Creating a Low-Carbon Energy Future Together

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Sembcorp’s journey towards a low-carbon future started 25 years ago.
Carbon Milestones in our 25-year journey

**1997**
- SG’s 1st Multi-utilities facility on Jurong Island
- Centralised and highly efficient steam generation with recovery of heat from steam condensate which reduces carbon emissions

**2001**
- SG’s 1st IPP with cogeneration
- 1st commercial supplier of pipeline gas from West Natuna, Indonesia enabling fired combined cycle power plants to be built in SG

**2004**
- Efficient Gas Fired Cogeneration (CHP) to reduce steam production from coal fired boilers

**2007**
- 35MW Biomass Power & Steam plant from sustainably sourced wood using CFB Technology

**2012**
- Enters renewable energy market in China with 248MW wind assets

**2014**
- 40tph steam from waste wood supplied by Sembcorp’s Waste Collection business
- Decommissioning of coal boilers
- Second cogeneration plant on Jurong Island

**2015**
- Acquires majority stake in a leading renewable energy company in India

**2016**
- Steam & Power generation from 470,000 tph of Municipal Solid Waste from Merseyside, Liverpool
- Enters SG’s solar energy sector with a total capacity of more than 240MWp to date

**2018**
- 160tph steam generation from Industrial and Commercial waste supplied by Sembcorp’s Waste Collection business
- Enters UK power grid frequency & ancillary support svcs through portfolio of fast ramping gas GE sets & BESS enabling higher adoption of intermittent renewable energy

**2019**
- 1st SG energy company to launch a Climate Change Strategy
- Entered the rooftop solar and smart solutions space in our Vietnam Industrial Cities

**2020**
- Partnering PUB to develop 5G’s largest floating solar platform at Tengeh Water Reservoir
Co-creating a low-carbon future

Our Strategies in Creating a Low Carbon Energy Future

- **Move towards a low-carbon portfolio**
- **Leverage technology for better performance**
- **Create novel sustainable solutions for end-users**
- **Collaboration with partners and stakeholders**
Sembcorp’s Carbon Targets

Sembcorp has set aggressive targets to reduce GHG emissions intensity in line with a 2 degree celsius scenario.

**Our Renewables Capacity Target**

*>4000MW by 2022*

To be one of the region’s leading independent renewables energy player

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Leveraging Technology

Sembcorp’s Solar Performance Monitoring Centre in Singapore

- Digitisation of assets enabling the deployment of data analytics and smart algorithms to:
  - Improve Energy Based Availability
  - Better energy generation forecasting
  - Optimise energy generation through corrections on Yaw and Pitch misalignment
  - Predictive maintenance to maximise turbine availability

Sembcorp’s Wind Performance Monitoring Centre in Gurgaon, India

- Use of advanced and intelligent systems via autonomous drones to:
  - Optimise O&M cost
  - Remote monitoring of panel performance and degradation
  - Remote monitoring of performance of inverters
  - Preventive maintenance of critical equipment such as inverters and sensors
Centralised Utilities – Example of Sustainable Solutions for Industries on Jurong Island

One-stop centralised utilities solution to customers in Jurong Island

- About 415,000 metric tonnes of CO₂e avoided annually through efficiency and recycling & reuse of waste energy
- Over 30,000 cubic metres of water recycled for industrial use
- Energy recovered from >300,000 tonnes of municipal solid waste annually

Sustainability benefits

- Lower carbon footprint for Utilities supply
- Scale and multi-utilities created opportunities for recycling economically
- Efficient use of land leading to higher unit investment per sqm of land in Jurong Island
Partnerships for Sustainability

Sustainability Solutions

- Green energy and energy efficiency management, microgrids, BESS
- Wastewater treatment, reuse & energy recovery
- Waste to energy & recycling

Partners & Customers

[List of logos and company names]

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A strong foundation for a sustainable future
Thank you