Opening Ceremony

David C. Carroll
President, IGU
Members Serve 97% of World’s Gas Market

*Status as of January 2017

- **90 Charter Members**
- **62 Associate Members**
- **Founded in 1931**
- **IGU Secretariat**
  - Barcelona, Spain
- **Presidency 2015-2018**
  - Washington, DC USA
- **South Korea 2018-2021**
COP 21 – A Call to Action
Renewables are Advancing ....
As is Shale

![Image: The falling cost of U.S. shale production](image)

<table>
<thead>
<tr>
<th>Region</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
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<tr>
<td>BAKKEN North Dakota</td>
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<tr>
<td>EAGLE FORD Texas</td>
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<td>NIOBRARA Colorado &amp; Wyoming</td>
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<td>PERMIAN DELAWARE Texas</td>
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<tr>
<td>PERMIAN MIDLAND Texas</td>
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<td>55</td>
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</tbody>
</table>

Source: NASWellCube
S. Culp, 29/11/2016
Improving Air Quality
Addressing Energy Poverty
Immense Scale
Curtis Island LNG - Queensland, Australia
Source: Bechtel
Downstream Conversion
Pearl Gas-to-Liquids; Qatar, Ras Laffan Industrial City
Source: Shell
Methane Emissions
Reducing our Impact
The Essential 8 Technologies

- Internet of Things
- Augmented reality
- Virtual reality
- Blockchain
- 3D printing
- Artificial intelligence
- Drones
- Robots

Source: PwC Corporate Directors Exchange – January 11-12, 2017
“The future depends on what you do today.”
— Mahatma Gandhi