# Company Planning and Greenhouse Gas Strategy


**Organizers:**
**Steven Rose** (Energy and Environmental Analysis)
**Morgan M. Scott** (Sustainability)

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## Today's session

An opportunity to learn about technical issues, insights, and company planning related to climate change

## Session structure

1. *Technical insights for company climate assessments and making use of them*
2. *Company perspectives panel*
   - Greg Ryan (DTE Energy)
   - Marc Campbell (Salt River Project)
3. *Panel discussion & audience questions*

# Session motivation

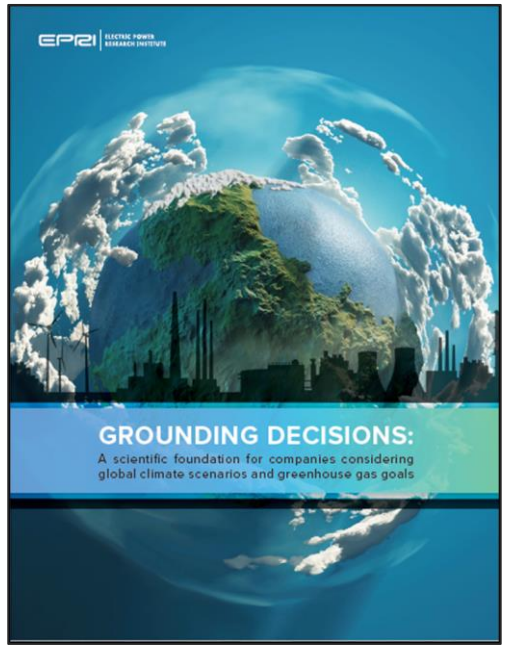
- Companies increasingly receiving requests to analyze climate-related risks (policy and physical) and/or set GHG targets
- However, analyses technically challenging and general unfamiliarity with the science
- Sound scientific understanding is a requisite first step for grounded dialogue & decisions
- EPRI project helping to advance technical understanding, discussion, and decisions

Companies considering all this. What are they doing?

TCFD | TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

…and more



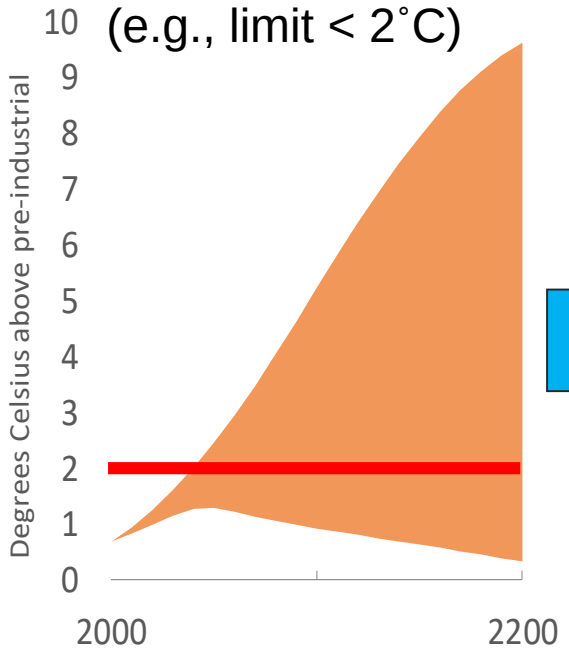

*EPRI, 2108. Grounding Decisions: A Scientific Foundation for Companies Considering Global Climate Scenarios and Greenhouse Gas Goals (#3002014510, www.epri.com)*

# Technical insights for company climate assessments and making use of them

# Global climate goals and the relationship to companies?

EPRI evaluating the relationship between a company and a global average temperature goal

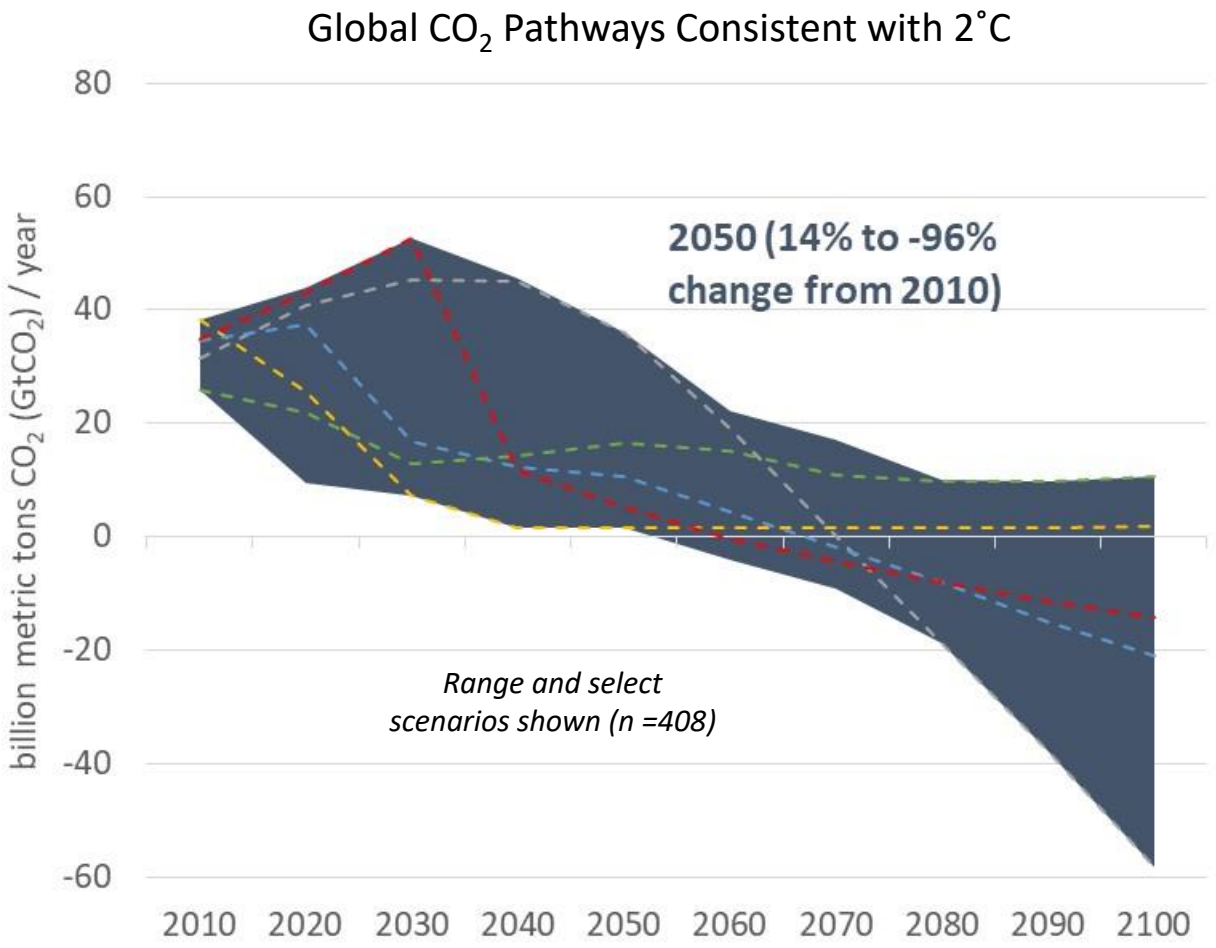
Climate goals
(e.g., limit < 2˚C)




?

Company

# A broad range of $CO_2$ pathways consistent with any temperature




*Developed from IAMC (2014) data*

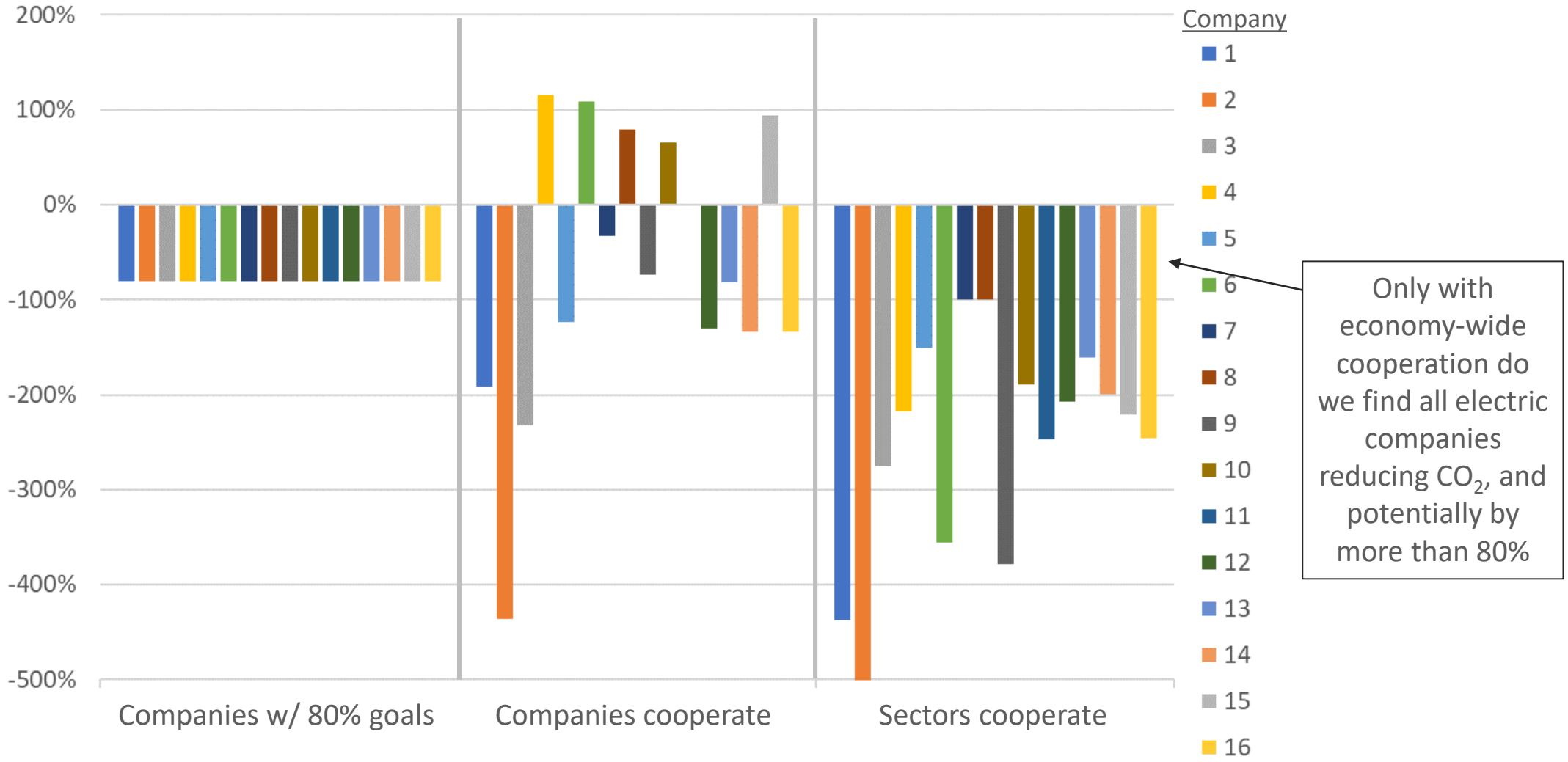
- Broad range of pathways, budgets, and annual reductions consistent with 2˚C
- Uncertainties in play:
  - Climate system
  - Economic growth
  - Energy use
  - Technology
  - Policy timing
  - System dynamics as reflected by differences in models

# What's "right" for a company depends on the policy design

## e.g., electric company 2050 $CO_2$ reductions with 80% goals

preliminary

Different societal cost implications ➔ Need to balance priorities.




Only with economy-wide cooperation do we find all electric companies reducing $CO_2$, and potentially by more than 80%

# Overall, global scenarios not well-suited for direct use in company assessment

preliminary

## Problems for companies trying to be "consistent" with a climate goal

- Many consistent pathways
- All pathways not equally likely
- Subglobal results problematic – uncertainty increases with resolution, represent aggregate sectors not companies, contingent on assumptions that affect companies
- Missing uncertainties that are relevant to companies
- Companies pursuing the same emissions effort costly for society

There is no "right" pathway/goal for a company

**Opportunity:** use insights to guide company analysis and assessment

# Insights represent principles for…

1. Evaluating methodologies
2. Developing analysis
3. Setting expectations internally and externally
4. And, a narrative for educating and communicating strategy

**Table ES-3**
**How different approaches address company analysis issues identified by this study**

Sources: Developed from this study, SBTi (2015, 2017), IEA (2016), Ceres (2018), and UNEP FI (2018)

| Issue to consider | This study | | SBTi | Ceres | UNEP FI pilot |
|---|---|---|---|---|---|
| **Scenarios used** | 1000+ (a) | | 1 (b) | See note (c) | See note (d) |
| **Uncertainties** | | | | | |
| *Global temperature-$CO_2$ relationship for 2°C (cumulative 2011-2050 $GtCO_2$)* | Global net | 465 to 1692 | -- | -- | 1139 |
| | Global energy | 324 to 1636 | 1085 | -- | 1022 |
| | Global electric | 94 to 642 | 335 | -- | 261 |
| *Global temperature-$CO_2$ relationship for 2°C (annual changes in 2050 relative to 2010)* | Global net | 14% to -96% | -- | -- | -72% |
| | Global energy | 9% to -99% | -52% | -- | -58% |
| | Global electric | -2% to -163% | -89% | -- | -94% |
| | U.S. net $CO_2$eq | -58% to -110% | -- | -81% (80% | |
| | U.S. electric | -44% to -170% | | | |
| | (1) Consider uncertainty about [illegible] (2) Potentially assign | | | | |
| [illegible] | | | [illegible]nsidered | Not considered | Not considered |
| [illegible] | | | Not considered | Some discussion | Some discussion |
| **Company-specific context** | Important, varies from company-to-company (e.g., current assets, markets, systems, and policy & strategy) | | Limited consideration (base year activity and emissions, target year activity) | Some discussion | Some discussion |
| **Uniform vs. varied GHG targets across companies** | Uniform targets found unlikely to be cost-effective | | Proposes globally uniform sectoral targets | Proposes uniform target for all utilities | Implies uniform targets within sector segments |
| **Company flexibility** | Consider flexibility in GHG reduction levels and how achieved | | Constrained to single GHG target without coordination | Constrained to single GHG target (coordination not considered) | Not considered |
| **Quantitative comparison of company alternatives** | Compare cost, environmental effectiveness, cost risk, and sensitivity of results | | No method | Various potential comparisons noted (e.g., technology, cost) | Not discussed |
| **Company strategy robustness** | Evaluate by considering uncertainties and risk management | | Not considered | Not considered | Not considered |

E.g.,

- Recent methodologies do not represent uncertainty evident in the literature related to 2˚C.
- They also propose applying uniform targets across companies

*Rose and Scott (2018)*

# Scientific observations and company assessment implications

preliminary

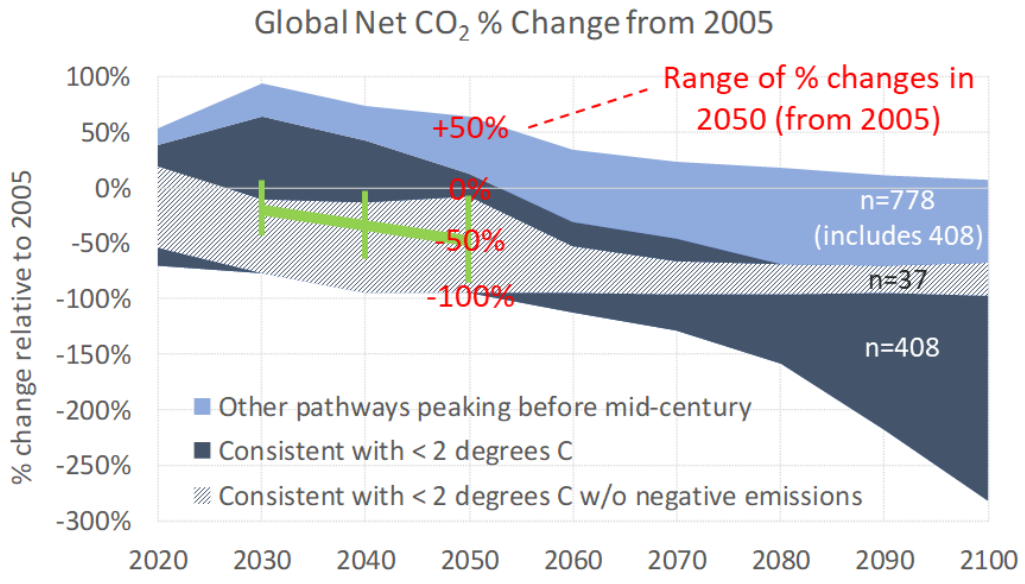
| Scientific observation | Implication for company assessment |
|---|---|
| 1. A broad range of $CO_2$ pathways consistent with any temperature | 1. There are uncertainties to consider – climate policy and non-climate-policy |
| 2. Cost-effective emissions reduction role of an economic sector highly uncertain | 2. Evaluate uncertainties and company implications |
| 3. Subglobal results (from global scenarios) problematic for company assessment | 3. Evaluate technology, market, and policy design uncertainties |
| 4. Uniform GHG targets across companies (e.g., 80%) not cost-effective for society | 4. Consider company-specific circumstances and goals |
| 5. What's "right" for a company depends on policy design | 5. Evaluate potential policy designs |
| 6. 2˚C and below pathways extremely challenging and attainability uncertain | 6. Higher pathways (e.g., peak later) and probabilities relevant |

# Operationalizing insights – policy risk assessment scenario design

preliminary

- **Scenario design dimensions**
  - Range of emissions reductions (e.g., 0%, 30%, 50%, 80%, 100% reductions in 2050)
  - Alternative policy designs (e.g., instrument, cooperation)
  - Alternative reference conditions (e.g., markets, technology)
- **Valuable for evaluation and communication**
  - Implications, uncertainty, risks for a reduction
  - Implications, uncertainty, risks across reductions
  - Cost-effective alternatives & required conditions
  - Relative importance of uncertainties
  - Risk of outcomes and being "wrong"
  - Risk management strategies

**If picking an emissions reduction level…**important to communicate implications, uncertainties, and risks in pursuing level, required conditions for realizing level, and strategy for managing risks (GHG & business)




*Developed from Rose and Scott (2018)*

# Company perspectives panel

# Company perspectives panel

**Greg Ryan, DTE Energy**
Manager Environmental Sustainability and Climate Change

**Marc Campbell, Salt River Project**
Manager Sustainability Policy and Programs

*Some topics panelists invited to discuss:*

- *Their context*
- *Strategic planning objectives & process (e.g., how, who's involved, engagement)*
- *Approach regarding GHG emissions (e.g., how it enters into thinking & strategy)*

# Thank you!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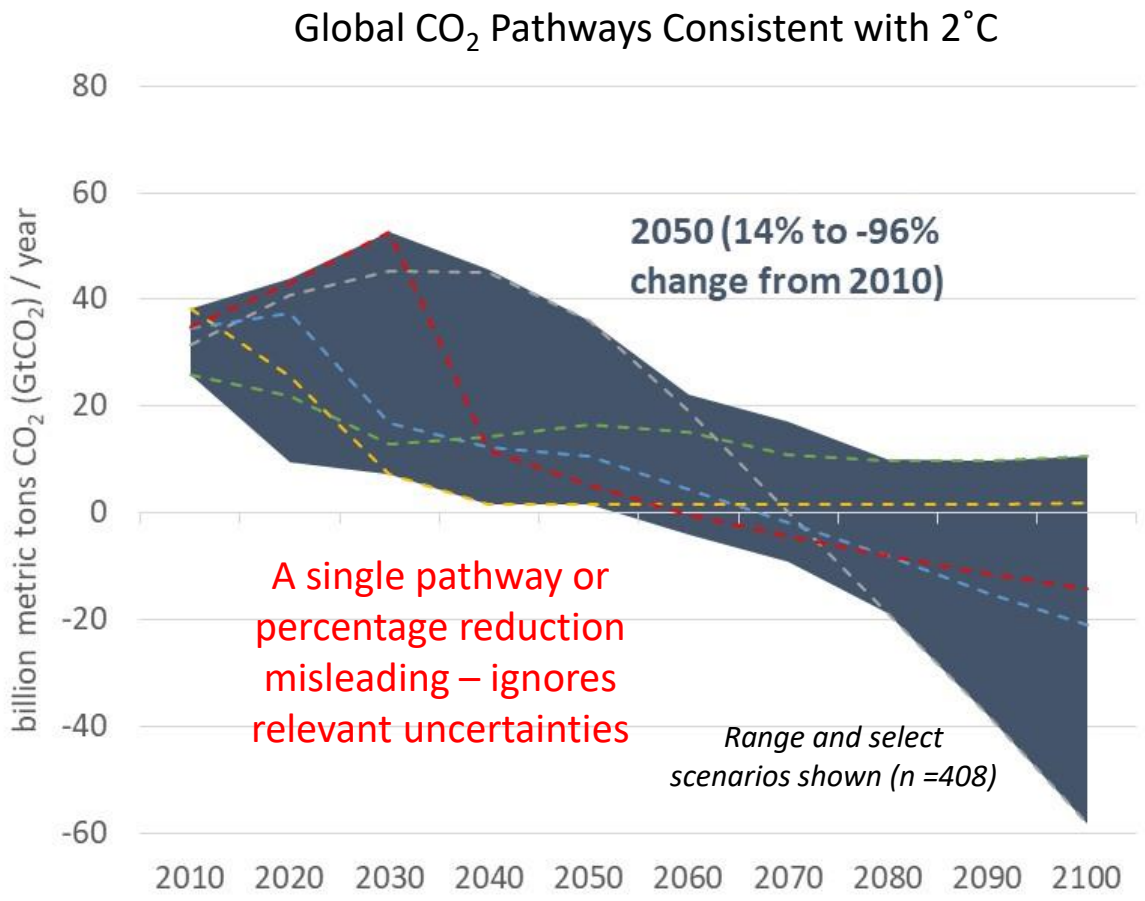
# Summary of key observations to date (paraphrased)

1. Significant global emissions scenario resources are available, but appropriate interpretation critical
2. Broad ranges of $CO_2$ pathways and budgets are consistent with a temperature outcome
3. Assumptions matter for properly using results – policy design & technology in particular important for companies (sectors and countries)
4. Policy design a key additional uncertainty for companies
5. Applying uniform GHG targets (e.g., 80% in 2050) across companies is unlikely to be cost-effective for society
6. 2˚C and below pathways extremely challenging – global emissions pathway attainability another uncertainty for companies that implies even larger range of global emissions pathways is relevant for companies
7. Other risks (non-climate-policy) & current company strategy matter
8. GHG emissions only one part of an asset's or portfolio's value
9. Despite broad ranges, there are robust insights




Preliminary analysis of 1.5˚C scenarios validates and strengthens these observations

# Key insights for companies, investors, and others

- **Individual company perspective:** Essential for defining relevant uncertainties and company-specific context
- **Scientific basis:** Approaches and strategies should be based on scientific understanding to characterize uncertainties and identify robust insights
- **Cost-effective societal role of a company:**
  - A company's role in reducing GHG emissions at the lowest cost to customers and society is highly uncertain
  - It will be difficult to identify a unique company-level pathway or target that is cost-effective in all plausible futures (if choosing one, uncertainties important to communicate)
  - The cost-effective pathway or target for a company will likely differ from what is cost-effective at the global, country, and sector level, as well as at other companies
- **Uncertainty, flexibility, and robust strategies:**
  - Characterizing and incorporating the numerous uncertainties relevant to companies will be important (GHG policy one of many)
  - Having flexibility in emissions reduction levels and how they are met will be important for containing societal costs
  - Identifying a robust strategy that makes sense in different future contexts will be important
    - More than a target or pathway – an approach that recognizes uncertainty, provides flexibility, and can respond appropriately

# Key insights represent principles for evaluating & developing methodologies

## A checklist for methodologies

### Company analysis issues for methodologies

- Emissions scenarios used?
- Uncertainties considered and how?
  - Temperature-emissions
  - Global pathway attainability
  - Policy design
  - Non-climate-related
- Consideration of company-specific context?
- Uniform vs. varied GHG targets across companies?
- Consideration of flexibility options?
- Quantitative comparison of alternatives?
- Evaluation of strategy robustness?

**Table ES-3**
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# Assessing 1.5˚C scenarios (Preliminary)

- **Preliminary analysis validating and strengthening previous insights**
  - Uncertainty important
    - Pathways – e.g., net-zero in 2035 to 2080+
    - Attainability – more challenging than 2˚C
    - Policy design – absent but critical
    - Non-climate-related – significant
  - Ranges appropriate – illustrative pathways (P1-P3) not capturing uncertainty
  - Larger trade-offs in balancing societal priorities

## IPCC 1.5˚C global $CO_2$ pathways