Sustainable Businesses Towards 1.5°C and Net-Zero Future
I. The Role of Businesses for a Net-Zero Future

II. Renewable Energy in Low Carbon Transition

III. Local Challenges in Corporate Energy Transition
The Intergovernmental Panel on Climate Change’s (IPCC’s) Special Report on Global Warming of 1.5°C has laid out a stark obligation: we must pursue “rapid, far-reaching, and unprecedented changes in all aspects of society” to hold temperature rise to 1.5°C above preindustrial levels or face irreversible damage to our societies, economies, and the natural world (IPCC, 2018).
I. The Role of Businesses for a Net-Zero Future

- Despite emission dips caused by COVID, the world is still heading for a temperature rise in excess of 3°C (UNEP’s Emission Gap Report)
- Current national pledges projected to result in about 2.4°C (Climate Action Tracker)
- **We’re already at 1°C** above pre-industrial levels
- By 2030, global emissions need to be halved
I. The Role of Businesses for a Net-Zero Future

- 2,537 Commitments
  To bold action
- 1,811 Companies
  leading the way
- $24.8 Trillion
  market cap

Network partners:

Working with:
I. The Role of Businesses for a Net-Zero Future

SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Partner Organizations:

CDP
United Nations Global Compact
World Resources Institute

In collaboration with WE MEAN BUSINESS

717 with science-based targets
1445 companies taking action
560 ambitions for 15°C
I. The Role of Businesses for a Net-Zero Future

- In 2020, a record number of companies reported Paris Agreement-aligned targets to CDP.
- Ambition from the private sector expected to continue.
II. Renewable Energy in Low Carbon Transition

Tools for the low carbon transition

1. Facilitating energy transition
2. Increasing energy efficiency
3. Deploying decarbonization technologies across all sectors
II. Renewable Energy in Low Carbon Transition

RE100

- Demand side focus: No power generators
- Influential businesses
- Group level
- Renewable power strategy with credible deadlines
- 100% by 2050 with interim steps
  - 60% by 2030
  - 90% by 2040

311 Members
Companies are looking to future-proof their wider operations and accelerate the energy transition to enable more corporate sourcing of renewables worldwide – the “Multiplier Effect”.

- Quick way to reduce Scope 3 carbon footprint
- Helping suppliers:
  - Security against cost fluctuations and cost savings
  - Greater control over energy supply
  - Get ahead of regulatory compliance requirements in key geographies
II. Renewable Energy in Low Carbon Transition

- Greenhouse Management and Corporate Social Responsibility cited as the biggest driver
- Customer expectation, long-term management risk and shareholder requests also playing big role
II. Renewable Energy in Low Carbon Transition

- More than 75% of members set targets year up to 2030
- Average renewable energy consumption rate is 42%
- For 77 members, renewable energy consumption accounts for more than 90% of total electricity consumption.

![Distribution of RE100 members by target year](chart)

![Evolution of RE100 membership, electricity & renewables consumption](chart)

(출처: RE100 Annual Report 2020)
III. Local Challenges in Corporate Energy Transition

Map of member operations & challenging markets

- Top 3 markets for RE100 members HQ
  - United States
  - United Kingdom
  - Japan

- Top 3 markets for RE100 members' electricity consumption
  - United States
  - United Kingdom
  - China

- Markets in which they actively source renewable electricity:
  - 120+

- Total markets in which they operate:
  - 175+

- Total # of HQ markets:
  - 24

- Aggregated electricity demand:
  - 278+ TWh/yr

- Most challenging markets
  - Argentina, Australia, China, Indonesia, Japan, New Zealand, Russia, Singapore, South Korea and the Taiwanese market

<table>
<thead>
<tr>
<th>Market</th>
<th>Barrier highlighted by our members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singapore</td>
<td>Limited renewables availability, Physical space to build new capacity unavailable</td>
</tr>
<tr>
<td>South Korea</td>
<td>Renewables not available for corporate sourcing</td>
</tr>
<tr>
<td>Austria</td>
<td>Renewables costs still higher than other markets</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Limited options to purchase renewables</td>
</tr>
<tr>
<td>Russia</td>
<td>Energy Attribute Certificates (EACs) are currently not available to purchase and other sourcing options are limited</td>
</tr>
</tbody>
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<th>Market</th>
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<tr>
<td>Taiwan</td>
<td>Prohibitive renewables costs</td>
</tr>
<tr>
<td>Argentina</td>
<td>Renewables not available for corporate sourcing</td>
</tr>
<tr>
<td>Japan</td>
<td>High costs of renewables; Limited availability due to certificate shortages</td>
</tr>
<tr>
<td>China (mainland)</td>
<td>Regulatory complexity; Renewables unavailable for sourcing in some regions</td>
</tr>
<tr>
<td>New Zealand</td>
<td>Insufficient sourcing options and no tracking system currently in place</td>
</tr>
</tbody>
</table>
### III. Local Challenges in Corporate Energy Transition

<table>
<thead>
<tr>
<th>Challenging markets &amp; barriers faced</th>
<th>China (mainland)</th>
<th>Singapore</th>
<th>South Korea</th>
<th>Russia</th>
<th>New Zealand</th>
<th>Argentina</th>
<th>Taiwanese market</th>
<th>Japan</th>
<th>Indonesia</th>
<th>Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity demand of members citing market barriers (MWh/yr)</td>
<td>877,220</td>
<td>522,581</td>
<td>162,221</td>
<td>405,821</td>
<td>141,779</td>
<td>489,101</td>
<td>74,825</td>
<td>194,279</td>
<td>389,176</td>
<td>135,541</td>
</tr>
<tr>
<td># members citing barriers in that market</td>
<td>18</td>
<td>16</td>
<td>14</td>
<td>13</td>
<td>13</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Total # members in that market</td>
<td>82</td>
<td>63</td>
<td>49</td>
<td>42</td>
<td>36</td>
<td>42</td>
<td>46</td>
<td>76</td>
<td>48</td>
<td>69</td>
</tr>
</tbody>
</table>

**Legend:**
- **High**: Green
- **Medium**: Yellow
- **Low**: Light green

**Note:**
- Limited/no availability
- Regulatory barriers
- Cost
- Small load
- No certificates available to purchase
- Cost of certificates
- Lack of PPAs
- Leased offices

**Number of members citing the barrier**: CoREi
III. Local Challenges in Corporate Energy Transition

**RE100**

**RENEWABLE SOURCING**

To achieve 100% renewable electricity, a company may choose from the following options →

RE = electricity generated from **biomass (including biogas)**, geothermal, solar, water and wind energy sources.

<table>
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<th>Ensuring accurate generation and attribute information</th>
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<tbody>
<tr>
<td>1 Generation from installations owned by the company</td>
</tr>
</tbody>
</table>

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<tr>
<th>Purchased electricity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Purchase from on-site installations owned by a supplier</td>
</tr>
<tr>
<td>3 Direct line to an off-site generator with no grid transfers</td>
</tr>
<tr>
<td>4 Direct procurement from offsite grid-connected generators</td>
</tr>
<tr>
<td>5 Contract with suppliers (green electricity products)</td>
</tr>
<tr>
<td>6 Unbundled energy attribute certificate purchase</td>
</tr>
<tr>
<td>7 Other options</td>
</tr>
</tbody>
</table>
CoREi Overview

- **The first local initiative to support business ambition for renewable energy**

- **Building an Ambition Loop**: The role of CoREi is focused on establishing a systematic channel that facilitates knowledge sharing between the government and the business. Build a friendly policy environment for renewable energy procurement and actively request to enhance the policy through the business alliance.

- **Awareness Raising and Capacity Building**: Quarterly workshops among business and government representatives / Lesson sharing at international events.

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**CoREi Overview**

- 40+ Active Corporate Members
- 9 Lead to the first RE100 memberships in the country

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**CoREi Overview**

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- **Building an Ambition Loop**: The role of CoREi is focused on establishing a systematic channel that facilitates knowledge sharing between the government and the business. Build a friendly policy environment for renewable energy procurement and actively request to enhance the policy through the business alliance.

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III. Local Challenges in Corporate Energy Transition

- 5 Total methods made available to companies in Korea in 2021
- Also, with amendment to the Electric Business Act having passed the standing committee at the National Assembly, renewable power generators are expected to be able enter into direct PPAs with electricity consumers

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<th>Procurement Methods</th>
<th>Overview</th>
</tr>
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</table>
| **Green Pricing**   | • KEPCO provides certified renewable energy at a premium on electricity, which is determined at tender auctions.  
                     • Proceeds from green pricing to be reinvested into renewable energy |
| **REC Purchases**   | • Utilizing REC(Renewable Energy Certificates) not used in RPS(Renewable Portfolio Standard) compliance  
                     • REC trading platform for RE100 launched by Korea Energy Agency |
| **Indirect PPA**    | • Renewable energy generators can enter into a PPA with KEPCO directly (rather than selling dispatched power solely to the KPX) and KEPCO can then enter into corresponding PPAs with electricity consumers for the same renewable power. |
| **Equity Participation** | • Companies can invest directly in the equity of a renewable power project and purchase the electricity or RECs derived from such projects, entitling them to receive credit for both RE100 participation. |
| **Self-Generation** | • Electricity consumers can obtain certification of renewable power self-generation for direct consumption in satisfaction of RE100 carbon neutrality goals. |
Future Challenges

• Minimizing trial and error in corporate renewable energy procurement

• Cascading ambition throughout other corporate players (large and small).

• Public – private dialogue in addressing transitional risks arising from rapidly changing policy environment
  Ex) EU CBAM\(^\text{Carbon border adjustment mechanism}\)

• Improving renewable energy-related infrastructure for long-term ambition