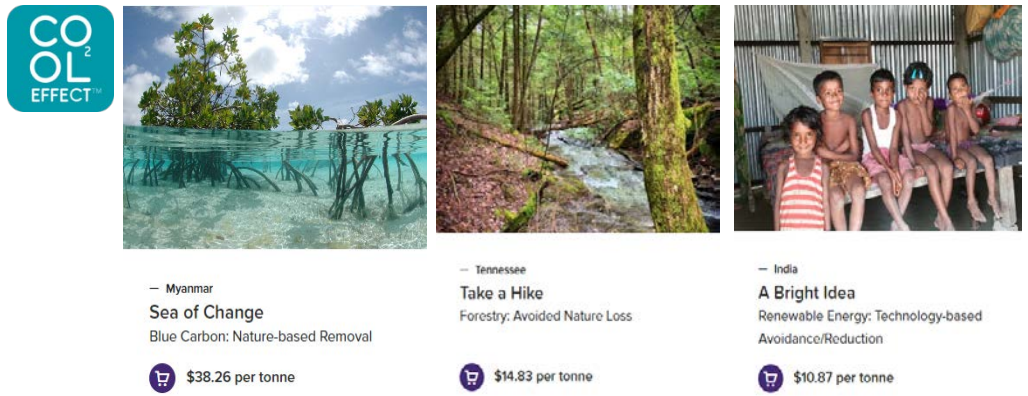
Grant Thornton

Institute and Faculty of Actuaries

Accessing offsets

There are several different ways of accessing offsets:

- Build inhouse e.g. a company planting 1000 trees themselves.
- Use vendors to implement offsets on your behalf e.g. a vendor planting the trees on your behalf, which you then own.
- Purchase offsets from organisations already supplying them. Some examples include:



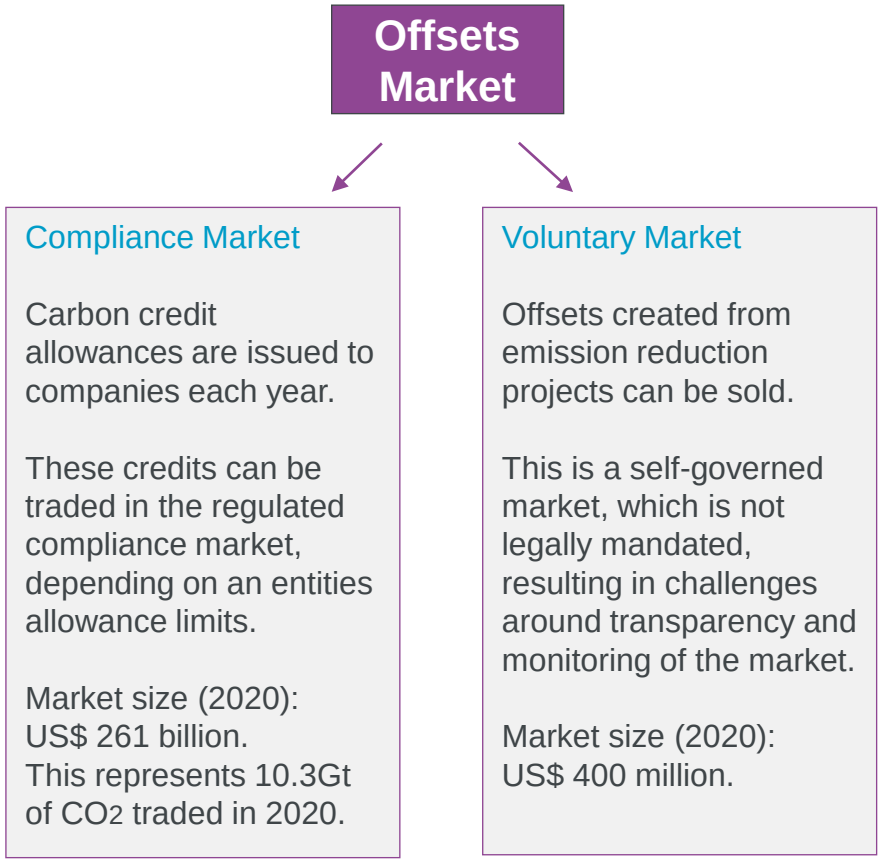
STAND FOR TREES

1. They save a forest, stopping carbon emission.
2. Independent auditors verify successes and issue carbon credits.
3. You buy the credits through Stand For Trees, hence funding the project further.

Grant Thornton

Institute and Faculty of Actuaries

The offsets market



Future outlook for the market:

The voluntary carbon market is expected to grow heavily as countries pursue their climate change targets.

It is estimated to grow to US$ 10-25 billion by 2030.

The cost of carbon offsets is looking to rise from under $25/t CO_2 to over $100/t by 2035, but these price estimates vary significantly.

Stricter regulations will close the gap between the 2 markets.

New opportunities:

VCMI – Voluntary Carbon Markets Integrity Initiative
- Aims to improve the quality of offsets in the market.

TCFD – Taskforce on Scaling Voluntary Carbon Markets Initiative
- New governance body to oversee the voluntary market.

First large-scale DACCS plant in Texas (2025)
- Expected to capture 1 million tonnes of CO_2 per annum.

Grant Thornton

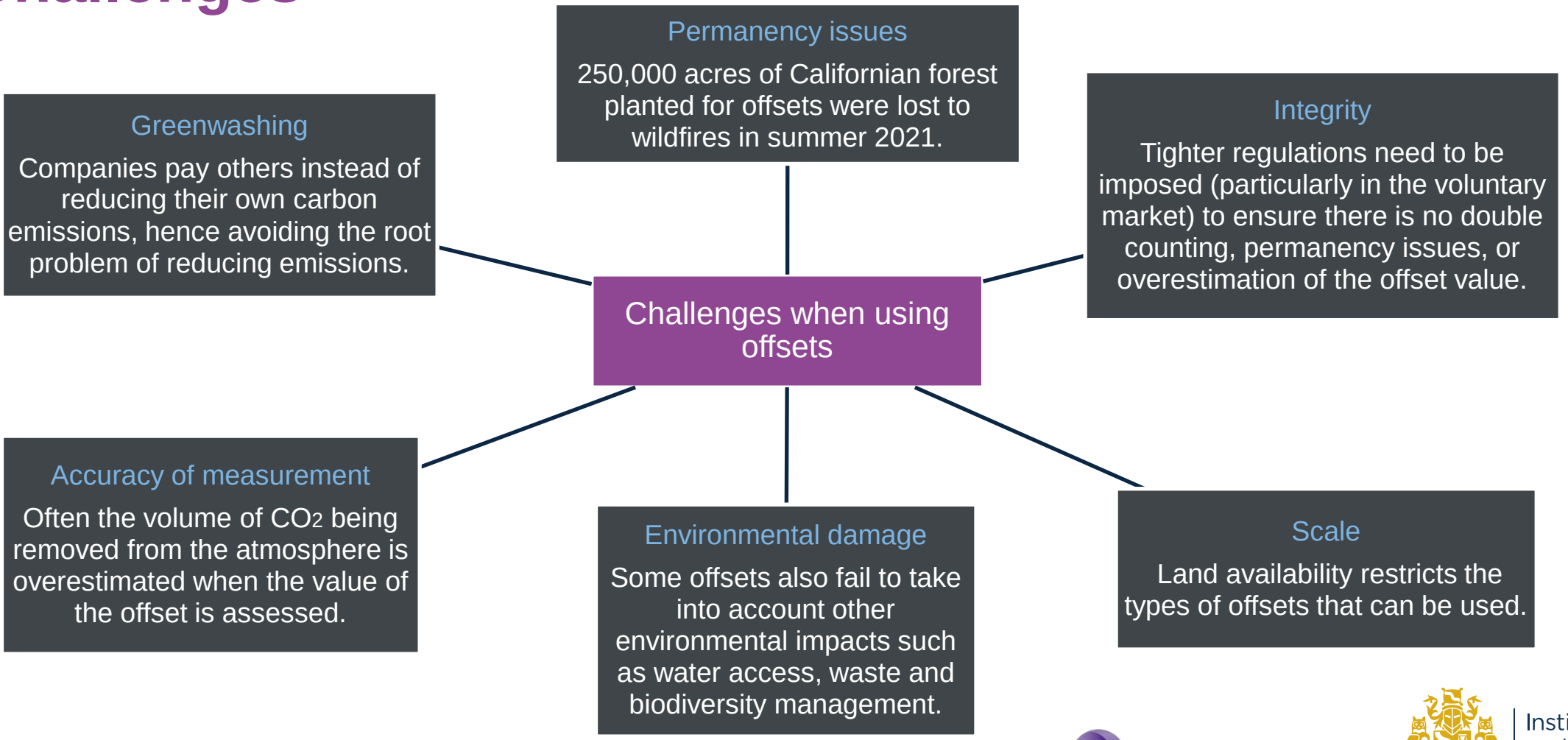
Institute and Faculty of Actuaries

Can using offsets go wrong?

Grant Thornton

Institute and Faculty of Actuaries

Challenges



Grant Thornton

Institute and Faculty of Actuaries

Integrating offsets and the Net Zero strategy

How can you integrate offsets successfully to help Net Zero be achieved?

Offsets can be used for companies that otherwise would not have a viable path to Net Zero by 2050. However, there should be a timeline for integrating offsets into its longer-term Net Zero strategy.

There are 2 contrasting strategies for integrating offsets into the Net Zero strategy:

1. Companies should first look to implement strategies that avoid, reduce and substitute carbon emissions. Only then, at this final stage, should offsets be used as a final solution to achieve Net Zero.
2. Alternatively, offsets can be used at an earlier stage as a way to 'buy time' in order to make long term changes to reduce carbon emissions. For example, the transition to electric cars requires additional carbon emissions in production, but has long term carbon reduction benefits.

In general, the key to a successful Net Zero strategy is: the earlier the engagement, the better!

- Transition risks are best managed through early engagement.
- Carbon offsets will become increasingly scarce and more expensive, as demand increases closer to the 2050 deadline.

Grant Thornton

Institute and Faculty of Actuaries

Credibility of commitments

There are 4 key principles you want to consider to ensure you have a reliable offset:

Additionality

Does this offset actually lead to a reduction of carbon that wouldn't have happened otherwise? Or was the project happening already?

For example, if you pay someone who is already building a wind farm to displace a coal power plant, that chunk of renewable energy would have been built without your input anyway. That means your purchase didn't result in any additional reductions in greenhouse gases.

Permanency

Has the carbon been removed forever, or is it just temporary?

For example, we have seen already the issues around the permanency of reforestation as an offset – wildfires or human destruction after the credits from an offset have been acquired means the credits don't actually represent a reduction / removal of carbon, but are still valid regardless!

Double-counting

Once an offset has been purchased, the underlying carbon reduction shouldn't be sold again.

At COP26, Brazil in particular wanted more leeway in counting rainforest preservation toward its own targets while still selling offsets to other countries.
The meeting went way past its deadline and ended without a resolution. The issue will be on the agenda once again at the next meeting in Glasgow, Scotland, later this year.

Leakage

Environmental rules can sometimes drive people to avoid them.

For example, leakage can occur when an area of forest is designated for protection and leads to increased deforestation in unprotected areas.

Grant Thornton

Institute and Faculty of Actuaries

Validation of strategy

To help validate your strategy, the 6 best practice tools being used in the market are:

1. **Use in moderation.**
   Offsets should not be the focus in a long-term Net Zero strategy, just a complimentary aspect.
2. **Favour nature-based offsets.**
   Planting or preserving natural habitats (reforestation / Blue Carbon etc.).
3. **Pay attention to price.**
   Cheaper is not always better. Higher quality may cost more.
4. **Use third-party quality certification.**
   Must ensure and maintain the quality of carbon offsets.
5. **Lean towards compliance offsets.** Offset results are certified, unlike in the voluntary market where companies only make claims about their results.
6. **Look for direct investment opportunities.**
   Invest directly in projects in the offset space.

Grant Thornton

Institute and Faculty of Actuaries

Success stories

AXA Insurance undertook a 12-month initiative to offset the carbon emissions on all car insurance policies purchased or renewed from 1st September 2021 to 31st August 2022, at no extra cost to customers. The scheme was run in Ireland, and offset the carbon emissions of over 750,000 drivers – just over 1M tonnes of carbon (as calculated by AXA's free online carbon calculator.

AXA has done this by supporting global carbon offsetting projects to protect rainforests, generate sustainable energy and reduce green-house gas emissions.

Every customer who purchases a new policy directly through Co-op Insurance, will see 10 percent of their motor or home carbon emissions, for the first year of their policy, offset through carbon reduction projects in the developing world which have added social and environmental benefits, at no extra cost to them.

The projects invested in are independently audited and verified to internationally agreed standards. This includes supporting the provision of cookstoves in Ghana that are up to 50% more efficient than the stoves they replace.

Broker Howden Group has helped create the world's first insurance against fraud and negligence in voluntary carbon-market credits, as part of efforts to scale up the nascent industry.

Howden has teamed up with the carbon finance firm Respira International and reinsurance investor Nephila Capital to provide cover for third-party negligence and fraud, reducing the potential reputational risk of buying carbon credits.

Marsh, the world's leading insurance broker, announced that their US clients will now have the option to pay their fees in voluntary carbon offset credits and renewable energy certificates (RECs). The move, believed to be a first-of-its-kind in the financial services industry, is part of Marsh's commitment to help accelerate the energy transition from fossil fuels to renewables and to recognize clients pursuing and exceeding net zero carbon emission goals.

Grant Thornton

Institute and Faculty of Actuaries

Conclusions

Impact of climate change and the Net Zero Goal

- New regulations to meet.
- Key lines of business - Motor, environmental, property and agriculture.
- Claims Characteristics - Increase in frequency and severity of NatCats causing increased property losses.
- Insurers must have a roadmap to meet the Net Zero Goal by 2050.

Offsets

- 1 Offset ⇔ 1 tonne of CO_2 removed or emission avoided.
- Even emissions that are beyond your full control (clients/supply chain emissions) can be balanced out by offsets to achieve Net Zero.
- Offsets can be used to deal with the emissions that can't realistically be removed.
- Using offsets to balance difficult to remove emissions can ease the pressure and stop rapid, dramatic policy shifts that disrupt business
  Challenges – permanency, greenwashing, scale, integrity

Integrating offsets with the Net Zero Strategy

- In general, the key to a successful Net Zero strategy is: the earlier the engagement, the better!
- Insurers must consider Third-Party Certification, moderation and costs while integrating offsets into their strategy
- There are several success stories to build on

Grant Thornton

Institute and Faculty of Actuaries

Questions

Comments

Expressions of individual views by members of the Institute and Faculty of Actuaries and its staff are encouraged.

The views expressed in this presentation are those of the presenter.

Institute and Faculty of Actuaries

Institute and Faculty of Actuaries

Grant Thornton

Thank you

#GiroConf22