Sustainability Leadership:
Valuable Lessons from Working with an External Advisory Council
Discussion Topics

Background

What’s Important to Us

Governance, Approach & Integration

What We Have Learned
Background
How We Got Here
Over 140 Years of Addressing Global Challenges

Responding to Urgent Global Challenges with Sustainable Products and Services

Providing Solutions that Address Today’s Global Challenges
What’s Important to Us
Sustainability at Ingersoll Rand:

Our work benefits our business, people and the world – now and in the future.
“We believe that premier performance and enduring results will come from addressing urgent global social and environmental challenges in a way that is valuable to our customers.”

**Walk the Talk**
- Strengthen employee skills and engagement
- Minimize resource use of operations & real estate
- Integrate into fabric & BOS

**Greening the Portfolio**
- Deploy standard tools to validate next gen progress
- Co-create sustainable solutions with stakeholders
- Reduce environmental impact of products

**Thought Leadership And Collaboration**
- Expand NGO, community, government partnerships
- Leverage transparency to learn & improve & share
- Align codes/standards and policy with biz drivers
Sustainability across the Value Stream: creating value & reshaping the footprint

- Raw Materials
- Intermediates
- Products
- Use & Maintenance
- End of Use

Cradle-to-Gate Footprint

Products

Cradle-to-Grave Cradle-to-Cradle Footprint

Benefits to Customers & Communities
Governance
Sustainability Governance Structure

Board of Directors

Enterprise Leadership Team

External Sustainability Advisory Council

Internal Sustainability Strategy Council

Center for Energy Efficiency and Sustainability
STAGES OF VALUE CREATION

Stage 4: Differentiate the value propositions through new business models, enhanced corporate culture, brand leadership, and other intangibles to secure durable competitive advantage

Stage 3: Drive revenue growth by integrating innovative approaches into core strategies

Stage 2: Redesign selected products, processes; do old things in new ways; then do new things in new ways

Stage 1: Reduce cost, risks, and waste; deliver proof-of-value

5. Purpose & Passion

4. Integrated Strategy

3.3: Governance and culture

3.2: New products / services

3.1: Value chain footprints

3.0: Cleaner products / processes

3. Beyond Compliance

2. Compliance

1. Pre-Compliance

David Lubin and Daniel Esty, HBR, May 2010.
Sustainability Strategy Council (Internal)

Paul Camuti  
Council Co-Chair  
SVP Innovation and CTO

Gary Cruikshank  
VP, Engineering Technology, CTS

Kishore Dhupati  
Director, Corporate Strategy

Gretchen Digby  
Director, Global Sust. Programs, CEES

Holly Emerson  
Senior Analyst CEES

John Evans  
VP, Global Procurement

Joe Fimbianti  
VP, Investor Relations

Heather Foran  
Asst. Gen. Counsel Litigation

Lisa Knapp  
VP HR, Comm. HVAC NA & EMEA

Jose La Loggia  
General Mgr., Comm. HVAC NA & EMEA

Gary Michel  
Council Co-Chair SVP & President Res HVAC

Dave Modi  
VP, Government/Public Affairs

Clark Ponthier  
VP ISC, HVAC Parts & HVAC Supply

Eric Rankin  
VP, Global EHS

Donny Simmons  
President FH, MH & PT

Scott Tew  
Executive Director CEES

Manlio Valdes  
VP, Trane Product Mgmt., Comm. HVAC NA & EMEA

Josh Van Dyke  
VP IT, Americas

Xiangjun Yu  
VP, Procurement HVAC AP & India

Misty Zelent  
Dir. External & Executive Communications
Scope of the Council’s Charter

Strategy

Transparency and Reporting

Internal Programs and Policies

EH&S

Partnerships and Alliances

Product/Process Development
The Council’s Charter

“Provide assistance to Ingersoll Rand relating to increasing the pace of sustainable innovation, and creating a roadmap for businesses and organizations worldwide to incorporate energy efficiency and sustainability-focused processes into daily operations.”

“... guide actions, help create positions on important issues, and challenge Ingersoll Rand in the development, testing, and commercialization of new technologies and products based on sustainability principles and energy efficiency best practices.”
Council Member Selection Criteria

Individual Attributes
- Independent
- Credible
- Interest in Advisory Board role
- Collaborative
- Strategic

Skills/Expertise
- Industry Knowledge
- Sector Expertise
- EH&S
- B2B/C2B
- Community/Social
- Financing
- Energy Services
- Business Partnering
- Policy
- Government

Group Representation
- Diversity
- Expertise Coverage
- Geographic Coverage
Companies Use Councils in Numerous Ways...

Areas where companies have focused their Advisory Council's attention:

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<th>D</th>
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<tbody>
<tr>
<td>1. Helping <strong>articulate the sustainability story and purpose</strong> (what, why, how)</td>
<td>✔ ✔ ✔</td>
<td>❌</td>
<td>✔</td>
<td>✔ ✔ ✔</td>
<td>✔ ✔ ✔</td>
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<td>2. <strong>Advising/shaping the company’s strategy</strong> through the lens of sustainability</td>
<td>✔ ✔ ✔</td>
<td>✔</td>
<td>✔ ✔ ✔</td>
<td>✔ ✔ ✔</td>
<td>✔ ✔ ✔</td>
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<td>3. Actively engaging the company around its innovation and R&amp;D portfolio</td>
<td>✔ ✔ ✔</td>
<td>✔ ✔ ✔</td>
<td>❌</td>
<td>❌</td>
<td>✔ ✔</td>
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<td>4. Working on <strong>long term goals/metrics</strong> (e.g. energy, carbon footprint, green products)</td>
<td>✔ ✔ ✔</td>
<td>❌</td>
<td>✔ ✔ ✔</td>
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<td>✔ ✔ ✔</td>
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<td>5. Helping <strong>build external relationships</strong> and alliance partners</td>
<td>❌</td>
<td>✔ ✔ ✔</td>
<td>✔</td>
<td>✔</td>
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<td>6. <strong>Advocating for the company’s programs</strong> with external stakeholders</td>
<td>❌</td>
<td>✔ ✔ ✔</td>
<td>❌</td>
<td>❌</td>
<td>✔</td>
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<td>7. Acting as a <strong>general sounding board</strong> for senior management on sustainability issues</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>✔</td>
<td>✔ ✔ ✔</td>
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</table>

Forging the sustainability story and advising on strategy are common tasks for these councils’ focus.

Key:  ✔ ✔ Heavy involved   ✔ Modestly involved   ❌ Not involved
# Spring 2017 Council Agenda—Day 1

**Davidson Campus, Bldg. B – Great Divide Conference Room**

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Objective</th>
<th>Presenter</th>
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<tbody>
<tr>
<td>12:15 p.m.–12:30 p.m.</td>
<td>Lunch and Welcome</td>
<td>Inform</td>
<td>Paul Camuti</td>
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<td>Roger Ballentine</td>
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<tr>
<td>12:30 p.m. – 1:15 p.m.</td>
<td>Leadership Conference Report</td>
<td>Inform</td>
<td>Gary Michel</td>
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<td></td>
<td>• Highlights feedback</td>
<td>Discuss</td>
<td>Other Participants</td>
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<td></td>
<td>• Video</td>
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<td></td>
<td>• Conference Recap</td>
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<td></td>
<td>• Council feedback/discussion</td>
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<td>• Investor Day</td>
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<tr>
<td>1:15 p.m. – 2:45 p.m.</td>
<td>Social Responsibility</td>
<td>Discuss</td>
<td>Kathy Sierra</td>
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<td></td>
<td>• Trends and implications</td>
<td></td>
<td>Perri Richman</td>
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<td></td>
<td>• Ingersoll Rand Profile and Benefits</td>
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<td>Ray Pittard</td>
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<td>• New Thermo King Partnership</td>
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<td>2:45 p.m. – 3:00 p.m.</td>
<td>Break</td>
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<tr>
<td>3:00 p.m. – 4:30 p.m.</td>
<td>Club Car – Advanced Vehicle Strategy</td>
<td>Discuss</td>
<td>Marc Dufour</td>
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<td>Dan Dykstra</td>
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<tr>
<td>6:00 p.m. – 9:00 p.m.</td>
<td>Reception &amp; Dinner</td>
<td>Discuss</td>
<td>All</td>
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<td></td>
<td>Presentation: Matt Banks, WWF Lanatree</td>
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<td>Invited Guests</td>
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<td>Plantation, Mooresville</td>
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<tr>
<td>Time</td>
<td>Session Title</td>
<td>Participants/Notes</td>
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<tr>
<td>8:00 a.m. – 8:30 a.m.</td>
<td>Breakfast and Welcome</td>
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<tr>
<td>8:30 a.m. – 9:00 a.m.</td>
<td>Renewable Energy Roadmap/RE Transaction Development Update</td>
<td>Discuss Holly Emerson</td>
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<td>VPPA efforts</td>
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<td>Other</td>
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<tr>
<td>9:00 a.m. – 10:30 a.m.</td>
<td>Carbon Valuation Workshop</td>
<td>Team</td>
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<td><em>Does Ingersoll Rand need an internal policy on carbon? What would that look like? How should a carbon policy be applied within the company and its business lines? Could a policy create competitive advantage? What are other companies doing?</em></td>
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<tr>
<td>10:30 a.m. – 10:45 a.m.</td>
<td>Break</td>
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<tr>
<td>10:45 a.m. – 11:45 a.m.</td>
<td>Integrating Sustainability into the Supply Chain</td>
<td>Discuss Pam Alexander</td>
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<td><em>How should Ingersoll Rand be approaching its supply chain? Along with the use of its products, IR’s supply chain is the largest piece of the Company’s environmental and social footprint. The impacts of IR’s supply chain cannot be wholly controlled by the Company</em></td>
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<tr>
<td>11:45 a.m. – 12:00 p.m.</td>
<td>Wrap-up</td>
<td>Roger Ballentine</td>
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Engaging & Integrating
Broad Direction from the Council

Focus on the Right Things for the Right Reasons

Integrate into the Business

Set the Right Targets—Think Bigger for Bigger Impact

Collaborate to Win
Alignment with Material Issues

- Clean Water
- Diversity
- Energy Efficiency
- Climate Action
- Innovation
- Housing & Nutrition
- Ethical Behavior
- Education

Diagram showing various issues and their alignment with stakeholders, categorizing topics such as Climate, Action, Innovation, Diversity, Efficiency, Education, Housing & Nutrition, and Ethical Behavior.
“The single most important thing that can keep workers deeply, happily engaged on the job is moving forward on work they care about – even if the progress is an incremental small win.” The Progress Principle by Teresa Amabile
Engagement Index
Favorability in sustainability questions improved by 2 pts to 84% — one of highest favorable areas after ethics & safety

Volunteer Green Teams
89 Green Teams representing employees in mfg, whse/dist, sales/service, and admin sites; 4,500+ employees participating. Glocal Program expanding employee-led initiatives for lasting community impact and increased engagement

Better Capabilities
Design for Sustainability (DfS) training with Underwriters Lab (UL) expanded beyond engineers & procurement leaders. 2500+ employees attended monthly webinar training series on sustainability

Big Resource Impacts
48 B BTUs energy saved
2.2 M gallons water saved
2.4 M lbs waste to landfill avoided

2016 YE data
Products Designed for Sustainable Performance

Embedding Tools into Development Process

**GOVERNANCE PROCESS**
- 02. Gate Deliverables

**TACTICAL PROCESSES**
- 07. Design For Sustainability
- 08. Intellectual Property Management
- 04. Req. Management
- 06. Production Preparation
- 11. Reliability & Advanced Quality Planning
- 12. Testing, Modeling, & Simulation
- 13. Technology Integration

**STRATEGIC PROCESSES**
- 03. Risk Management
- 05. Commercialization

**SUPPORT PROCESSES**
- 01. Business Case
- 09. Gate Review

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**LCA Decision Tool**

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**Product Sustainability Checklist**

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- Design for Sustainability (DfS)
- Raw Material Extraction & Processing
- Manufacturing & Packaging
- Design
- Distribution & Retail
- Purchase & Use
- Reuse, Recycling

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Raw Material Extraction & Processing
Manufacturing & Packaging
Design
Distribution & Retail
Purchase & Use
Reuse, Recycling
2020 Climate Commitment: Year 1 & 2 Progress

Ingersoll Rand is helping to solve some of the world’s most pressing challenges – including the unsustainable demand for energy resources and impact on greenhouse gas emissions.

**Commitment**

- **50%**
  Reduction in the greenhouse gas refrigerant footprint of our products by 2020, and incorporating alternatives with lower GWP across the company’s product portfolio by 2030.

- **35%**
  Reduction in greenhouse gas footprint of our own operations by 2020.

- **$500M**
  Investment in product-related research and development by 2020 to fund the long-term reduction of GHG emissions.

**Progress**

- **-25%**
  Next gen refrigerants; reduced leak rates, increased product efficiencies

- **-16%**
  - Scope 1 Emissions down 20%
  - Refrigerants, Gas, Diesel, Natural Gas, fleet
  - Scope 2 Emissions down 6%
  - Electricity

- **~$200M**
  Next gen refrigerant development; refrigerant testing
The EcoWise™ portfolio represents an exclusive set of products that, through low GWP refrigerant use and energy efficiency, enable our customers to lower their operational GHG footprint.

In addition to the EcoWise portfolio, the company launched significant products with superior energy efficiency.

- Thermo King truck and trailer refrigeration
- Trane Sintesis eXcellent/GVAF
- Trane XC95m fully modulating furnace
- Trane Engineered Conversion – Refrigerant Upgrade Services
- Trane Series E CenTraVac
- Trane Sintesis air-cooled chiller
- Ingersoll Rand Next Generation R-Series rotary screw air compressors
# 2020 Targets: Sustainability Across the Enterprise

<table>
<thead>
<tr>
<th>Goal</th>
<th>Suppliers</th>
<th>Operations</th>
<th>Customers</th>
<th>Our People</th>
<th>Citizenship</th>
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</thead>
<tbody>
<tr>
<td>Collaborate with suppliers to cultivate a sustainable and innovative supply chain to meet customer needs</td>
<td>Optimize the use of natural resources in our operations</td>
<td>Innovate to deliver optimal economic and performance value of product life</td>
<td>Build a winning culture that is values-based, inclusive and engages and develops people to premier performance</td>
<td>Address social &amp; environmental imperatives that: create shared value; sustain customer &amp; employee loyalty; improve communities where we have operations</td>
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<tr>
<td>-45% of direct spend will be Preferred</td>
<td>-2% Haz Waste</td>
<td>1. EcoWise portfolio</td>
<td>1. Increase slates with diverse candidates</td>
<td></td>
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<tr>
<td>-Act on public commitment increase spend with women-owned businesses around the world</td>
<td>-5% Non-Haz Waste</td>
<td>2. End-of-Life plans</td>
<td>2. Crisis plan in place at 100% of top locations</td>
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<td></td>
<td>-5% Water Use</td>
<td>3. Increase LCA/EPDs*</td>
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<td></td>
<td>-10% TRIR (safety)</td>
<td>4. Reduce product emissions by 10% (refrigerant-related CO2)</td>
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<td>+ Renewable Sources</td>
<td>1. Sponsor females in STEM activities</td>
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<td>2. Increase volunteer hours related to housing</td>
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<td></td>
<td>3. Leverage Green Teams</td>
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## 2017 Highlights

- EcoWise portfolio
- End-of-Life plans
- Increase LCA/EPDs*
- Reduce product emissions by 10% (refrigerant-related CO2)

## 2020 Targets Align with Global Priorities

<table>
<thead>
<tr>
<th>UN SDG</th>
<th>Goal</th>
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<tbody>
<tr>
<td>5</td>
<td>Gender Equality</td>
</tr>
<tr>
<td>8</td>
<td>Decent Work and Economic Growth</td>
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<td>13</td>
<td>Climate Action</td>
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<td>7</td>
<td>Affordable and Clean Energy</td>
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<tr>
<td>9</td>
<td>Industry, Innovation, and Infrastructure</td>
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<tr>
<td>13</td>
<td>Climate Action</td>
</tr>
<tr>
<td>10</td>
<td>Reduced Inequalities</td>
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<tr>
<td>11</td>
<td>Sustainable Cities and Communities</td>
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<tr>
<td>4</td>
<td>Quality Education</td>
</tr>
</tbody>
</table>

**UN SDG**

- EcoWise portfolio
- End-of-Life plans
- Increase LCA/EPDs*
- Reduce product emissions by 10% (refrigerant-related CO2)

**2020 Targets Align with Global Priorities**

*LCA: life cycle assessment
*EPD: environmental product declaration
Leaders focus on Sustainability at 2017 Leadership Conference

“We are living in an amazing time,” said Chairman and CEO Mike Lamach in his conference opening. “In a world that is changing so quickly – and dramatically – how do we continue to sustain our company? Just as we have over the past 146 years, we must continue to anticipate, flex and evolve.”

Mike said we can do this by linking our business strategy to current global trends, staying committed to our strategies and making good choices...

OPENING VIDEO
https://ingersollrand.hosted.panopto.com/Panopto/Pages/Viewer.aspx?id=86d1fbb9-e0d6-49a7-a49f-fd3857d2ebf6
Commitments that align with values

6/1/2017
Dear colleagues,

I’ve received many questions over the past few months about Ingersoll Rand’s commitment to reducing energy demand and greenhouse gas (GHG) emissions. Those questions intensified this week with news of the United States’ withdrawal from the Paris Agreement on climate change.

In early May, Ingersoll Rand joined a coalition of companies, formed by the Center for Climate and Energy Solutions (C2ES), which signed a full-page letter featured in major news outlets, urging the United States to stay in the Paris Agreement. We signed the letter because we believe climate action is a global issue—one to which our customers around the world are demanding solutions, regardless of nation’s position or action.

Staying Committed to our Climate Strategy

6/2/2017

Team,

Yesterday, the U.S. administration announced its decision to exit the Paris Agreement. I wanted to let you know that this does not change Ingersoll Rand or Residential HVAC & Supply’s strategy.

We remain committed to our climate strategy. We will stay the course on providing customers with energy-efficient solutions and will continue to research and develop next-generation refrigerant solutions for our residential and commercial customers. Ingersoll Rand and our SBU brands—Trane, Trane Supply, American Standard, Ameristar and Nexia—are committed to reducing energy demand and GHG emissions for our customers and in our own operations, and we have made a bold commitment.

Leading the way

I’m incredibly proud of the work that our teams are doing across the company to help Ingersoll Rand meet its Climate Commitment goals. Last year our Tyler, Texas, manufacturing facility was a leading site in reducing the company’s GHG emissions related to our operational goal. This year we are initiating a solar project in Trenton, N.J., that will create positive change, and I know that all of our facilities and green
STAGES OF VALUE CREATION

- Pre-Compliance
- Compliance
- Beyond Compliance
- Integrated Strategy
- Purpose & Passion
Learnings
Three Key Findings:
(lessons gleaned from companies that have a council)

1 Success comes when companies:

- Give the council a meaningful role with senior leaders in the company.
- Get members who are very different from internal voices
- Encourage tough, unvarnished feedback and advice
- Allow for chemistry and camaraderie to develop among council members
- Stick to it over many years: council’s role will evolve as the company evolves

2 Companies that have had the longest experience with councils have found some common strategies to get more value out of them:

- Put the council to work: involve members on ‘assignments’ beyond meetings.
- Bring issues/challenges to address, but also ask open questions

3 There is no common denominator on what the councils work on.

- Most are actively engaged on the company’s sustainability story and long-term strategy. Others get deeply involved in the innovation process and product pipeline.
Leveraging the Council: My Personal Findings

Find a small set of sustainability challenges for the Council to focus on:

• Deeper look at the future trends and scenarios
• More engagement at the front end of the innovation process
• Long-range goals and metrics
• Challenges need to be linked to company priorities in integrating sustainability into the strategy
• Canvas members for their input on where to take sustainability further

Ways to help focus the meeting time include:

• Fewer agenda items for the in-person meetings
• More pre-meeting preparation, pre-reads
• Consider employing the Council members in programs/projects outside the in-person meetings

Stick with it; incorporate the Council’s input at key points in the sustainability planning and decision process