Companies in transition towards 100% renewables:
Focus on heating and cooling

25 February 2021
Fossil fuels dominate heating and cooling

- Heating and cooling accounts for almost half of global energy demand
- Demand for renewable heating and cooling barely growing
- Urgent need to transition

Source: IRENA, IEA and REN21 (2020)
Industry: the largest energy consumer

Companies in transition towards 100% renewables: focus on heating and cooling

Heating and cooling operations account for 75% of energy used in industry.

Source: IRENA (2021)

TFEC

Industry

87% non-renewable energy

13% Renewable energy

Source: IRENA (2021)
Renewable heating and cooling in industry

- A range of renewable energy solutions are available to meet industry’s diverse heating and cooling needs

Existing and potential corporate sourcing models for renewable heating and cooling

<table>
<thead>
<tr>
<th>Self-generation</th>
<th>Renewable heating and cooling offerings from utilities</th>
<th>Energy attribute certificates for renewable heating and cooling</th>
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<tbody>
<tr>
<td>A company invests in its own renewable energy systems, on-site or off-site, to produce renewable heating and cooling primarily for self-consumption.</td>
<td>A company has options of purchasing renewable heating or cooling from local utilities, including from the district heating or gas network.</td>
<td>A company purchases attribute certificates of renewable heating and cooling through a certificate market system.</td>
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Source: IRENA (2021)

- Accelerating corporate sourcing models for renewable heating and cooling is crucial to decarbonise industry

Working temperatures for renewable heat technologies

Source: IRENA, IEA and REN21 (2020)
Policy deficit and stagnation

Countries with policies for renewable heating and cooling (2009-19)

Source: IRENA, IEA and REN21 (2020)
Corporate target setting for renewable heating and cooling

Companies wanting to decarbonise heating and cooling are more likely to set indirect targets with broader climate and sustainability objectives.
Corporate drivers and barriers for renewable heating and cooling

Drivers
- Environment and sustainability
- Corporate social responsibility and company reputation
- Customer, shareholder and staff demand
- Economical savings and price stability
- Policy incentives
- Fiscal and financial incentives

Barriers
- Fossil fuel lock-in
- Cost competitiveness of conventional energy solutions
- Lack of access to finance
- Competing internal priorities for capital expenditure
- Lack of available technologies
- New investments in cost-intensive advanced technologies
- Sparse information and data on renewable energy solutions for industrial processes
- Regulatory and policy uncertainty and complexity
- Lack of government support measures
- Structural and behavioural barriers

Source: IRENA (2021)
Key takeaways for governments

- Setting national and subnational targets for 100% renewable energy across all end-use sectors, including heating and cooling, is key to driving the energy transformation in the industrial sector.
- Long-term government planning is particularly important for decarbonising heating and cooling in industry.
- Implementing ambitious regulatory, fiscal and financial policies and incentives will help increase the share of renewables in heating and cooling.
- Improving access to private capital for energy transition-related technologies will encourage essential long-term investments.
- Exploring innovative sourcing models for renewable heating and cooling will further scale up progress.
Key takeaways for companies

- Switching to renewable energy heating and cooling brings important benefits beyond emission reduction.
- Setting long-term corporate renewable heating and cooling targets and implementation strategies accelerates the decarbonisation of operations.
- Considering the local context is key when choosing among available pathways and technologies for renewable heating and cooling.
- Coupling renewable energy sourcing with measures to reduce energy demand and improve energy efficiency is crucial.
- Conducting further research and development across innovative renewable energy technologies and infrastructure for heating and cooling is needed.
- Improving data collection on companies’ renewable heating and cooling operations can help monitor and adjust strategies in support of established decarbonisation targets.
- By working with local actors, such as governments, utilities, communities and NGOs, companies can further accelerate the energy transformation.
THANK YOU!