

SPE Climate Change Strategy

Presented by **Trey Shaffer**
SPE HSSE-SR Technical Director
8 August 2017



Agenda

- Introduction
- Key Aspects and Public Perceptions about Climate Change
- Review what Other Organizations have Done
- Strategy and Actions
- Position Statement Recommendation
- Conclusion

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About SPE: Mission

The mission of the Society of Petroleum Engineers is to collect, disseminate, and exchange technical knowledge concerning the exploration, development, and production of oil and gas resources and related technologies for the public benefit; and to provide opportunities for professionals to enhance their technical and professional competence.



About SPE: Vision

Enable the global oil and gas E&P industry to share technical knowledge needed to meet the world's energy needs in a safe and environmentally responsible manner.



About SPE: HSSE-SR Technical Discipline

- More than 164,000 members in 143 countries participate in 198 sections and 368 student chapters (more than 73,000 Student Members).
- About 5,000 have designated HSSE-SR as a primary or secondary discipline.
- SPE is the largest individual-member organization serving managers, engineers, scientists and other professionals worldwide in the upstream segment of the oil and gas industry.



29 September 2015 ATCE (Houston, Texas) SPE HSSE-SR Technical Directors - L-R: Trey Shaffner, ERM (2014-2017); Roland Moreau, ExxonMobil (2011-2014); Emmanuel Garland, Total (2005-2008); Tom Knode, Halliburton (2008-2011)



Johana Dunlop, Schlumberger (2017-2020)
Incoming HSSE-SR Technical Director



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Task Force: Initiation

In light of the Paris Climate Agreement, that was drafted 30 November – 12 December 2015, on March 7, 2016, the SPE Board of Directors formed a Climate Change Task Force.

- The recommendation was initiated through the Communication & Knowledge Sharing Committee
- The task force reported its progress and ultimate recommendation to the Finance & Strategy Board Committee
- On 26 March 2017, the SPE Board of Directors unanimously approved the recommendation at the Bangkok, Thailand board meeting.



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Task Force: The Ask

The Task Force was asked to evaluate the following and provide a recommendation to the SPE Board of Directors' Finance and Strategy Board Committee:

- Identify key aspects and public perceptions about climate change.
- Review what other organizations have done.
- Develop a strategy for SPE Board of Directors' consideration. Recommend what action, if any, SPE should take in relation to climate change including an implementation plan for who should take each action, how, and in what time frame.
- Evaluate consequences of taking no action.
- Determine if a public statement of position was warranted and if so, draft the statement.

SPE Board of Directors Boundary Statement: "This Task Force is charged with developing and recommending to the Board an SPE strategy in response to climate change. It is not charged with the implementation of the strategy. Its recommendations will avoid anything which could be construed as lobbying or political advocacy, as neither is consistent with the SPE's role and status as a not-for-profit organisation."



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Task Force: The Members

Task Force		
Name	Title	Company
Trey Shaffer (Chair)	SPE TD HSSE-SR, Senior Partner	ERM
Robert Kath (Facilitator)	Manager, Change Leadership, Vice Chair of Association of Internal Management Consultants	Chevron
Kate Hadley Baker	Former SPE President, AIME Treasurer & Trustee	Former BP America Inc. and ExxonMobil
Kamel Ben Naceur	Director for Sustainable Energy Policy and Technology	International Energy Agency
Turgay Eratkin	Head of Department, Energy and Mineral Engineering	Pennsylvania State University
Ahmed El-Akhdan	Chief Technologist, EXPEC-Advanced Research Center	Saudi Aramco
Haron Kheshti	Distinguished Research Associate	ExxonMobil
Mark Zoback	Professor of Geophysics	Stanford University
	Director of the Stanford Natural Gas Initiative	Stanford University

Advisory Committee		
Name	Title	Company
Lisa Campbell	Senior Partner, Climate Change	ERM
Julia Martin	HES General Manager Environment and Climate Change	Chevron
David Horne	Chief Climate Change Advisor	Shell
Nate Tels	Vice President, Communications - DPUSA	Stabil
Brian Sullivan	Executive Director	IPIECA



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Scope of Presentation

- Climate Change Task Force Recommendation
- Climate Change Task Force Supplemental Report
 - Section A: CCS Board Committee Proposal to Form a Climate Change Task Force
 - Section B: IPIECA Overview
 - Section C: Energy and Climate Change: Climate Science, Uncertainty and Pathways Forward (Courtesy of Shell International Ltd.)
 - Section D: Alternative Strategies
 - Section E: Desktop Study: Analogous Professional Organizations
 - Section F: Work Process
- The Recommendation was approved by the SPE Board of Directors on 26 March 2017



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Background: Existing SPE Climate Change Related Activity



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SPE 5+1 Grand Challenges

In 2008, the National Academy of Engineering published 14 "grand challenges" for engineering for the 21st century. Several of these "game-changing goals" dealt with energy, including making solar energy more commercial, providing energy from fusion, and carbon sequestration.

In May 2011, the SPE R&D Committee kicked off a series of guest articles in *JPT* to highlight the oil and gas industry's major research and development (R&D) challenges. Five grand challenges for the petroleum industry were identified including:

- High-resolution subsurface imaging
- Challenges in reusing produced water
- In-situ molecular manipulation
- Increasing hydrocarbon recovery factors
- Carbon capture and sequestration

An additional focus on the environment, including minimizing the footprint of oil and gas activities, and oil spill prevention and response were added, so these are often referred to as the "5+1" challenges.



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CCUS Technical Section Activity

Carbon Dioxide Capture, Utilization and Storage Technical Section (Chaired by George Kopema, Advanced Resources International, Inc.)

- Former board committee converted to a Technical Section several years ago. Mainly focused on CO2 storage.
- Group of global members who share an interest in a technical topic.
- Share ideas, promote competence, and develop projects.
- Technical section actively hosting webinars for SPE members.
- Geologic Storage Resource Management System (SRMS) Committee (Tom Blasingame is SPE Board Liaison) – Co-chaired by Scott Frailey, Illinois Geological Survey; George Kopema, Advanced Resources International, Inc.; Owen Tucker, Shell
 - Work group established in March 2016 – approved by SPE BOD in 2016.
 - Objective: Develop a geologic storage classification framework for CO2 similar to the Petroleum Resources Management System for oil and gas. Create an industry standard for estimating CO2 geologic storage quantities and evaluating development projects.
 - The Oil & Gas Climate Initiative (OGCI) is supporting the SRMS effort including Owen Tucker (Shell), Nigel Jenbey (BP).
- Future areas for consideration: Monitoring CCS Facilities (understanding injection performance and how things are flowing on surface and subsurface).



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Identify Key Aspects and Public Perceptions about Climate Change



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Key Aspects and Public Perception

- **The Paris Agreement** - The 21st United Nations Conference of Parties on Climate Change (COP21) held in Paris, France in late 2015, resulted in an international agreement, known as *The Paris Agreement*. In particular, Article 2 of the agreement specifies:
 "(a) Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels...; and
 (b) Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production..."
- **The Paris Agreement** - A long-term goal for GHG emissions which should peak 'as soon as possible' and reduce rapidly to net zero 'in the second half of this century'
- **The Paris Agreement** - A framework which includes transparent accounting and 5-yearly 'stock-taking' reviews of progress, to drive forward the national climate action plans which have been submitted by 187 countries, including all of the world's major economies.
- **The Paris Puzzle** - IPIECA "is a not for profit association that provides a forum for encouraging continuous improvement in industry performance. IPIECA is ... the industry's principal channel of communication with the United Nations."
- The Task Force recognized that there is a vast array of information available on climate change and therefore identified specific sources that were considered in this effort some of which was presented to the Task Force by David Hone (Shell).



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IPIECA: "The Paris Puzzle"

With permission, SPE has summarized the key aspects of climate change identified by IPIECA which were incorporated into the SPE recommended strategy:

- **THE CHALLENGE:** Steady "rise in atmospheric CO₂ ... over the past quarter century ... has contributed to a warming of the climate system."
- **THE PARIS PUZZLE:** The Paris Puzzle "highlights key efforts, or pieces of the puzzle, to address climate change..."
- **MEETING ENERGY NEEDS:** Society will require all forms of energy and "increased energy demand will be driven primarily by developing economies."
- **NATURAL GAS:** "Natural gas will be pivotal in the transition to a low-emission energy system."
- **MANAGING OUR EMISSIONS – ENERGY CONSERVATION:** As IPIECA points out, "Conserving energy goes beyond traditional energy efficiency measures; it includes flaring reduction, control of methane emissions and other efforts."
- **CARBON CAPTURE AND STORAGE:** "CCS is key in delivering significant emissions reductions this century. Without CCS, deep cuts in emissions will likely be more costly or unachievable."
- **EFFECTIVE POLICY:** "The long-term objective of climate change policy should be to reduce the risk of serious impact to society and ecosystems [while recognizing] the importance of abundant, reliable, and accessible energy."



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Review what Other Organizations have Done



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Review what Other Organizations have Done

- Sixteen (16) organizations were evaluated and the following ten (10) have developed a policy or position statement.
- Six (6) advocacy organizations have developed a position statement.
- One (1) advocacy organization has developed a policy statement.
- One (1) non-advocacy organization has developed a policy statement (AIChE) and two (2) non-advocacy organizations have developed position statements.

Society/Association	Acronym	Website	Type of Organization	Type of Public Statement	Advocacy
American Association for the Advancement of Science	AAAS	www.aaas.org	Scientific	Position	Yes
American Chemical Society	ACS	www.acs.org	Scientific	Position	Yes
American Geophysical Union	AGU	www.agu.org	Scientific	Position	Yes
American Institute of Chemical Engineers	AIChE	www.aiche.org	Engineering	Policy	No
American Physical Society	APS	www.aps.org	Scientific	Position	Yes
American Society of Civil Engineers	ASCE	www.asce.org	Engineering	Policy	Yes
Canadian Association of Petroleum Producers	CAPP	www.capp.ca	Association	Policy	Yes
Geological Society of America	GSA	www.geosociety.org	Scientific	Position	No
International Association of Oil & Gas Producers	IOGP	www.iogp.org	Association	Position	Yes
International Petroleum Industry Environmental Conservation Association	IPIECA	www.ipieca.org	Association	Position	No



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Select Statements

- AIChE Mission Excerpt: "Advocate public policy that embraces sound technical and economic information and that represents the interest of chemical engineers."
- The American Society of Civil Engineers (ASCE) supports: "Government policies that encourage anticipation of and preparation for impacts of climate change on the built environment."
- IOGP Mission Excerpt: "To advance the views and positions of oil & gas E&P companies to international regulators, legislative bodies and other relevant stakeholders."



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Strategy and Actions



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Professionally Facilitated Decision Making Process

- SPE received permission to use the Chevron Framing Process with support of an expert Chevron facilitator.
- Established an Opportunity Statement.
- Defined Scope Boundaries.
- Determined Success Vision.
- Identified Strategic Alternatives and Strategic Themes.
- Selected a Preferred Alternative.

Contents/ Framing Tools List	
Framing Tool Topic	Deliverable Purpose
Framing Tools Topic	Recommend navigating workbook from hyperlinks in Col "C" of this sheet
Assess Tools	Detailed meeting agenda showing what, when, who, where
Assess Tools	Summarize primary purpose of meeting, key deliverables, and groundrules
Assess Tools	Record ("park") issues as they arise, so they can be considered later
Assess Tools	Record feedback regarding meeting progress and improvement opportunities
Discovery Tools	Clarification of how project fits with Core and SBC strategies
Discovery Tools	Brainstormed list of project's Strengths, Weaknesses, Opportunities and Threats
Discovery Tools	Clarify the relationship and hierarchy of the influences on how value is created or proven
Definition Tools	Summary of nature and purpose of project (what and why)
Definition Tools	List of what is in-bounds and what's out of bounds for the project team
Definition Tools	Success Vision and Critical Success Factors
Definition Tools	List of key stakeholders, their drivers, and ideas for building their support
Definition Tools	Introductory guidance regarding considerations and contacts
Assess Tools	Brainstormed list of issues sorted as Decisions, Uncertainties, Value Measures, Other
Assess Tools	List of decisions from about sorted into categories: 1) Green, 2) Yellow, or 3) Red-Flag
Assess Tools	Flow diagram showing relationships of decisions to be made with Action Plans
Assess Tools	Comprehensive, creative, compelling list of alternatives for each Focus Decision
Assess Tools	Template for summary characterization of alternatives
Assess Tools	List of key Decision Criteria and other Value Measures
Discovery Tools	Consider and document 5 external forces and their influence on an opportunity
Discovery Tools	Outline and organize information regarding the business environment
Assess Tools	Summary of key decision driver topics to be done, indicating responsibility & due dates
Assess Tools	Brainstormed pros and cons of alternatives
Assess Tools	Table to characterize and compare alternatives relative to qualitative and quantitative
Assess Tools	Road map table summarizing the who, what, when, and how of the project plan
Assess Tools	Quantitative (diagram) & qualitative (list of gaps to address) assessment of a DQ done
Assess Tools	Summarize the business case for an opportunity
Assess Tools	Diagram showing relationships of decisions, uncertainties and value measures
Assess Tools	Table summarizing roles and responsibilities of key contributors
REFERENCE SHEETS	Logical, suggested sequence of key Decision Analysis framing tools
REFERENCE SHEETS	Record of key framing document milestones



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Opportunity Statement

Recent developments on climate change policies such as *The Paris Agreement* present a new landscape of challenges and opportunities for SPE members. To capture the opportunities and avoid the downsides, SPE needs to:

- Identify public policy developments related to climate change and associated public perceptions which could impact SPE's ability to deliver its mission.
- Determine whether SPE should make a statement about SPE's role in addressing climate change and associated public perceptions and what having a public statement or not might mean for its members and for the Society.
- Review the published positions of selected professional and industry organizations regarding climate change.
- Identify technologies where SPE members can make an impact (i.e., CCUS, etc.).
- Identify the new opportunities in terms of engineering career paths, new technical disciplines, competencies required, and enhancing SPE members' knowledge of the climate change issue.
- Evaluate the consequences of alternatives, including taking no action.
- Provide recommendations in a form that SPE can implement (i.e., workshops, articles, etc.).



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Select Project Scope Boundaries*

Project Boundaries	In Bounds	Out of Bounds	On the Boundary	Rationale: Why should it be <u>in</u> ?	Rationale: Why should it be <u>out</u> ?
Commentary on the science of climate change (although recommendations must be derived from the science)		x			Science of climate change is not within the technical domain of SPE
Public policy advocacy by SPE		x			SPE is not an advocacy organization
Identification of public policy developments related to climate change and associated public perceptions which could impact SPE's ability to deliver its mission	x			These are primary drivers of change in the industry and provides context	
Cost benefit calculations with regard to the economics of meeting climate change policies		x			Could be perceived as endorsement of a particular policy - Companies run their own economics anyway
SPE Policy on Climate Change		x			SPE does not develop policy statements on matters beyond internal governance of the SPE organization
SPE Position Statement on Climate Change	x			Determining if this should exist and, if so, what it should be has been requested by the BdO	

* 20 Boundaries were identified by the task force.



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Success Vision

- The Strategy recognizes that Article 4, Part 1 of The Paris Agreement calls for "a balance between anthropogenic emissions by sources and removal by sinks of greenhouse gases in the second half of this century" (net-zero) which will require significant input from the energy sector.
- SPE puts its technical resources behind supporting and facilitating discussions on how to achieve a net-zero emissions world while continuing to capture the value (more than energy) provided by oil and gas.
- SPE events and publications are seen as technical resources inclusive of technical content relevant to the achievement of a net-zero emissions world.
- The recommended strategy aligns with SPE member interests.
- SPE's Climate Change Strategy will drive a multi-year focus that includes technologies, skills development, knowledge sharing and partnerships which will be represented in near and long-term action plans.
- SPE provides its members with information needed to understand the issue of climate change and the interconnectivity of their roles, technologies and partnerships in this context.
- SPE pushes the thinking of what is possible with regard to research and development to address technology gaps.
- SPE promotes technologies and practices that help address climate change while meeting the growing energy needs of the world.
- The SPE Board of Directors enthusiastically approves the Task Force recommendations and commits to follow through on them.



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Strategy: Identified 9 Alternatives

The Task Force identified and scored nine possible alternative strategies as follows:

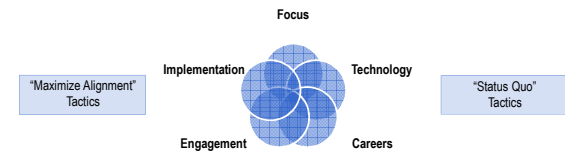
1. Status Quo
2. Maximizes Alignment with Mission and Vision of SPE
3. Maximizes Preserving Reputation and Neutrality of SPE as a Technical Organization
4. Proactive, Objective and Efficient
5. Maximizes SPE Uniqueness & High Quality Technical Information
6. Maximizes Technical Capabilities of SPE Members
7. Maximizes Support of Members' Companies
8. Maximizes Equivalency (One SPE)
9. Shift the Perception – Be Part of the Solution



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Preferred Strategy – Maximizing Alignment with SPE Mission/Vision

- Ensuring the inclusion of SPE technologies and practices that may help address climate change while meeting the growing energy needs of the world;
- Taking steps to inform SPE members about climate change issues and their connection to what members do, the technologies they know and apply, and the partnerships and communities to which they belong or could belong; and
- Positioning SPE to expand its mission and vision should the landscape change further during the 21st Century.



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Strategy: Focus

Strategic Theme (Focus Decisions)	Comparison of Recommended Strategy and Status Quo	
	"Maximize Alignment" Tactics	"Status Quo" Tactics
SPE to be a "pass through" or have a "point of view" on the changing political and business environment resulting from The Paris Agreement?	▪ Select and pass through quality information to members ▪ Interpret information [free from value judgement]	▪ Silent ▪ Select and pass through
Breadth of SPE focus/scope?	▪ Apply focus to all SPE technical domains	▪ Ad hoc ▪ Apply focus to select SPE activities



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Strategy: Technology

Strategic Theme (Focus Decisions)	Comparison of Recommended Strategy and Status Quo	
	"Maximize Alignment" Tactics	"Status Quo" Tactics
How to support technology development and uptake?	▪ Leverage Grand Engineering Challenge of CCS ▪ Identify additional technology focus areas for petroleum engineering technology and activity directed toward mitigating or motivated by concern about climate change (R&D Committee) ▪ Use Forum and co/ATW meeting format to promote collaboration on climate change technology R&D ▪ Provide grants/scholarships to focus on advancing technologies associated with climate change ▪ Identify and publicize technology gaps	▪ Leverage Grand Engineering Challenge of CCS
Types of technology and processes?	▪ Energy efficiency in exploration and production operations ▪ CCS (storage only) ▪ Flaring and venting ▪ CCS for oil and gas industry ▪ Leak detection and quantification to enable fugitive methane emission reductions ▪ CCS supporting other industries	▪ Energy efficiency in exploration and production operations ▪ CCS (storage only) ▪ Flaring and venting
SPE activity types to be leveraged for knowledge sharing?	▪ Member services, publications, meetings	▪ Member services, publications, meetings



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Strategy: Careers

Strategic Theme	Comparison of Recommended Strategy and Status Quo	
	"Maximize Alignment" Tactics	"Status Quo" Tactics
How to address "career path" opportunities?	• Include petroleum engineering related Climate Change technical competencies in the Competency Tool (self-evaluation) • Support career evaluation with the Competency Tool (facilitated evaluation with Subject Matter Expert) • Career fairs (influence selection of career) • Education support package (public awareness) • Leverage Young Professionals program • Skills transfer and applicability • Ad hoc information	• None
How to address skills development opportunities?	• Continuing education training • Partner with universities to commission course development on petroleum engineering challenges related to Climate Change for member benefit • Certification • Mentoring • Publish recommended curriculum enhancements for ABET	• Ad hoc information • Continuing education training



Strategy: Engagement

Strategic Theme (Focus Decisions)	Comparison of Recommended Strategy and Status Quo	
	"Maximize Alignment" Tactics	"Status Quo" Tactics
Approach to engagement with other industry associations, professional societies and multi-lateral organizations?	• Collaborate to coordinate activities across multiple organizations	• Pass through information • Ad hoc joint activities • Form alliances to aggregate interests and generate sufficient scale
Approach to engage members in a constructive dialogue about climate change?	• Events • Survey (member interest) • Town hall style with SPE President • Live webinars • Focus group discussions • Embed climate change topics in other communications to make more pervasive • Establish or expand a technical section • FAQs • Distinguished Lecturer Program • Social Media (Facebook, Twitter) • Passive (e.g. publish on SPE website, OnePetro) • Module in Energy for Life	• Events • Live webinars • Distinguished Lectures
External communication approach on information about climate change?		• Silent



Strategy: Implementation

Strategic Theme (Focus Decisions)	Comparison of Recommended Strategy and Status Quo	
	"Maximize Alignment" Tactics	"Status Quo" Tactics
Implementation approach for the strategy?	• Staged approach informed by member needs • Volunteer resources • Sponsor underwrites effort • Ad hoc sponsorship • SPE-funded • Advertising revenue	• NA • Volunteer resources
Funding approach for strategy implementation?		
Action plan to be developed at what level of comprehensiveness/detail?	• High level	• Low level
How should SPE organize to deliver the strategy?	• Fit within current SPE structure • Minor modification to structure	• Fit within current SPE structure



Position Statement Recommendation

Given that SPE does not have technical expertise or mandate for assessing climate science or guiding policy, the Task Force did not recommend that SPE develop a public position statement on these matters.



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Conclusion



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Stakeholder Engagement

- Task Force sought feedback of final draft from the following groups prior to submitting its recommendation:
 - Former Chair of the Board Committee on Communication and Knowledge Sharing and Drilling Technical Director (author of the proposal that initiated the Task Force)
 - SPE Foundation Trustees
 - HSSE-SR Advisory Committee
 - Sustainability Technical Section Chair
 - CCUS Technical Section Chair



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Selected Feedback

About 20 stakeholders provided feedback. The following comments are representative of the spectrum of views from the stakeholders:

- "I have read the Climate Change Task Force "Recommendation" and find it to be consistent with our SPE Mission."
- "The report is very good and highlights many positive things that the SPE is doing and can do with regards to climate change. Having a "public position" is not all that important if you can show that as a technical organization you are facilitating technical advancement on the issue."
- "The strategy being proposed by the Task Force is very inwardly focused and relatively passive. I was left wondering to what extent this meets the desires of the average SPE member. I guess this will become evident once they are consulted, following which the strategy might need to be revisited."
- "As a scientific professional society, we should examine the reliable data, provide venues for debate, and follow where the science and evidence will take us. Excellent work by the SPE Task Force."
- "Yes, we should provide technology to constantly improve conservation and the control of emissions and a more efficient utilization of our resources as being part of being a good citizen and steward of our planet, much like we should continue to look for new and better ways for all environmentally sound practices. Giving credibility to the wisdom of a political effort or referencing it as the driving force doesn't sit well with me, nor does taking the shots at coal since we are a competing resource. I'm less than impressed."
- "It is interesting SPE is considering a position on Climate Change. Considering that this issue is highly sensitive, the position SPE takes ought to be very carefully weighed."



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Communication Plan

We have touched the entire SPE membership in 3 ways; via JPT which has the most impact, a posting on all online Technical Communities in which all members are assigned, and via email from each TD to everyone in their primary discipline.

Completed...

- Janeen Judah, 2017 SPE President made this the topic for her June 2017 JPT message.
- We put an announcement on each of the Technical Communities via SPE Connect.
- This was the subject of a TD message to the membership in the HSSE-SR discipline.
- We also put an announcement on each of the TDs messages to their disciplines via SPE.org.
- In August 2017, we will host a webinar to review the strategy with SPE's members.



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Conclusion

- As we were developing the recommendation for the SPE Board of Directors, it was very important to the Task Force that we align with SPE's mission and vision.
- Because we had the benefit of a professionally facilitated decision making framework, the Task Force was able to evaluate a wide range of options and converge on the option that maximized alignment with SPE's mission and vision.
- Our decision making was a consensus based approach and was facilitated at a granular level along the way.
- It was also highly important to the Task Force that our recommendation focus on the technical contributions that SPE can offer.
- The climate change recommendation was unanimously approved by the SPE Board of directors.
- We have formed a Climate Change Strategy Steering Committee to develop and recommend an implementation plan.



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Supplemental Information



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Potential Activities



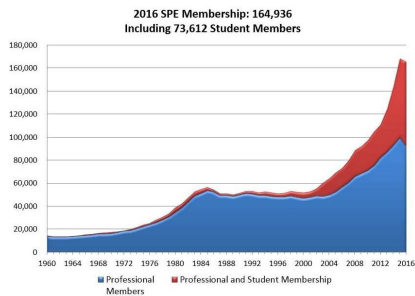
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- JPT articles identifying public policy developments related to climate change and associated public perceptions which could impact SPE's ability to deliver its mission;
- Knowledge-sharing (e.g., case histories) to promote energy efficiency in oil and gas exploration and production;
- Knowledge-sharing to promote reduction of planned and unplanned emissions and releases in E&P operations;
- Knowledge sharing about physical risks associated with changing climate (such as risks resulting from high temperature extremes, heavy precipitation events, sea level rise, etc.) and the successful management of such risks;
- Supporting development of CCUS technology and practices for use within and beyond the E&P industry; and
- Discussion of new technical opportunities for members (current/future) related to climate change.

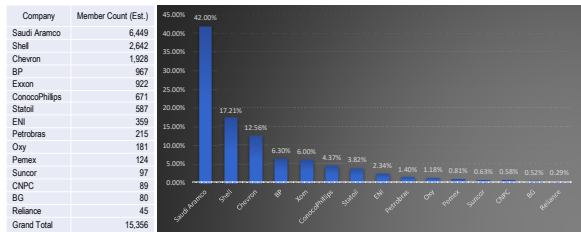
Member Demographics



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Member Demographics



The Oil and Gas Climate Initiative was formed by 10 operators (BG Group, BP, ENI, PEMEX, Reliance Industries, Repsol, Saudi Aramco, Shell, Statoil and TOTAL) with the stated objective "catalyze practical action on climate change through collaboration." OGCI's focus is on the following priorities:

- "Reducing our methane emissions."
- "Accelerating the deployment of carbon capture, use and storage (CCUS)."
- "Improving industrial energy efficiency."
- "Contributing to transportation efficiency."



Member Demographics

