

# ***Getting Ahead of the Curve: Corporate Strategies that Address Climate Change***

***Andrew J. Hoffman***

**Holcim (US) Professor of Sustainable Enterprise  
University of Michigan**

**With contributions from: *Douglas Glancy, Michael Horn,  
Scott Pryor, Mark Shahinian and Gregory Shopoff***



**ERB INSTITUTE**  
FOR GLOBAL SUSTAINABLE ENTERPRISE  
UNIVERSITY OF MICHIGAN



SCHOOL OF NATURAL RESOURCES & ENVIRONMENT  
STEPHEN M. ROSS SCHOOL OF BUSINESS

# *Report Data Sources*

Study based on:

- 100 question survey of 31 companies.

Advanced Micro Devices, AEP, Air Products, Alcan, Alcoa, Baxter, BP, Calpine, Cinergy, DTE Energy, DuPont, Entergy, Exelon, Fairchild Semiconductors, Georgia-Pacific, Holcim, IBM, Intel, Interface, Maytag, PG&E, Rio Tinto, Rohm and Haas, SC Johnson, Shell, Staples, Sunoco, TransAlta, United Technologies, Whirlpool, and Wisconsin Energy

# Report Data Sources

## Survey Demographics

<i>Category</i>	<i>Results</i>
Sector Representation	Electric Utility: 28 percent High Tech: 9 percent Metals and Mining: 9 percent Oil and Gas: 9 percent Other*: 46 percent
Ownership Status	Public: 87 percent Private: 13 percent
Headquarter Location	North America: 90 percent
Multinational Operations	Yes: 72 percent No: 28 percent
Market Segment**	Business-to-Business: 47 percent Business-to-Customer: 60 percent
Annual Revenue	< \$1B: 10 percent \$1-10B: 45 percent \$10-100B: 45 percent

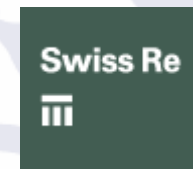
\* Other includes the following: Chemicals, Consumer Goods, Pharmaceuticals, Paper and Forest Products, and Cement.

\*\*This figure exceeds 100% because some companies offer both services.

# *Report Data Sources*

Study based on:

- 100 question survey of 31 companies.
- 6 Case studies:



# ***Report Data Sources***

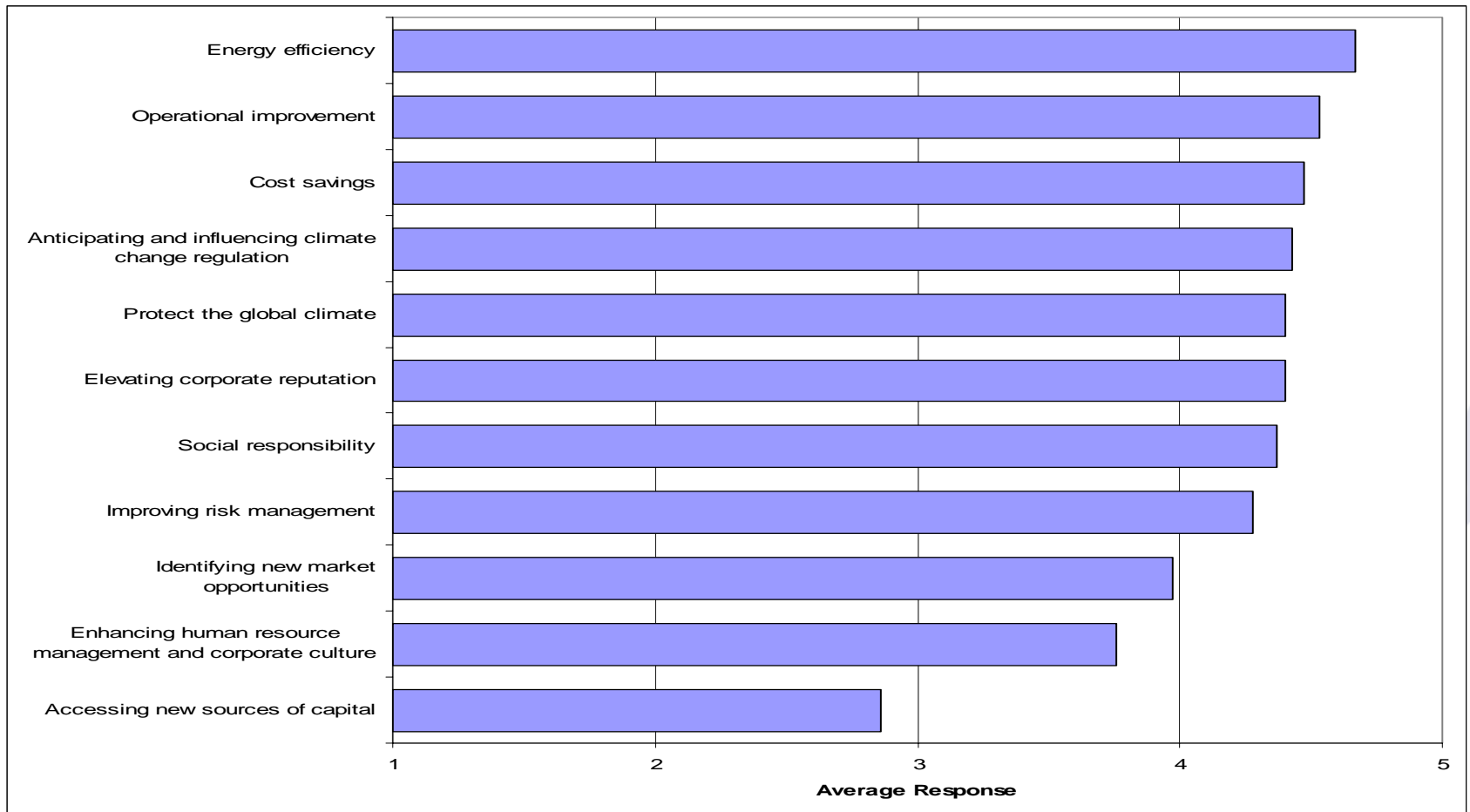
Study based on:

- 100 question survey of 31 companies.
- 6 Case studies:
- Secondary literature and BELC feedback



# Why take Action?

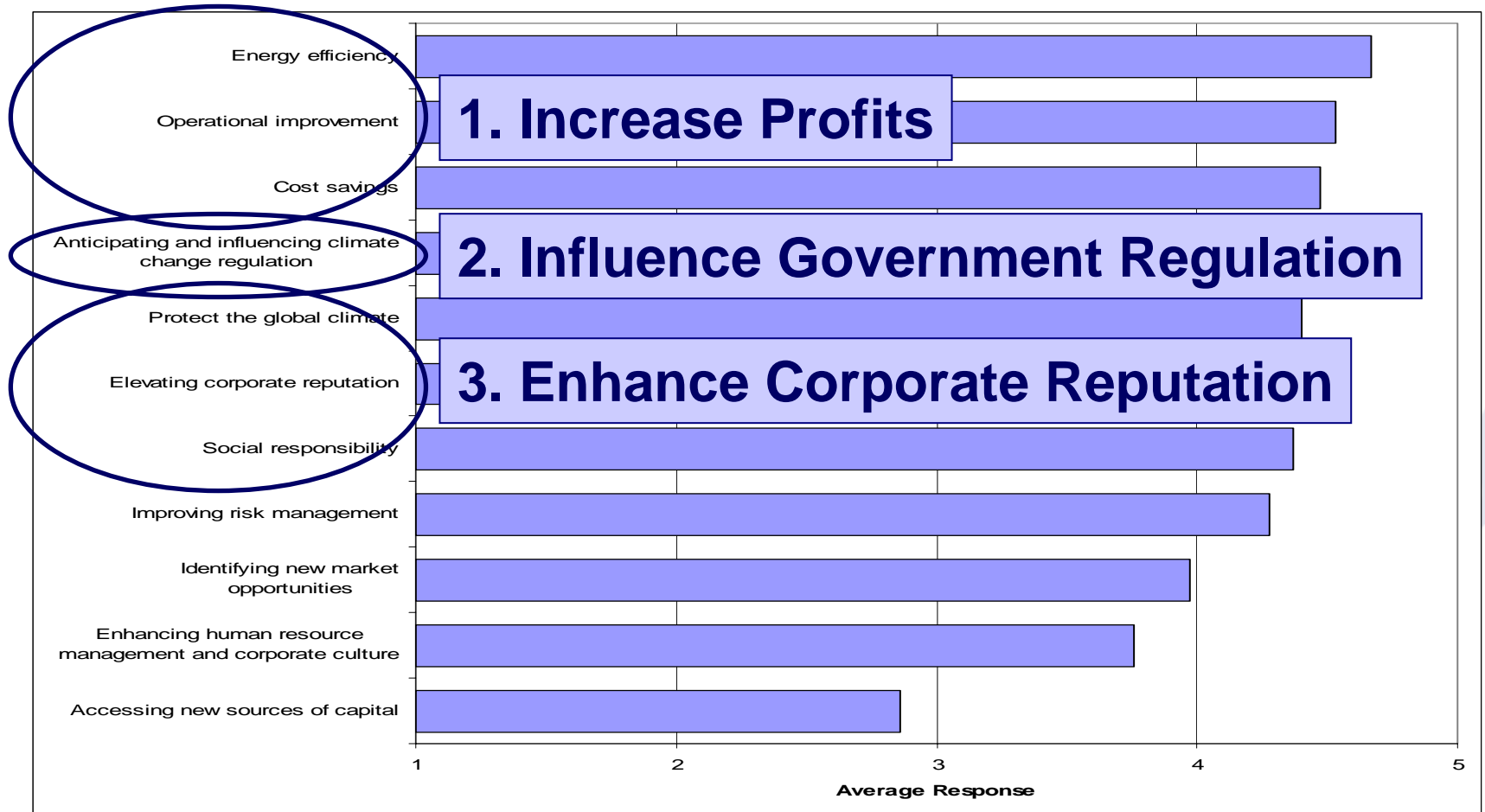
Once begun, how important are the following measures of success in undertaking your climate-related strategy?  
(Rate their level of importance: 1 = not important; 3 = neutral; 5 = important).



# Why take Action?

Once begun, how important are the following measures of success in undertaking your climate-related strategy?

(Rate their level of importance: 1 = not important; 3 = neutral; 5 = important).



# ***Why take Action?***

## **1. Increase Profits**

- Increasing energy costs**
- Investor interest**
- Growing greentech sector**

## **2. Influence Government Policy**

## **3. Enhance Corporate Reputation**



# ***Why take Action?***

## **1. Increase Profits**

- Increasing energy costs
- Investor interest
- Growing greentech sector

## **2. Influence Government Policy**

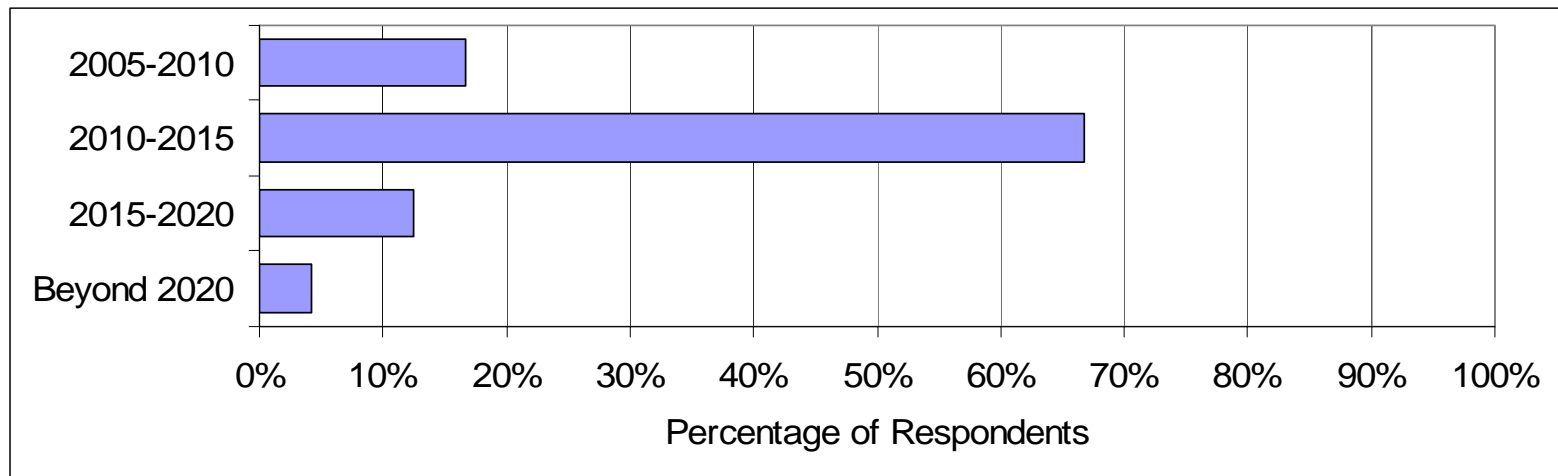
## **3. Enhance Corporate Reputation**



# Why take Action?

## 2. Influence Government Policy

*[If you believe that federal standards on climate change are imminent]  
when do you believe these standards will take effect?*



# ***Why take Action?***

## **1. Increase Profits**

- Increasing energy costs
- Investor interest
- Growing greentech sector

## **2. Influence Government Policy**

## **3. Enhance Corporate Reputation**



# ***Why take Action?***

## **1. Increase Profits**

- Increasing energy costs
- Investor interest
- Growing greentech sector

## **2. Influence Government Policy**

## **3. Enhance Corporate Reputation**

**“Businesses that ignore the debate over climate change do so at their peril.”**  
*The Conference Board*

# ***Signposts for Future Action***

- 1. Establishment of Regulations**
- 2. Rising Energy Prices**
- 3. Interest within the Investment Community**



# ***Signposts for Future Action***

- 1. Establishment of Regulations**
- 2. Rising Energy Prices**
- 3. Interest within the Investment Community**

**The vast majority (93 percent) consider climate-related risks when making general investment decisions. But only 26 percent believe that GHG emissions are “material” under the corporate disclosure requirements of the Sarbanes-Oxley Act.**

# ***How to take action?***

- **Ensure Strategic Timing**
- **Establish Appropriate Levels of Commitment**
- **Influence Policy Development**
- **Create Business Opportunity**



# Ensure Strategic Timing

- Not *whether* to take action, but *when*.
- Not too soon, not too late.

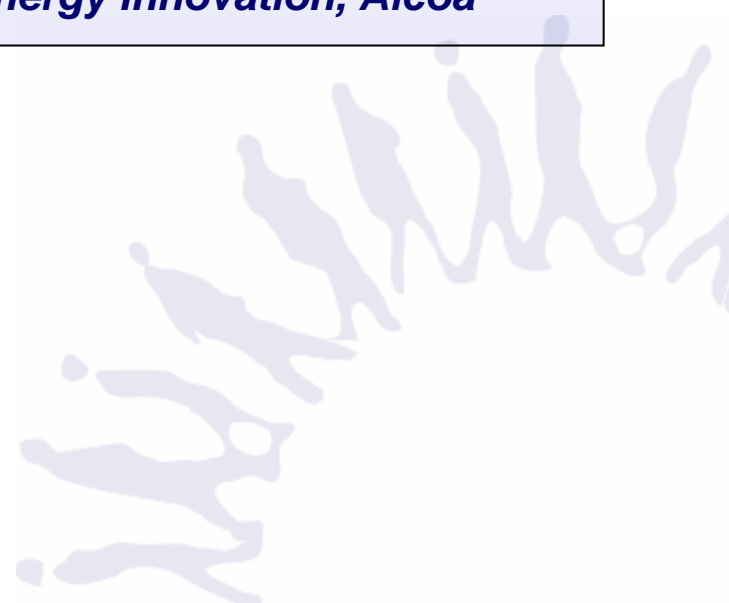


# Ensure Strategic Timing

- Not *whether* to take action, but *when*.
- Not too soon, not too late.

**“It takes time to educate 130,000 employees.”**

***Pat Atkins, Director of Energy Innovation, Alcoa***



# Establish Appropriate Levels of Commitment

- How aggressive should the strategy be?
- Pay attention to market signals.



# Establish Appropriate Levels of Commitment

- How aggressive should the strategy be?
- Pay attention to market signals.

**“You should always remain one step ahead of the competition. But if you are two steps ahead, you lose the crowd. The ideal is for you to be the leader of the pack and everyone pulling in the same direction.”**

***David Bresch, Head of Atmospheric Perils Group, Swiss Re***

# Influence Policy Development

- Policy sets the “rules of the game”
- There are still many possible mechanisms
- Reduce uncertainty by gaining a “seat at the policy table”
- BUT, you must take action first.



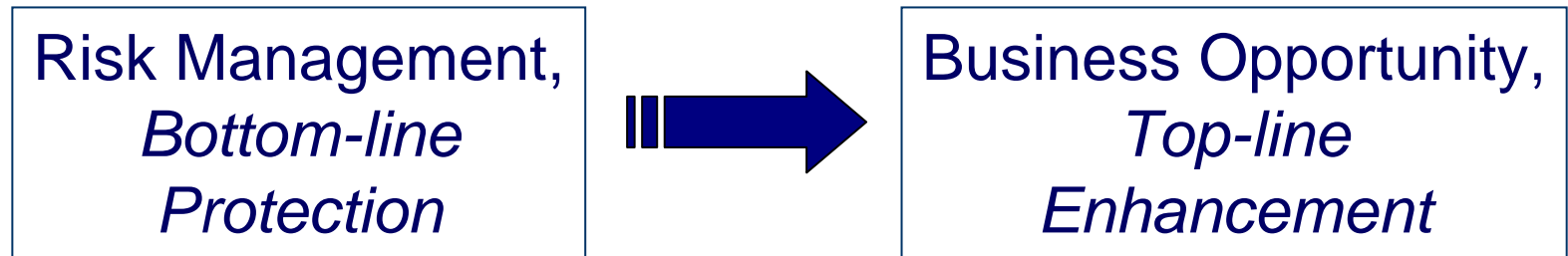
# Influence Policy Development

- Policy sets the “rules of the game”
- There are still many possible mechanisms
- Reduce uncertainty by gaining a “seat at the policy table”
- BUT, you must take action first.

**“To validly have a seat at the table, you have to bring experience.  
You cannot just take a seat because you are interested.”**

***David Hone, Group Climate Change Advisor, The Shell Group***

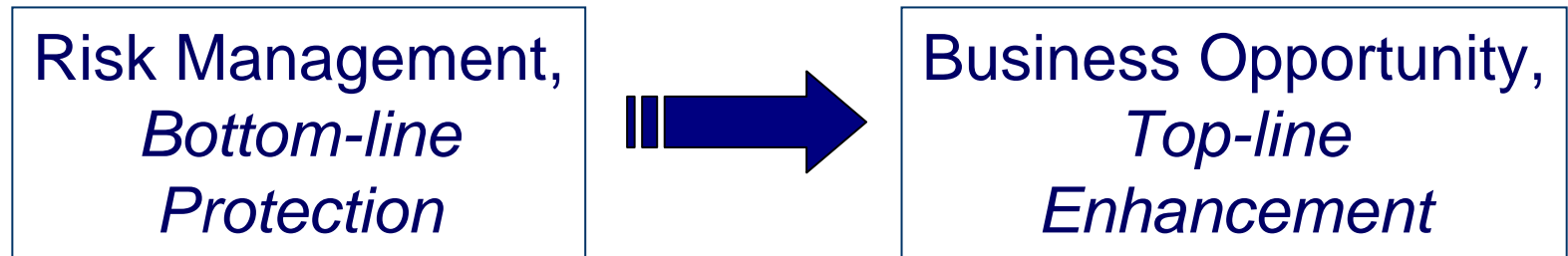
# Create Business Opportunity



- Climate change cannot be an “add-on.”



# Create Business Opportunity

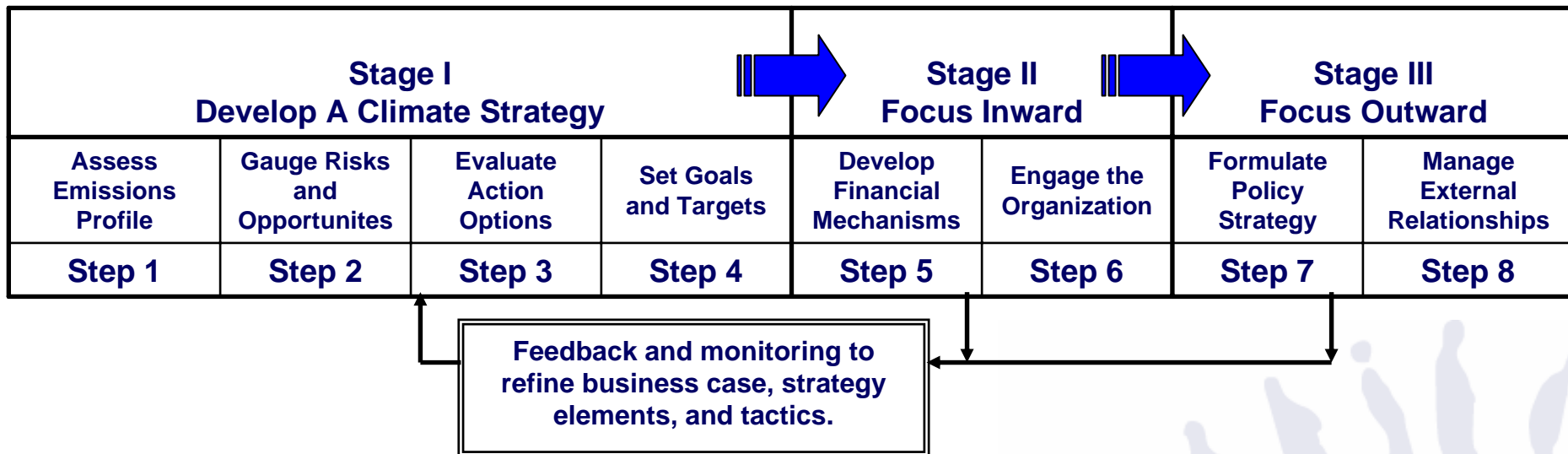


- Climate change cannot be an “add-on.”

**“We need to understand, measure, and assess market opportunities. How do you know and communicate which products will be successful in a GHG constrained world?...The company that answers these questions successfully will be the winner.”**

***Linda Fisher, Vice President and Chief Sustainability Officer, DuPont***

# Three Stages of Climate Strategy Development





- Nearly all companies measure direct emissions and most measure indirect emissions. Yet, there is great variability in what emissions are considered.

- Companies are evenly split in their use of absolute or indexed measures for tracking and reporting emissions.

- Companies can measure actual emissions or develop estimates using fuel-based calculations.

- Companies have developed or are working to develop new systems for measuring and tracking emission reductions.

## Stage I Develop A Climate Strategy

STEP 1  
ASSESS  
EMISSIONS  
PROFILE

STEP 2  
GUAGE RISKS  
AND  
OPPORTUNITIES

STEP 3  
EVALUATE  
ACTION  
OPTIONS

STEP 4  
SET GOALS  
AND  
TARGETS

## Stage II Focus Inward

STEP 5  
DEVELOP  
FINANCIAL  
MECHANISMS

STEP 6  
ENGAGE  
THE ORG.

## Stage III Focus Outward

STEP 7  
FORMULATE  
POLICY  
STRATEGY

STEP 8  
ENGAGE  
EXTERNAL  
RELATIONS

- Benchmarking is geared towards gaining information on best practices.
- While companies begin with a focus on risk management and bottom-line protection, their ultimate goal is to seek ways to integrate their climate strategy with their business strategy.



## Stage I Develop A Climate Strategy

### STEP 1

ASSESS  
EMISSIONS  
PROFILE

### STEP 2

**GUAGE RISKS  
AND  
OPPORTUNITIES**

### STEP 3

EVALUATE  
ACTION  
OPTIONS

### STEP 4

▶ SET GOALS  
AND  
TARGETS

## Stage II

### Focus Inward

### STEP 5

▶ DEVELOP  
FINANCIAL  
MECHANISMS

### STEP 6

▶ ENGAGE  
THE ORG.

## Stage III

### Focus Outward

### STEP 7

▶ FORMULATE  
POLICY  
STRATEGY

### STEP 8

▶ ENGAGE  
EXTERNAL  
RELATIONS

- Benchmarking is geared towards gaining information on best practices.
- While companies begin with a focus on risk management and bottom-line protection, their ultimate goal is to seek ways to integrate their climate strategy with their business strategy.

**“In the 1980s, energy efficiency was number ten, eleven or twelve in consumer priorities. In the last four or five years, it has come up to number three behind cost and performance, and we believe these concerns will continue to grow.”**

***Casey Tubman, Brand Manager of Fabric Care Products, Whirlpool***

## Stage I Develop A Climate Strategy

### STEP 1

ASSESS  
EMISSIONS  
PROFILE

### STEP 2

▶ GUAGE RISKS  
AND  
OPPORTUNITIES

### STEP 3

▶ **EVALUATE  
ACTION  
OPTIONS**

### STEP 4

▶ SET GOALS  
AND  
TARGETS

## Stage II Focus Inward

### STEP 5

▶ DEVELOP  
FINANCIAL  
MECHANISMS

### STEP 6

▶ ENGAGE  
THE ORG.

## Stage III Focus Outward

### STEP 7

▶ FORMULATE  
POLICY  
STRATEGY

### STEP 8

▶ ENGAGE  
EXTERNAL  
RELATIONS

- Search first for “Low hanging fruit.”



## Stage I Develop A Climate Strategy

### STEP 1

ASSESS  
EMISSIONS  
PROFILE

### STEP 2

▶ GUAGE RISKS  
AND  
OPPORTUNITIES

### STEP 3

▶ EVALUATE  
ACTION  
OPTIONS

### STEP 4

▶ SET GOALS  
AND  
TARGETS

## Stage II Focus Inward

### STEP 5

▶ DEVELOP  
FINANCIAL  
MECHANISMS

### STEP 6

▶ ENGAGE  
THE ORG.

## Stage III Focus Outward

### STEP 7

▶ FORMULATE  
POLICY  
STRATEGY

### STEP 8

▶ ENGAGE  
EXTERNAL  
RELATIONS

- Search first for “Low hanging fruit.”

“If you’ve never focused on energy efficiency before,  
achieving a 30 percent reduction is simple.”

*Andreas Schlaepfer, Head of Internal  
Environmental Management, Swiss Re*



## Stage I Develop A Climate Strategy

### STEP 1

ASSESS  
EMISSIONS  
PROFILE

### STEP 2

▶ GUAGE RISKS  
AND  
OPPORTUNITIES

### STEP 3

▶ EVALUATE  
ACTION  
OPTIONS

### STEP 4

▶ SET GOALS  
AND  
TARGETS

## Stage II Focus Inward

### STEP 5

▶ DEVELOP  
FINANCIAL  
MECHANISMS

### STEP 6

▶ ENGAGE  
THE ORG.

## Stage III Focus Outward

### STEP 7

▶ FORMULATE  
POLICY  
STRATEGY

### STEP 8

▶ ENGAGE  
EXTERNAL  
RELATIONS

- Search first for “Low hanging fruit.”

“If you’ve never focused on energy efficiency before,  
achieving a 30 percent reduction is simple.”

*Andreas Schlaepfer, Head of Internal  
Environmental Management, Swiss Re*

- “Silver bullets.”
- On-system and off-system opportunities.
- Ultimately, the goal is to find ways to reduce greenhouse gases in a manner that supports other business objectives.

## Stage I Develop A Climate Strategy

### STEP 1

ASSESS  
EMISSIONS  
PROFILE

### STEP 2

▶ GUAGE RISKS  
AND  
OPPORTUNITIES

### STEP 3

▶ EVALUATE  
ACTION  
OPTIONS

### STEP 4

**SET GOALS  
AND  
TARGETS**

### STEP 5

▶ DEVELOP  
FINANCIAL  
MECHANISMS

### STEP 6

▶ ENGAGE  
THE ORG.

### STEP 7

▶ FORMULATE  
POLICY  
STRATEGY

### STEP 8

▶ ENGAGE  
EXTERNAL  
RELATIONS

## Stage II Focus Inward

## Stage III Focus Outward

- Most develop goals by analyzing risks and opportunities in their many business units.



## Stage I Develop A Climate Strategy

### STEP 1

ASSESS  
EMISSIONS  
PROFILE

### STEP 2

▶ GUAGE RISKS  
AND  
OPPORTUNITIES

### STEP 3

▶ EVALUATE  
ACTION  
OPTIONS

### STEP 4

▶ SET GOALS  
AND  
TARGETS

### STEP 5

▶ DEVELOP  
FINANCIAL  
MECHANISMS

### STEP 6

▶ ENGAGE  
THE ORG.

### STEP 7

▶ FORMULATE  
POLICY  
STRATEGY

### STEP 8

▶ ENGAGE  
EXTERNAL  
RELATIONS

## Stage II Focus Inward

## Stage III Focus Outward

- Most develop goals by analyzing risks and opportunities in their many business units.

**“You need the tension of a very challenging goal.  
Inspirational goals call an organization to act beyond  
conventional boundaries...An easy goal fails to challenge  
the creative potential of the organization.”**

***Craig Heinrich, Titanium Technologies Division, DuPont***

## Stage I Develop A Climate Strategy

### STEP 1

ASSESS  
EMISSIONS  
PROFILE

### STEP 2

▶ GUAGE RISKS  
AND  
OPPORTUNITIES

### STEP 3

▶ EVALUATE  
ACTION  
OPTIONS

### STEP 4

▶ SET GOALS  
AND  
TARGETS

### STEP 5

▶ DEVELOP  
FINANCIAL  
MECHANISMS

### STEP 6

▶ ENGAGE  
THE ORG.

### STEP 7

▶ FORMULATE  
POLICY  
STRATEGY

### STEP 8

▶ ENGAGE  
EXTERNAL  
RELATIONS

## Stage II Focus Inward

## Stage III Focus Outward

- Most develop goals by analyzing risks and opportunities in their many business units.

**“You need the tension of a very challenging goal.  
Inspirational goals call an organization to act beyond  
conventional boundaries...An easy goal fails to challenge  
the creative potential of the organization.”**

***Craig Heinrich, Titanium Technologies Division, DuPont***

- Energy-efficiency and greenhouse gas-reduction targets.
- In making the business case for climate-related strategies, companies typically focus on quantifiable and less quantifiable benefits.
- Other related targets.

## Stage I Develop A Climate Strategy



## Stage II Focus Inward

STEP 6  
ENGAGE  
THE ORG.

## Stage III Focus Outward

STEP 7  
FORMULATE  
POLICY  
STRATEGY

STEP 8  
ENGAGE  
EXTERNAL  
RELATIONS

- Absent legal mandates, U.S. companies are currently using internal pricing mechanisms to support climate change efforts.
- Costs for climate-related strategies vary widely.

### Absolute Costs

DuPont spent \$50 million to develop end-of-pipe control technology to reduce N<sub>2</sub>O emissions

### Normalized Costs

Cinergy estimates that the average per-ton cost of CO<sub>2</sub>e reductions was \$8.28 in 2004 and \$12.49 in 2005.

### Financial Return

Alcoa has traditionally not pursued climate and energy projects unless they have a payback of one year or less.

- Internal and external trading: Pros and cons.
- Expertise and knowledge gained by developing these mechanisms can help companies understand when climate programs make sense only with an external carbon price and when they can be sustained without one.

## Stage I Develop A Climate Strategy

### STEP 1

ASSESS  
EMISSIONS  
PROFILE

### STEP 2

▶ GUAGE RISKS  
AND  
OPPORTUNITIES

### STEP 3

▶ EVALUATE  
ACTION  
OPTIONS

### STEP 4

▶ SET GOALS  
AND  
TARGETS

## Stage II Focus Inward

### STEP 5

▶ DEVELOP  
FINANCIAL  
MECHANISMS

### STEP 6

**ENGAGE  
THE ORG.**

## Stage III Focus Outward

### STEP 7

▶ FORMULATE  
POLICY  
STRATEGY

### STEP 8

▶ ENGAGE  
EXTERNAL  
RELATIONS

- Gaining buy-in from the workforce takes time and effort. Many companies link climate-change goals to what the organization already knows. Others link it to rewards, bonuses, and public awards.



## Stage I Develop A Climate Strategy

### STEP 1

ASSESS  
EMISSIONS  
PROFILE

### STEP 2

▶ GUAGE RISKS  
AND  
OPPORTUNITIES

### STEP 3

▶ EVALUATE  
ACTION  
OPTIONS

### STEP 4

▶ SET GOALS  
AND  
TARGETS

## Stage II Focus Inward

### STEP 5

▶ DEVELOP  
FINANCIAL  
MECHANISMS

### STEP 6

▶ ENGAGE  
THE ORG.

## Stage III Focus Outward

### STEP 7

▶ FORMULATE  
POLICY  
STRATEGY

### STEP 8

▶ ENGAGE  
EXTERNAL  
RELATIONS

- Gaining buy-in from the workforce takes time and effort. Many companies link climate-change goals to what the organization already knows. Others link it to rewards, bonuses, and public awards.

**“We’ve got a train moving on efficiency...  
We’d just start confusing things if we tried to start a new train.”**  
*Mark Dahmer, Director of Laundry Technology, Whirlpool*



## Stage I Develop A Climate Strategy



## Stage II Focus Inward



## Stage III Focus Outward



- Gaining buy-in from the workforce takes time and effort. Many companies link climate-change goals to what the organization already knows. Others link it to rewards, bonuses, and public awards.

**“We’ve got a train moving on efficiency...  
We’d just start confusing things if we tried to start a new train.”  
Mark Dahmer, Director of Laundry Technology, Whirlpool**

- Senior leadership is critical.
- Identify departments or functions that will act as change initiators, implementers, and resisters.
- The ultimate goal is to move climate change as an issue from the periphery of the organization to its core.

## Stage I Develop A Climate Strategy

### STEP 1

ASSESS  
EMISSIONS  
PROFILE

### STEP 2

▶ GUAGE RISKS  
AND  
OPPORTUNITIES

### STEP 3

▶ EVALUATE  
ACTION  
OPTIONS

### STEP 4

▶ SET GOALS  
AND  
TARGETS

## Stage II Focus Inward

### STEP 5

▶ DEVELOP  
FINANCIAL  
MECHANISMS

### STEP 6

▶ ENGAGE  
THE ORG.

## Stage III Focus Outward

### STEP 7

▶ **FORMULATE  
POLICY  
STRATEGY**

### STEP 8

▶ ENGAGE  
EXTERNAL  
RELATIONS

- Government policy on climate change is coming. All companies see a strong need to participate in policy development.



## Stage I Develop A Climate Strategy

### STEP 1

ASSESS  
EMISSIONS  
PROFILE

### STEP 2

▶ GUAGE RISKS  
AND  
OPPORTUNITIES

### STEP 3

▶ EVALUATE  
ACTION  
OPTIONS

### STEP 4

▶ SET GOALS  
AND  
TARGETS

## Stage II Focus Inward

### STEP 5

▶ DEVELOP  
FINANCIAL  
MECHANISMS

### STEP 6

▶ ENGAGE  
THE ORG.

## Stage III Focus Outward

### STEP 7

▶ **FORMULATE  
POLICY  
STRATEGY**

### STEP 8

▶ ENGAGE  
EXTERNAL  
RELATIONS

- Government policy on climate change is coming. All companies see a strong need to participate in policy development.

**Avoid avoid “stroke of the pen risk, the risk that a regulator or Congressman signing a law can change the value of our assets overnight...If there is a high probability that there will be regulation, you try to position yourself to influence the outcome.”**

***Jim Rogers, CEO, Duke Energy***

## Stage I Develop A Climate Strategy



## Stage II Focus Inward



## Stage III Focus Outward



- Government policy on climate change is coming. All companies see a strong need to participate in policy development.

**Avoid avoid “stroke of the pen risk, the risk that a regulator or Congressman signing a law can change the value of our assets overnight...If there is a high probability that there will be regulation, you try to position yourself to influence the outcome.”**

***Jim Rogers, CEO, Duke Energy***

- Varying perspectives about several key aspects of prospective policy.

## Stage I Develop A Climate Strategy

### STEP 1

ASSESS  
EMISSIONS  
PROFILE

### STEP 2

▶ GUAGE RISKS  
AND  
OPPORTUNITIES

### STEP 3

▶ EVALUATE  
ACTION  
OPTIONS

### STEP 4

▶ SET GOALS  
AND  
TARGETS

## Stage II Focus Inward

### STEP 5

▶ DEVELOP  
FINANCIAL  
MECHANISMS

### STEP 6

▶ ENGAGE  
THE ORG.

## Stage III Focus Outward

▶ **STEP 7  
FORMULATE  
POLICY  
STRATEGY**

### STEP 8

▶ ENGAGE  
EXTERNAL  
RELATIONS

- Government policy on climate change is coming. All companies see a strong need to participate in policy development.

**Avoid avoid “stroke of the pen risk, the risk that a regulator or Congressman signing a law can change the value of our assets overnight...If there is a high probability that there will be regulation, you try to position yourself to influence the outcome.”**

***Jim Rogers, CEO, Duke Energy***

- Varying perspectives about several key aspects of prospective policy.

**“The technologies will emerge when CO2 has a price signal, and that market signal will be regulation.”**

***Kevin Leahy, GM of Environmental Economics and Finance, Duke Energy***

## Stage I Develop A Climate Strategy

### STEP 1

ASSESS  
EMISSIONS  
PROFILE

### STEP 2

▶ GUAGE RISKS  
AND  
OPPORTUNITIES

### STEP 3

▶ EVALUATE  
ACTION  
OPTIONS

### STEP 4

▶ SET GOALS  
AND  
TARGETS

## Stage II Focus Inward

### STEP 5

▶ DEVELOP  
FINANCIAL  
MECHANISMS

### STEP 6

▶ ENGAGE  
THE ORG.

## Stage III Focus Outward

### STEP 7

▶ FORMULATE  
POLICY  
STRATEGY

### STEP 8

▶ ENGAGE  
EXTERNAL  
RELATIONS

- External outreach efforts are aimed first at employees and NGOs, and then at government, the broader public, and the investment community.
- Survey respondents also report reaching out to customers and other companies through research consortia, trade groups, and other avenues.
- In the end, all the steps in a firm's climate strategy have to fit with each other and with overall strategic objectives.

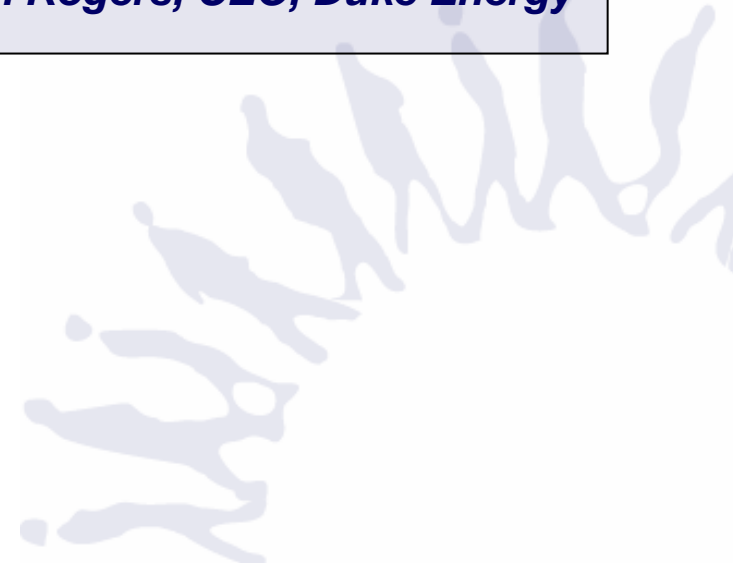
# Conclusion: Climate Change Represents a Market Transition



# Conclusion: Climate Change Represents a Market Transition

**“I worry that we are using 100 year-old technology...At what point will our generation and transmission lines become obsolete? There are a lot of things you might do, if you think there will be a new technology in 25 years. You need to hit your numbers with a short-term view, but you need to run your company with a long-term view.”**

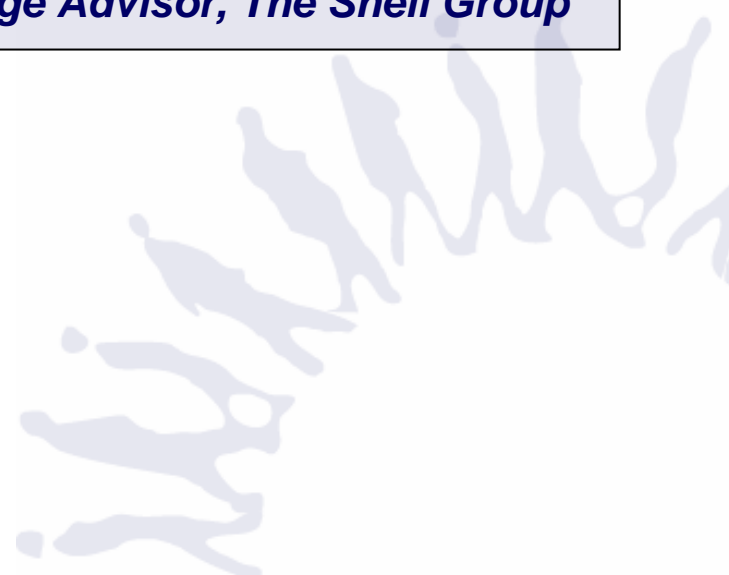
***Jim Rogers, CEO, Duke Energy***



# Conclusion: Climate Change Represents a Market Transition

**“The key is both influencing the rules of the game and timing your shift to a new carbon-constrained strategy. It’s knowing what the next technology for energy production is, and shifting when the market is ready to reward it. We’re not going to get out of the oil business in the near term.” But, you have to ask, “What is the iPod® for energy? Is it out there? You have to be on watch.”**

***David Hone, Group Climate Change Advisor, The Shell Group***



# For More Information:

[www.erb.umich.edu](http://www.erb.umich.edu)

[www.pewclimate.org](http://www.pewclimate.org)

