



Impending Climate Change Law

How to Prepare for
the New World of Carbon Regulation

BRYAN CAVE

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STRATEGIES



Agenda

- Planning Today for Climate Change
- The Future of Carbon Regulation
- Regulating Greenhouse Gas Emissions Under the Clean Air Act
- Offset Allowances
- Greenhouse Gas Protocols and Registries
- Carbon Capture and Sequestration
- The Carbon Neutral Company
- Questions & Answers



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Planning Today for Climate Change

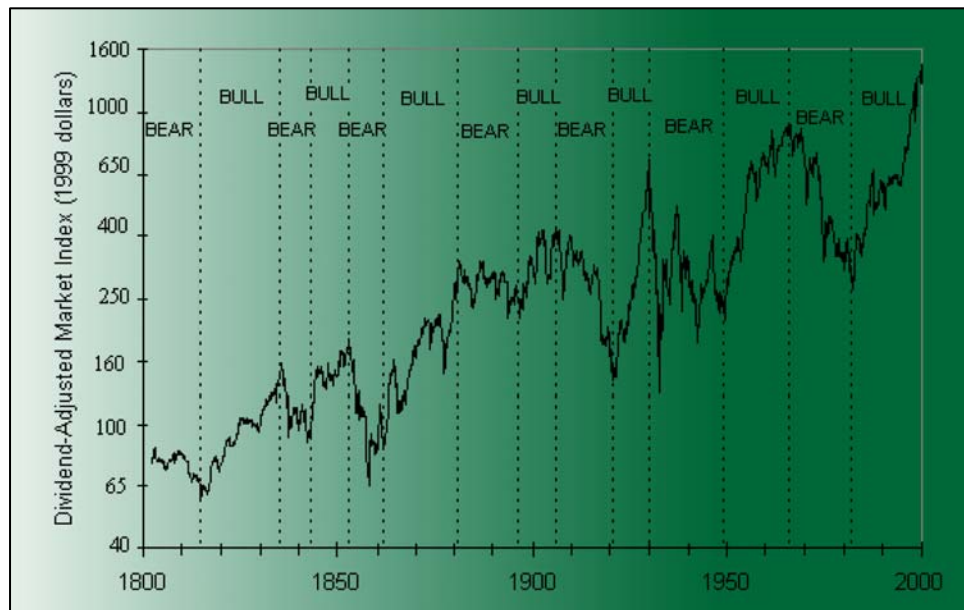
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American Business Goes Green





American Business Turns “Green”

- Market transition from a fossil fuel economy
- Triple bottom line demands greater accountability
- Transition creates opportunities
- Impetus for long-term business planning





Why Start Now?

- Corporate stakeholder concerns
 - Investors/shareholders
 - Consumers/customers
- Business opportunities
 - Increase profitability/revenue
 - Identify untapped markets
 - Improve reputation and goodwill
 - Competitive advantage
- Risk Management
 - Reporting responsibilities
 - Litigation





The Future of Carbon Regulation

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Obama Administration

Campaign

- Achieve 1990 levels by 2020
- Further 80% reduction by 2050

Transition

- Reiterated 1990/2020, 80%/2050
- Threat of Clean Air Act regulation
- New energy/environment team

Presidency

- Priorities



Senate

Historical Perspective

- 1997: Byrd-Hagel Resolution 95 – 0 Against Kyoto
- 2003: Lieberman Amendment, 43-55, 2000 levels by 2010
- 2005: McCain-Lieberman, 38-60, 2000 levels by 2010*
- 2008: Lieberman-Warner, 48-36 (cloture)
 - 6 absent Senators (at least) would have supported (54+-??)
 - 9 yes votes on cloture would have opposed bill (45-55)
 - 3 no votes changed to yes in 2008 election (48-52)???

* Followed 66-29 vote on non-binding Hagel amendment



Senate – 111th Congress

EPW Committee

- Boxer focused on infrastructure, 2010 re-election. Now favors stripped down bill to authorize CAA regulation of GHGs.
- Lieberman and Warner off Committee.
- Specter has joined the Committee.



Senate – 111th Congress

Other Committees

- Energy – Bingaman wants bigger role in 2009
- Commerce – Rockefeller one of 10 Dems who signed cloture letter. KBH opposed L-W but Snowe supported. NOAA pushing hard for bigger science role.
- Finance – Baucus critical of EPW effort, may seek bigger role.



Senate – 111th Congress

McCain

- Will likely re-introduce late January/early February 2009.
- Working off EPW-reported bill. Add campaign themes including nuclear, offset limits, and reduction of auction proceeds formula.
- Opposes CAA regulation – not the Act's original intent.
- Joined Senate Energy Committee where he can promote nuclear power.



House – 111th Congress

- Waxman – Significant move to the left on climate expected. HR 1590 would direct 1990 emissions levels by 2020; 80% further reduction by 2050.
- Markey – Takes new Energy/Environment subcommittee, keeps Special Committee on Energy Independence and Global Warming
- Dingell/Boucher – Will offer amendments at mark-up.



House – 111th Congress

Energy & Commerce Committee

Democrats 36 - Republicans 22

Democrat Swing Votes (14)

John D. Dingell
Rick Boucher
Bobby L. Rush
Bart Stupak
Gene Green
Mike Doyle
Charles A. Gonzalez
Mike Ross
Jim Matheson
G. K. Butterfield
Charlie Melancon
John Barrow
Baron P. Hill
Zach Space

Democrat Non-Swing Votes (22)

| | |
|------------------|-------------------|
| Henry A. Waxman | Tammy Baldwin |
| Edward J. Markey | Anthony D. Weiner |
| Frank Pallone | Doris O. Matsui |
| Bart Gordon | Jerry McNerny |
| Anna G. Eshoo | Bruce Braley |
| Eliot L. Engel | Donna Christensen |
| Diana DeGette | Kathy Castor |
| Lois Capps | John Sarbanes |
| Jane Harman | Chris Murphy |
| Jan Schakowsky | Betty Sutton |
| Jay Inslee | Peter Welch |



U.S. Climate Action Partnership

- US CAP represents major US energy companies, manufacturers, and environmental groups.
- Proposing 20% of 2005 levels by 2050
- Reductions weighted in the out-years
- Providing cover for moderate Dems to support a specific cap-and-trade plan



Stimulus

- House has \$141 billion for energy-related spending and \$20 billion in energy tax provisions in its stimulus draft.
- Strong green jobs program may buy time with environmental activists pushing for carbon regulation.



2009-2013

- Cap and Trade timing will depend largely on Obama priorities. Economy will play a large role in whether and how cap and trade comes up in Senate, House in 2009.



Regulating Greenhouse Gas Emissions Under The Clean Air Act

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Clean Air Act

- Regulates emissions from mobile and stationary sources, but not designed to address GHG emissions
- In Massachusetts v. EPA (April 2, 2007), U.S. Supreme Court held that GHGs fit CAA's definition of "Air Pollutant"
- Held that EPA could not refuse to regulate merely because doing so would involve significant policymaking with economy-wide ramifications, dismissing such prudential concerns as "non-statutory"
- Remanded to EPA for it to decide whether GHGs from motor vehicles (MVs) "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare" (CAA § 202(a)(1)) – this is called the "Endangerment Finding"



“Endangerment Finding” Paralysis

- Specific pollutants at issue in remand are MV emissions of carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and hydrofluorocarbons (HFCs)
- EPA loathe to conclude that increasing concentrations in atmosphere will not endanger public health or welfare
- But Bush Administration opposed regulation of GHGs under CAA (or otherwise)
- EPA yet to comply with Supreme Court order that it make a positive or negative Endangerment Finding
- EPA staff issued ANPR, “Regulating Greenhouse Gas Emissions Under the Clean Air Act,” Fed. Reg., July 30, 2008, but EPA Administrator Stephen Johnson disavowed using CAA to regulate GHGs in his preface to the document



Direct Consequences of a Positive “Endangerment Finding” Under § 202

- Would require EPA to issue first-ever federal GHG emission standards for new MVs
- Emission standard may take form of EPA-mandated fuel economy standards (carbon in MV fuel is emitted as CO₂, so reducing CO₂ emissions requires reducing fuel consumption)
- Under § 202, EPA has discretion in weighing such factors as technological feasibility, potential technologic innovations, cost, safety and transition scheduling



PSD Consequences of Regulating GHGs from Motor Vehicles

- EPA regulation of GHG emissions from MVs would trigger regulatory cascade under other CAA provisions
- PSD regulations require a pre-construction permit and Best Available Control Technology (BACT) for new or modified major stationary sources
- EPA's position has been that GHG emissions are not regulated by PSD regulations
- EPA position reiterated in memorandum issued by Administrator Stephen Johnson on Dec. 18, 2008 on remand from In re Deseret Power Electric Cooperative (USEPA EAB Nov. 13, 2008)
- Sierra Club, NRDC and EDF sued to block the Johnson memorandum on Jan. 15, 2009 (D.C. Cir., No. 09-1018)



PSD Consequences of Regulating GHGs from Motor Vehicles

- If MV GHGs regulated, GHGs would automatically become PSD-regulated pollutants under current regulations: any new building or facility with potential to emit 100 or 250 tons of CO₂ per year (depending on source category) – or any modification causing a 100 or 250 tons/year increase – would be required to obtain a pre-construction permit and apply BACT
- Many thousands of new permits would be required annually, overwhelming permit authorities



Title V Permits

- Under present regulations, Title V permit is required for new and existing sources with emissions of 100 tons per year or more of any regulated air pollutant
- If 100 ton annual threshold were applied to GHGs, EPA and states would be required to issue hundreds of thousands of permits, overwhelming agencies



Precedential Consequences of a Positive “Endangerment Finding”

- A positive Endangerment Finding under § 202 for MVs may lead to positive Endangerment Findings under §§ 213, 231 and 211 for non-road vehicles and engines, aircraft and vehicle fuels
- § 213 authorizes EPA to regulate emissions of nonroad vehicles and engines (e.g., ships, construction equipment, farm tractors, forklifts, and lawn and garden equipment) if EPA determines that these sources as a whole contribute significantly to air pollution “which may reasonably be anticipated to endanger public health or welfare”



Precedential Consequences of a Positive “Endangerment Finding”

- § 231 authorizes EPA to regulate emissions of aircraft engines if EPA determines they cause or contribute to air pollution “which may reasonably be anticipated to endanger public health or welfare”
- § 211 authorizes EPA to regulate vehicle fuels and fuel additives if EPA determines that their emission products cause or contribute to air pollution that “may reasonably be anticipated to endanger the public health or welfare”
- EPA has broad standard-setting discretion under these statutory provisions



Precedential Consequences: New Source Performance Standards (NSPS)

- § 111 requires EPA to list categories of stationary sources which cause or contribute significantly to air pollution that may reasonably be anticipated to endanger public health or welfare
- An NSPS must then be issued for each category reflecting the emission limitation achievable through the “best system of emission reduction” that is adequately demonstrated after taking into account costs, impacts and energy requirements
- NSPS are issued for new, modified and existing sources, where no NAAQS or MACT standard has been issued for the pollutant
- Regulation of GHGs would not be self-executing but § 111 requires EPA review its NSPS regulations every 8 years



Precedential Consequences: A NAAQS for CO₂ or other GHGs?

- § 108 requires EPA to list air pollutants that (i) “cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare” and (ii) “the presence of which in the ambient air results from numerous or diverse mobile or stationary sources”
- EPA’s duty to issue a National Ambient Air Quality Standard (NAAQS) for such pollutants is mandatory (NRDC v. Train)
- Primary NAAQS is level which, allowing for an adequate margin of safety, is requisite to protect the public health
- Secondary NAAQS is level which is requisite to protect public welfare



A GHG NAAQS?

- To have immediate teeth, NAAQS for GHGs could be set below ambient levels
- Entire country would then be designated as a nonattainment area, triggering RACT for existing major sources; permitting and LAER for new or modified major sources; transportation conformity requirements for Federal funding of highways, bridges, airports, rail and transit systems
- Each State (or AQMD) would be required to prepare a plan to eliminate nonattainment within its area, an unrealistic effort since GHGs circulate globally



Concluding Thoughts

- Clean Air Act is very complex — regulations to achieve the 1997 PM2.5 NAAQS have yet to be enacted
- It would take 15 years or more to put into place CAA regulations resulting in meaningful reductions of GHGs
- Many CAA authorities poorly suited to market-based programs to achieve cost-effective emission reductions
- If new Congress and President are serious about reducing GHG emissions, they need to enact a new statute
- New statute could use financial incentives (taxes or tax credits) or market-based initiatives (allowances) to effect necessary cost-effective changes to major GHG-emitting sectors of our economy — electric-generation, industry, transportation, agriculture and real estate



Offset Allowances

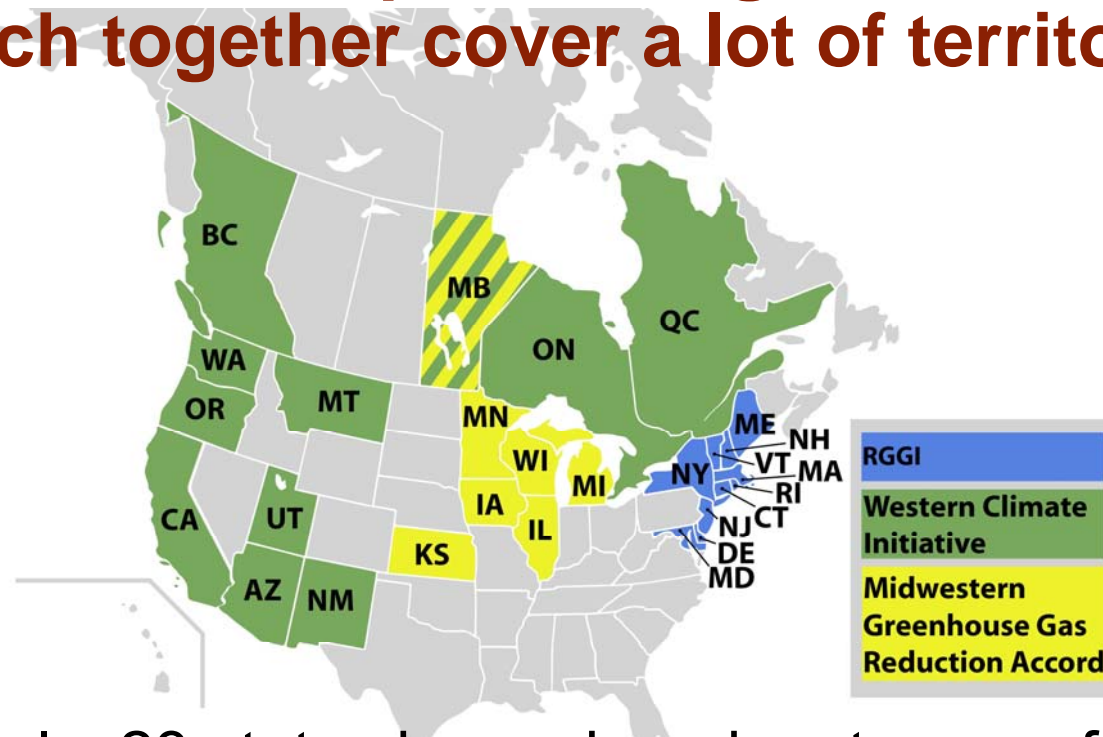
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There are three important regional initiatives, which together cover a lot of territory



- Collectively, 23 states have signed up to one of these regional initiatives



Regional Program Overview

- RGGI – New York, Vermont, New Hampshire, Rhode Island, Connecticut, Massachusetts, Maine, New Jersey, Maryland and Delaware
 - **Status – Up and running.**
- The Western Climate Initiative – Arizona, British Columbia, California, Manitoba, Montana, New Mexico, Ontario, Oregon, Quebec, Utah and Washington
 - **Status – In development**
- The Midwestern Greenhouse Gas Reduction Accord – Iowa, Illinois, Kansas, Manitoba, Michigan, Minnesota and Wisconsin
 - **Status – In development**



Regional Program Overview

- The regions are talking to each other
- The cap and trade programs under RGGI and WCI will be designed to be compatible
- If a federal program fails, a multi-state program is likely



Opportunities for Offset Allowances

- Focus on RGGI, since it is well defined.
 - Cap and trade program focused on the power sector
 - Designed first to stabilize emissions and ultimately
 - achieve a 10% reduction by 2018



Cap and Trade Program Under RGGI

- Covers only generating units of >25 mW
- Covers only CO₂
- Only applies to facilities located within the 10 RGGI States
- However, offset opportunities extend beyond RGGI's borders and beyond CO₂



Offset Allowances Under RGGI

Projects commenced after December 20, 2005 may generate offset allowances.

May be located anywhere in the US, provided –

- The host state has a cap and trade program equivalent to RGGI's,
or
- The host state has entered into a MOU with the RGGI states, agreeing to:
 - Monitor the performance of the offset project, and
 - Report violations



Offset Allowances are Available Only from Specified Categories of Projects (for Now)

- Landfill methane capture and destruction
- Oil, natural gas and propane end-use efficiency projects
 - Commercial and Residential Buildings only
- Agricultural manure management projects
- Projects to reduce SF6 emissions
- Afforestation Projects



RGGI Additionality Requirements are Well Defined

Projects not eligible if

- required by federal, state or local law, regulation, or administrative or judicial order.
- The project has an electrical generation component, unless RECs are transferred to RGGI state.



Each Offset Category has its Own Detailed Requirements and Standards

- Administrative process has been set up, involving “Consistency Applications” and the issuance of “Consistency Certifications”.
- Designed to establish that the standards have been met
- Independent verification required.
- DEADLINES for submission of Consistency Applications:
 - **Projects commenced prior to January 1, 2009 – June 30, 2009.**
 - **Projects commenced after January 1, 2009 – within 6 months after commencement**
- Once Consistency Certification is granted – the offset allowances may be sold and used by a covered entity to cover 3.3% of its emissions. (escalates to 5-10% if price thresholds are exceeded).



Offset Allowances Under LWB Bill

- Provides for offset allowances (no more than 15% of all allowances issued per calendar year.)
 - Statutory categories of eligible project types seem to focus on agriculture and terrestrial offset practices (tillage, methane capture from manure management, etc.)
 - Other categories may be included “by petition” to EPA
 - EPA to adopt regulations – establishing procedures for the issuance of offsets. Will set up a detailed administrative process for –
 - Determining eligibility, quantifying offset allowances, demonstrating additionality, ongoing monitoring of effectiveness and mitigating or compensating for reversals.



Offset Allowances Under LWB Bill

- “Additionality” is loosely defined: “the extent to which ...reductions are incremental to business as usual ...” (Compare to the tight definition under RGGI.)
- Provides for the exchange of RGGI offset allowances “at an appropriate discount”
- Requires 3rd party verification, for issuance, and annually thereafter
- Allows early action projects to earn offset allowances, if reductions are additional and properly recorded (bill specifically recognizes several registries including the Climate Registry, the California Climate Action Registry and the Chicago Climate Exchange)



Offset Allowances Under WCI

- WCI is a work in progress
- Not limited to WCI jurisdictions – WCI anticipates allowing offsets from
 - Other states in the US, Canada, and Mexico where projects are subject to comparable standards and oversight
 - Developing countries via Clean Development Mechanism
- Key limitations
 - Offsets limited (along with non-WCI allowances) to no more than 49% of the total emission reductions from 2012-2020.
 - Offsets not allowed from Annex 1 countries per UN Framework Convention from sources that if they were in the WCI, would be covered by WCI's cap-and-trade program.
- Priority project types (not necessarily guaranteed to be acceptable offset projects)
 - Agriculture
 - Forestry
 - Waste management
- WCI to begin establishing protocols in 2009



Greenhouse Gas Protocols and Registries

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What is a Protocol?

- In a general sense, a protocol is a rule which guides how an activity should be performed
- For purposes of our discussion, a GHG accounting and reporting protocol is essentially a methodology for *calculating* and *reporting* the quantity of GHGs being emitted from a source or group of sources



Why are GHG Protocols Important?

- Critical component of any GHG cap-and-trade program because it is methodology which will be used to determine quantity of GHGs emitted
- Quantity calculation will then dictate whether source will buy/sell emission credits or need to take other actions to comply with emission limits



What are Some of the Registries/Protocols Used for Tracking GHGs?

North American

- DOE Voluntary Reporting of Greenhouse Gases Program
- California Climate Action Registry General Reporting Protocol
- The Climate Registry
- RGGI
- Chicago Climate Exchange
- Future EPA rule (per Consolidated Appropriations Act, 2008)

International

- World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD) Greenhouse Gas Protocol



What Protocols are Favored by Current Legislative Proposals?

The Climate Registry (TCR) appears to be leading protocol in United States

- Mentioned in proposed legislation, however, focus of legislation has not been on GHG protocols
- General acceptance: Currently, 40 states, most of Canada, and portions of Mexico are members. However, no guarantee that individual state reporting rules will be identical to TCR protocol



Why Would you Want to Track GHGs Now?

- To understand the impact of your operations in advance of a regulatory mandate
 - Determine baseline and identify areas for improved energy efficiency
 - Key to designing any GHG management program, including strategizing regarding when to make early action reductions
 - Become familiar with difficulties and issues to ensure smooth transition into mandatory regime
 - Be in a position to intelligently comment on regulatory proposals that will affect you (e.g., offsets, early action credit, etc.)
- Respond to Investors
- Respond to supply chain and potentially create competitive advantage
- PR: Establish your company as a leader ahead of the pack, improve reputation



What to Consider When Selecting a Protocol for Your Company?

- Purpose/Goals for tracking (e.g., PR, potential early reduction credit, offsets, investor info., etc.)
- Geographic location
- Administrative burden
- Size of emissions
- Regulatory recognition of protocol



Carbon Capture and Sequestration (CCS)

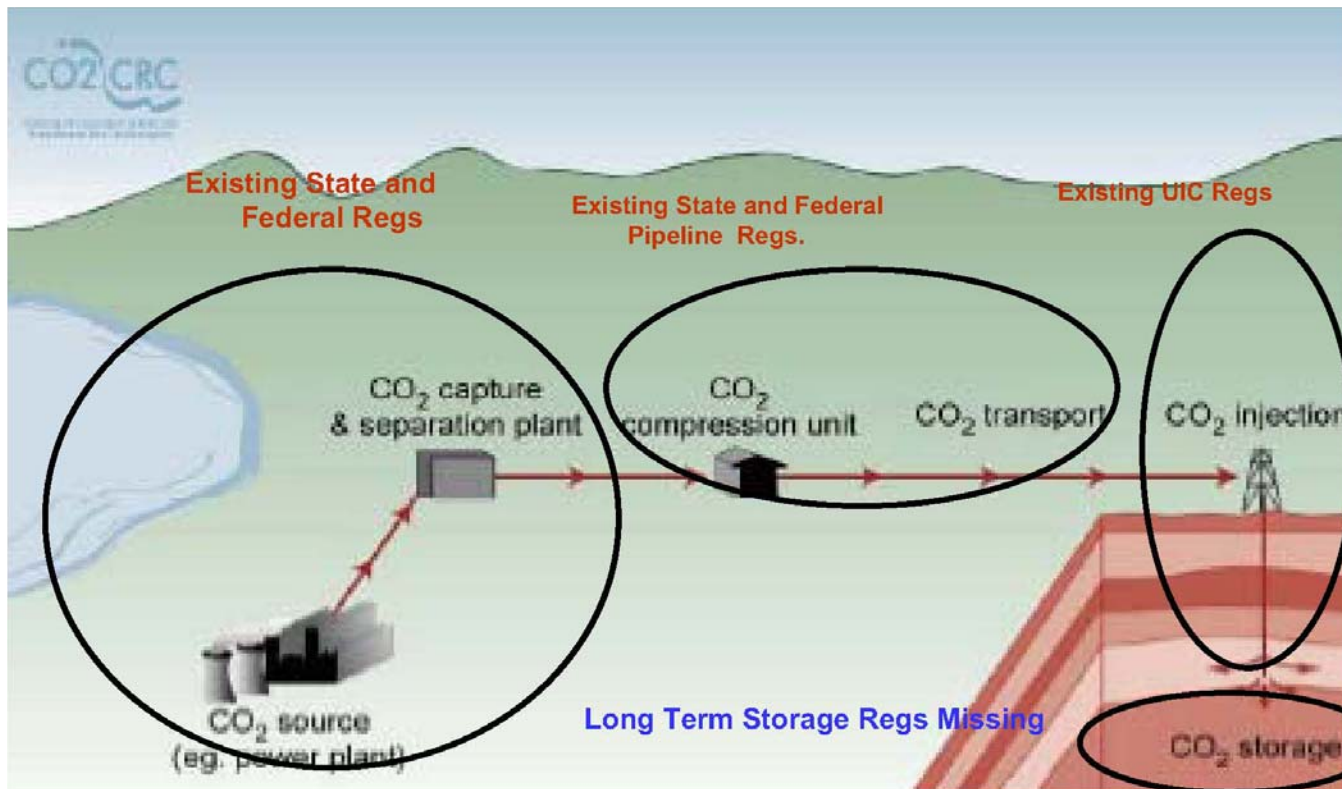
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CO₂ Capture Transportation and Geologic Storage Process





Role of CCS in GHG Mitigation

- Growing worldwide consensus that CCS is critically important to provide bridge to future low carbon energy regime, especially for coal-fired sources
- Governments supporting technology development
- Regulatory frameworks being developed
 - Around the world - EU, UK, Australia, Canada
 - In many US states
 - By the US Environmental Protection Agency (EPA)



Technological Development

- Basic approach of injecting CO₂ underground has been done for enhanced recovery of oil for 35 years
- Current operations in Canada, Norway, Algeria
- Many countries supporting further development of technology for application to power plants and other industrial sources (USDOE, EU, Australia, Canada)
- Technologies for each stage available but not fully demonstrated at commercial scale for power plants



Regulatory Framework Development

- Full deployment of CCS will require regulatory certainty for project proponents and investors
- Many countries developing – EU, Australia, Canada
- Many US states considering legislation and/or developing regulations (AL, CA, CO, KS, MI, MT, NB, ND, OK, TX, UT, WA, WV, WY)
- US Environmental Protection Agency (EPA) proposed rule in July 2008
- But CCS not included in most credit/offset schemes



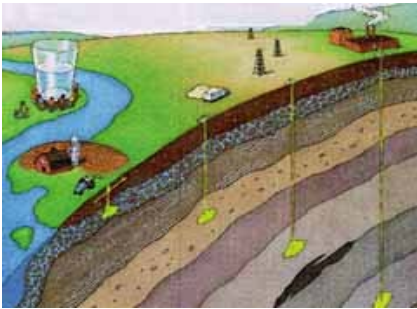
EPA Rulemaking for Geologic Storage

- Safe Drinking Water Act (SDWA) and Underground Injection Control (UIC) Program
- SDWA requires EPA to develop minimum federal regulations for state and tribal UIC Programs to protect underground sources of drinking water (USDWs)
- The UIC Program regulates underground injection of *all fluids* – liquid, gas, or slurry
- Protection of USDWs by containment of injected CO₂ streams
- UIC Program provides a foundation for managing injection
- Questions about scope and sufficiency

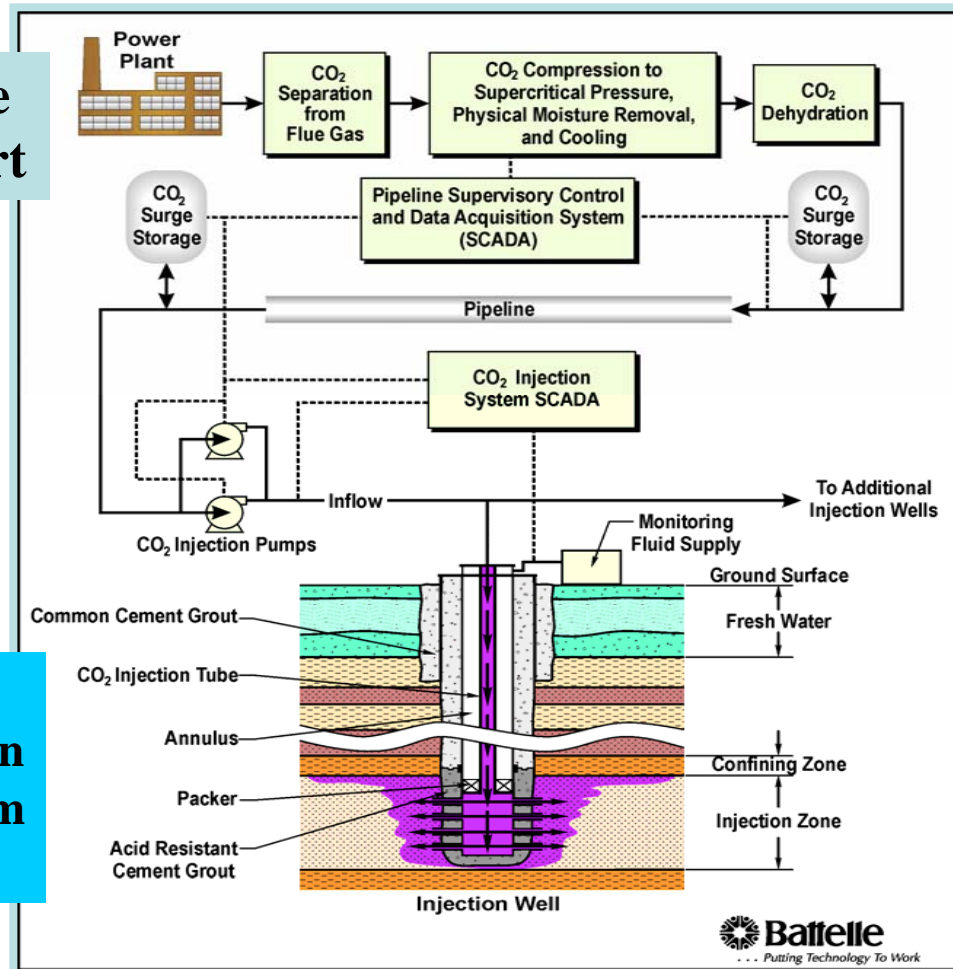


Carbon Capture and Storage Process

CO₂ Capture and Transport



Geologic Sequestration UIC Program Scope





Key Elements of EPA Proposed Rule

- Geologic Siting
- Area of Review
- Well Construction
- Mechanical Integrity Testing
- Operation and Monitoring
- Well Closure and Post-Closure Monitoring
- Financial Assurance
- Public Participation



Elements Missing from EPA Rule

- Direct control of air releases
- Property rights
 - Access to storage reservoirs and formations
 - Unitization, eminent domain, or other condemnation
 - Access to surface areas for monitoring and corrective action
 - Potential for trespass and/or damage to subsurface rights
- Liability to third parties for injuries or other damages
- Accounting for GHG emissions, offsets, marketable credits



EPA GS Rulemaking

| Activity | Milestone |
|--|-----------------------------|
| Data Collection and Analysis | Ongoing |
| Two Stakeholder Meetings | December 2007/February 2008 |
| Interagency Review of Proposed Rule | Late May - Early June 2008 |
| Administrator's Signature of Proposed UIC Rule | July 2008 |
| Public Comment Period for Proposed Rule | July – December 2008 |
| Notice of Data Availability (if appropriate) | 2009 |
| Final UIC Rule for GS of CO ₂ | Late 2010 / Early 2011 |





Multi-Stakeholder Discussions

- Carbon Sequestration Council working with industry groups, environmental NGOs, state regulators and others to develop and provide EPA consensus recommendations
- Began meeting and working in Nov 2008
- Submitted joint recommendations in 2008
- Effort continuing with additional EPA issues through Feb 2009
- May continue to address CCS issues beyond EPA rule



Consensus on CCS Regulation

- EPA's Geologic Sequestration Proposal provides a workable foundation for the regulation of GS
- Disagreements appear more technical than fundamental
- Joint request for extension urged the use of EPA's proposal as the foundation for regulatory framework
- Concerns from water supply agencies - focused on drilling and casing technologies than CO₂ fluid migration – these too will be addressed



Key State Legislative Issues

- Regulatory framework principles – natural gas storage vs. underground injection vs. oil & gas E&P
- Property ownership – mineral rights vs. pore space vs. waters of the state
- Unitization, eminent domain, condemnation
- Financial assurance and funding
- State assumption of liabilities and/or site care before (first movers) and after closure
- Emission reductions, credits, accounting, trading



Anticipated Federal Legislation

- Research, Development, Demonstration and Deployment support
 - FutureGen
 - Phase III of the DOE NETL Regional Carbon Sequestration Partnerships
 - Support for first movers
- CCS Framework Legislation
 - Liability, financial assurance and long-term stewardship
 - GS on Federal lands and off-shore
 - Interstate issues for cross-boundary sites
- Emission reductions, credits, accounting, trading

About The CarbonNeutral Company

- Launched in the mid 1990's with a single focus – to enable clients to cut emissions in ways that deliver environmental, social and business benefits.
- More than 200 emissions reductions projects across six continents and over 300 major corporate clients worldwide as well as thousands of small business clients.
- World class senior management team



Mark LaCroix
Executive Vice
President, Global
Business
Development



Maria Cappelen
Carbon
Procurement



Stephen Killeen
Executive
Chairman



Neil Braun
Chief Executive
Officer



**Jonathan
Shopley**
External Affairs



Jon May
Chief Financial
Officer



Sue Welland
Co-founder
& Marketing



Jem Portaro
Senior Vice
President, Advisory
Services

Outline

The climate change challenge

What it means to businesses

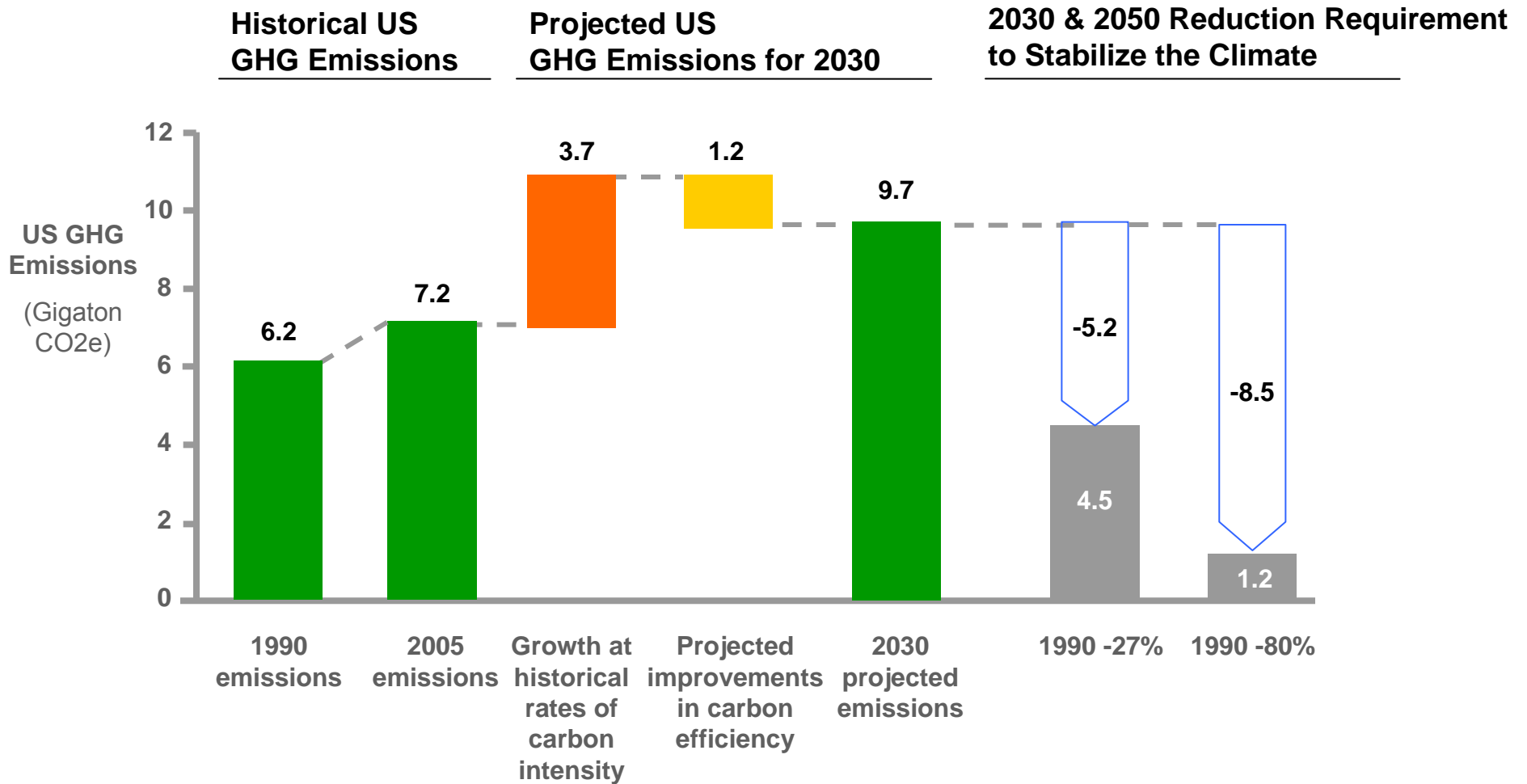
How businesses can manage carbon

The climate change challenge

What it means to businesses

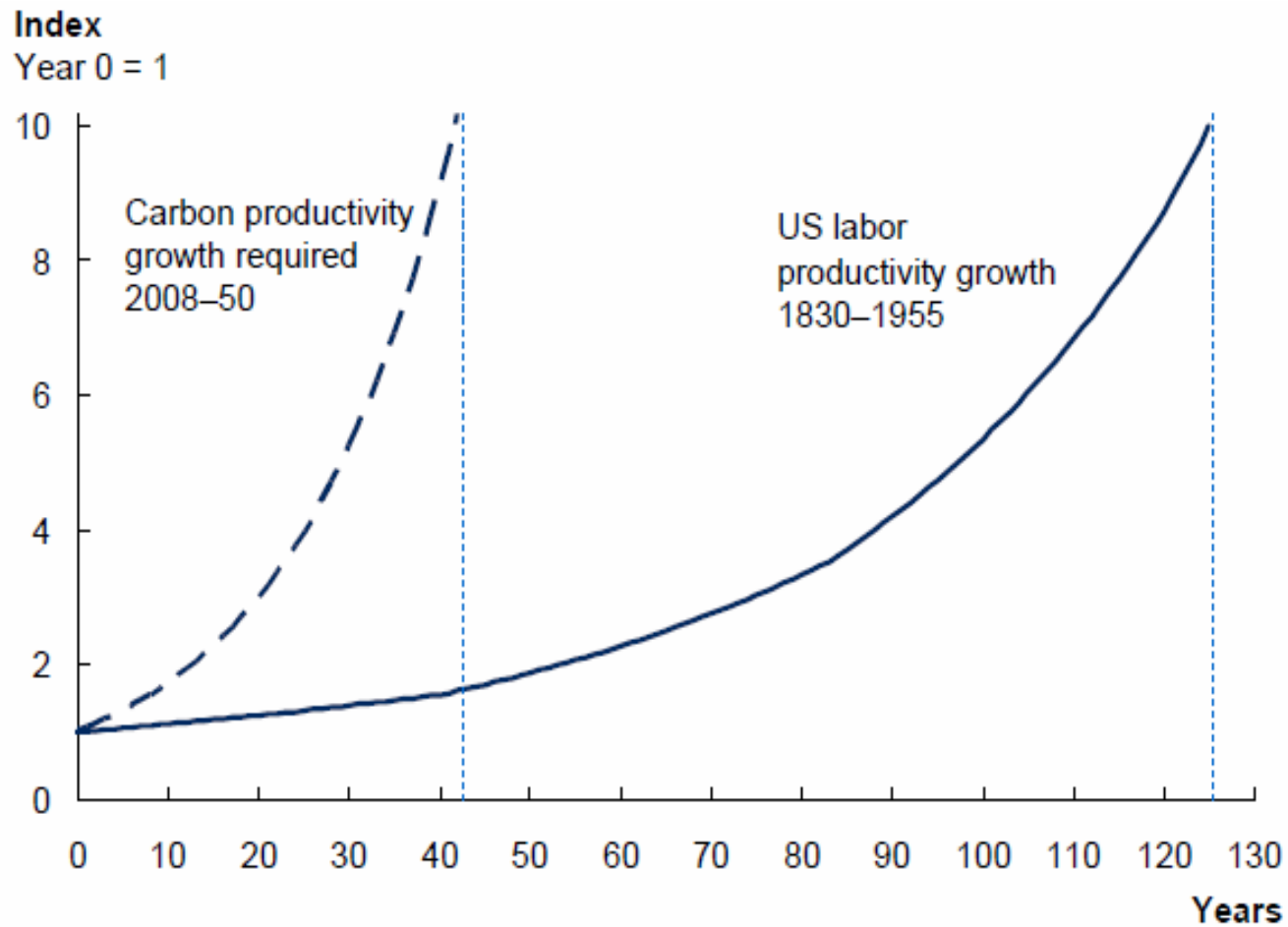
How businesses can manage carbon

The United States has a long way to go



Sources: U.S. EIA Annual Energy Outlook (2007) "Reference case", U.S. EPA; USDA; McKinsey Analysis

Time is of the essence



Sources: *The Carbon Productivity Challenge*, McKinsey Global Institute, 2008

The climate change challenge

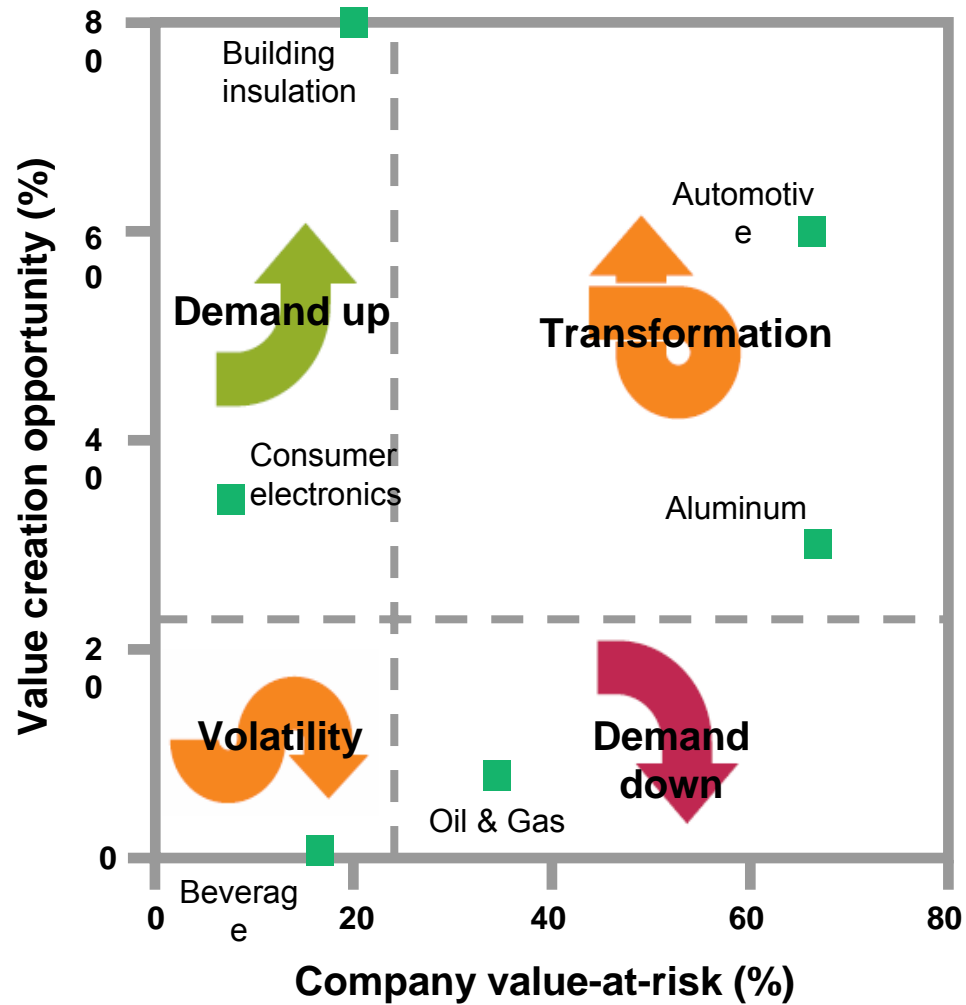
What it means to businesses

How businesses can manage carbon

Climate change impacts both top and bottom lines

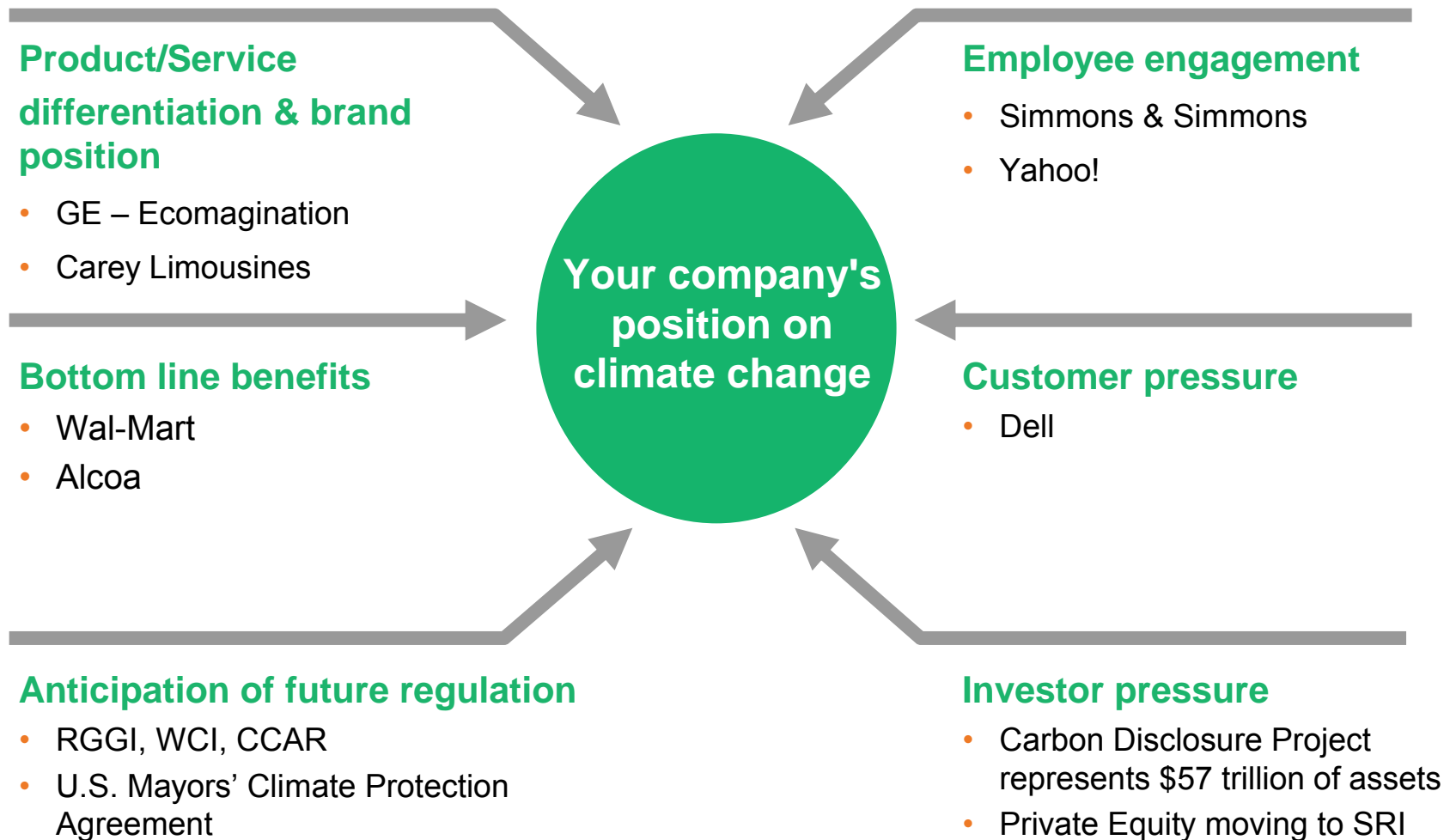
- **Regulatory exposure** from national and international policies and regulation designed to reduce greenhouse gas emissions;
- **Physical exposure** resulting from temperature rises and extreme weather events;
- **Competitive exposure** from a rise in the costs of energy-intensive processes, and a decline in demand for energy-intensive products;
- **Reputational – including litigation – exposure** from customers' and investors' perceptions of action or inaction on climate change; and
- **New technological and business opportunities** resulting from increased demand for low-carbon, high efficiency goods and services.

Climate change will create winners and losers



Source: Climate change – a business revolution? How tackling climate change could create or destroy company value, CarbonTrust

Multiple pressures drive businesses to take action



The climate change challenge

What it means to businesses

How businesses can manage carbon

Managing carbon requires thinking strategically

Carbon Exposure *Value at Risk*

**Upstream
Emissions**

**Corporate
Emissions**

**Downstream
Emissions**

Carbon Measurement Systems

- Greenhouse gas assessments
- Life cycle analyzes
- Inventory management plan

Ownership & Behaviors

- Board/C-level by in
- Staff engagement
- Alignment with corporate culture

Knowledge & Skills

- Knowledge of key stakeholders (e.g. CSR, energy procurement, supply chain managers, sales teams)

**Carbon
Controls**

**Ability to
Manage
Carbon
Exposure**

Production of
electricity



On-site fuel combustion



Distribution of products



Production of raw
materials



Company-owned
vehicles



Retail



Processing of
purchased materials



Business travel



Product use



Transportation of
purchased materials



Employee travel



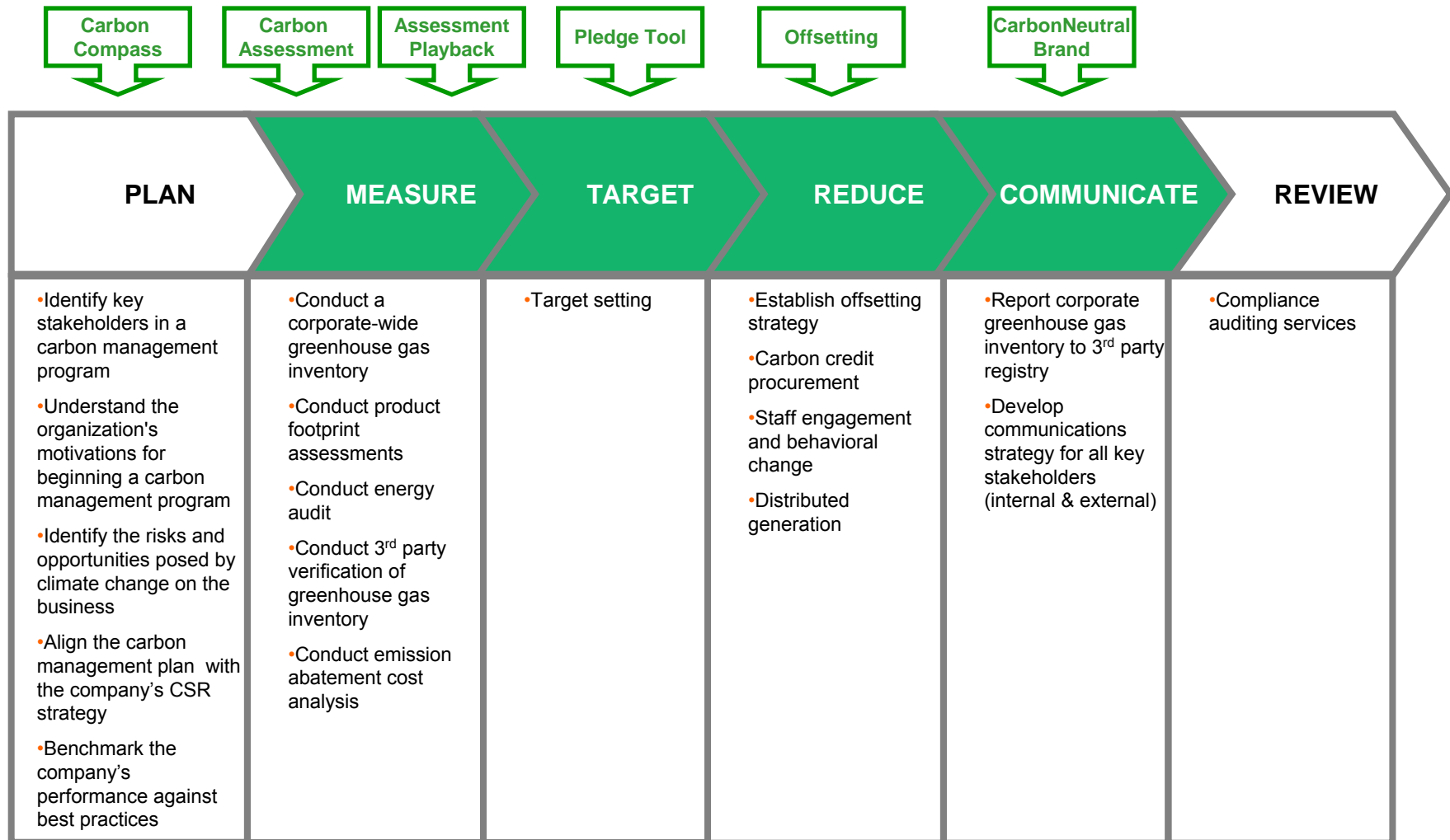
Product disposal



Emissions typically reported by a company



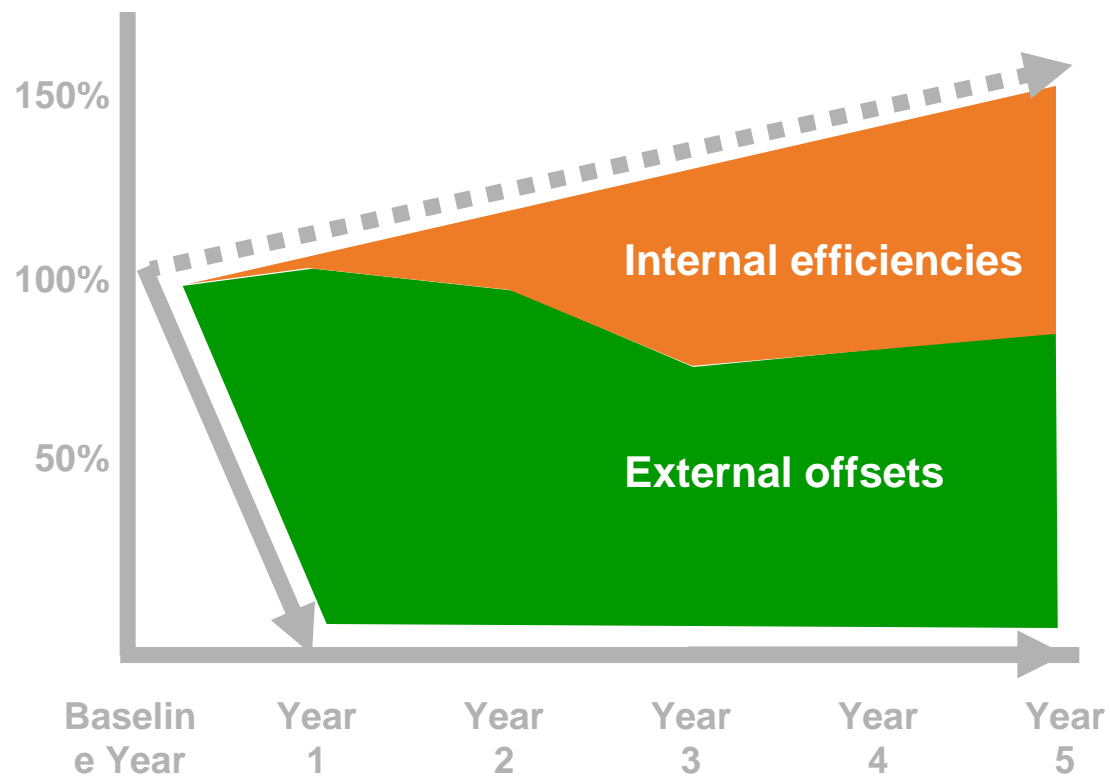
Carbon management involves action across multiple fronts



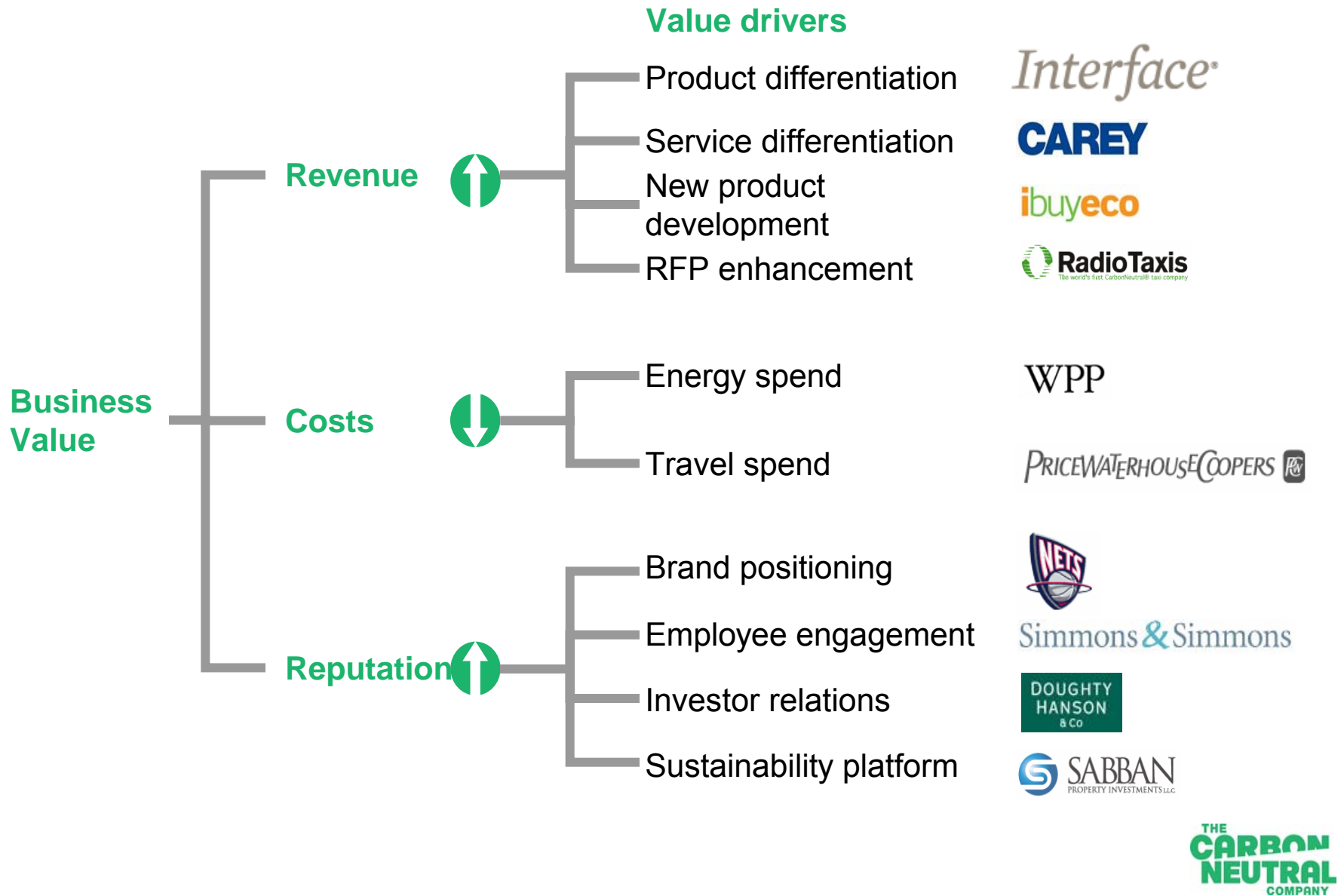
A combination of internal and external actions are necessary



Carbon emissions as a % of baseline year



Going CarbonNeutral generates business value



Going CarbonNeutral boils down to this

- ✓ Assessment of CO2 emissions conducted by an independent third party
- ✓ Emissions have been reduced to net zero through internal reductions (e.g. change of a manufacturing process) and external reductions (carbon offsetting)
- ✓ A commitment to reduce emissions internally on an on-going basis and to document progress
- ✓ Clear communication and transparency





Questions & Answers

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