

An aerial photograph of a dense green forest. Several buildings with red-tiled roofs are visible, partially obscured by the trees. In the center, there is a rectangular area with a green field and a blue solar panel array. The text 'AUROVILLE' is written in large, bold, yellow capital letters across the top. Below it, 'SMART' and 'MINI-GRID' are written in large, bold, white capital letters.

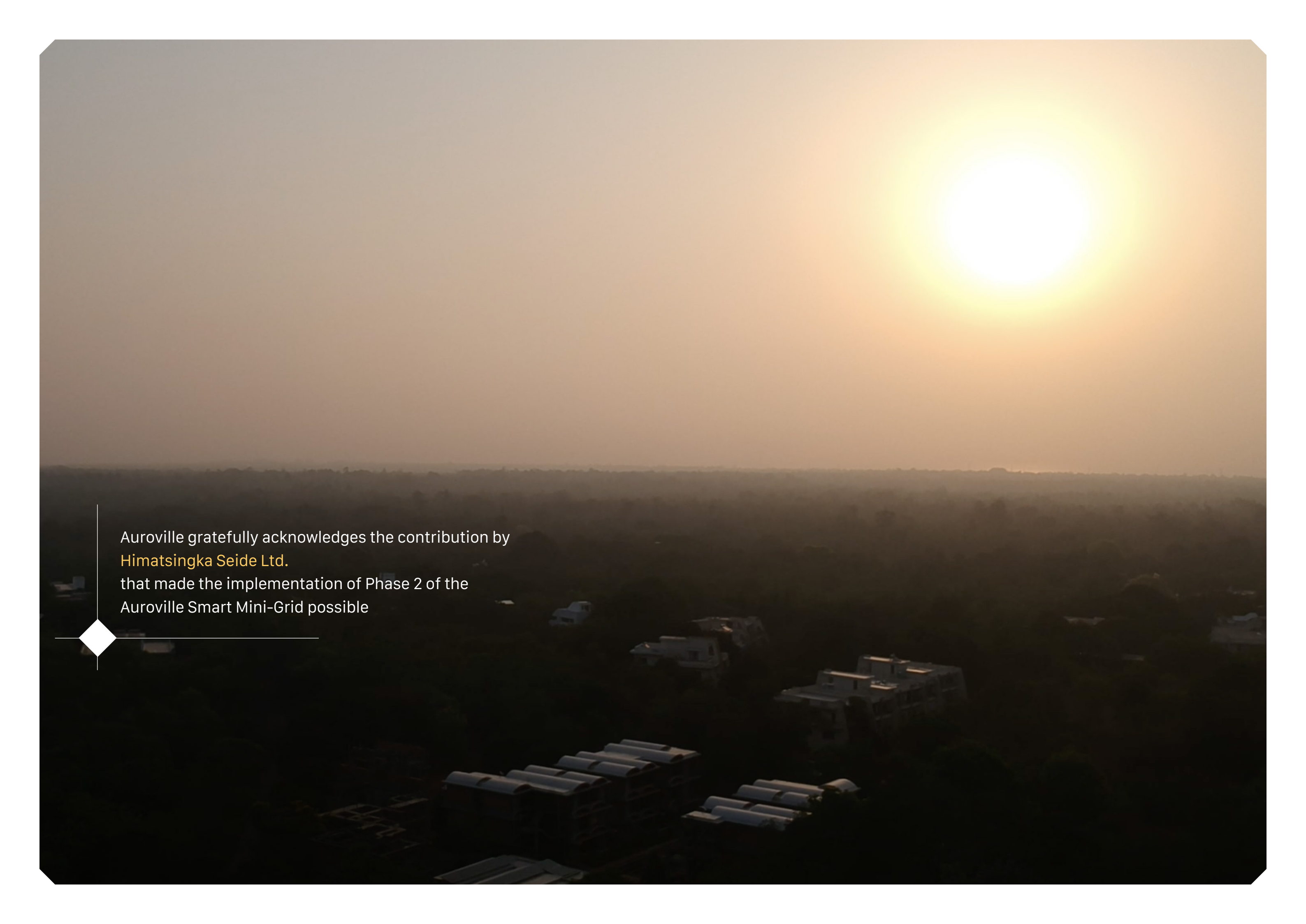
AUROVILLE SMART MINI-GRID

PHASE 2


Towards a distributed, interconnected and
sustainable energy future



AUROVILLE
SMART
MINI-GRID
PHASE 2

An aerial photograph of Auroville, India, taken during sunset. The sun is a large, bright, glowing orb in the upper right quadrant, casting a warm, orange glow across the sky. Below the horizon, a dense forest of trees stretches across the middle ground. In the foreground, several modern, multi-story buildings with flat roofs are visible, some of which have solar panels installed on their roofs. The overall scene is peaceful and highlights the integration of nature and sustainable architecture.

Auroville gratefully acknowledges the contribution by
Himatsingka Seide Ltd.
that made the implementation of Phase 2 of the
Auroville Smart Mini-Grid possible



The Auroville Smart Mini Grid project deploys and integrates renewables, energy storage and demand response technologies. The aim is to demonstrate scalable and financially viable examples of resilient, smart and interconnected mini-grids in order to tackle issues of energy security, affordability, and climate resilience and mitigation. It is foreseen that this approach can be adapted by campuses, urban centres and by electricity utilities at a wider scale and will serve as a pilot to inform policy makers and urban decision makers.

The project is implemented in phases. So far we have installed a 230 kW of rooftop Solar PV across 12 public buildings, 60 kWh of grid-active li-ion battery storage, and a real time Meter Data Management System (MDMS). Further we were able to upgrade our internal HT and LT distribution infrastructure and started piloting an active demand response program for domestic air conditioners and for municipal water pumps.

The following technology systems were integrated as a part of Phase 2:

- 108 kW rooftop solar on 6 public buildings in the city area
- 10 kWh lithium ion battery storage at Kindergarten school
- 20 nos. smart meters and meter data management system for monitoring
- 1300 meters of LT underground network

The work was completed in a collaborative effort by the following Auroville units

- Auroville Consulting
- Auroville Electrical Services
- Sunlit Future
- Aurinoco

Before Installation



After Installation

Before Installation



After Installation

Before Installation



After Installation

Before Installation



After Installation

Before Installation



After Installation

Before Installation



After Installation



AUROVILLE S M A R T MINI-GRID

Phase 1	122kw rooftop solar on 6 public buildings
Phase 2	108kw rooftop solar on 6 public buildings
Total	230kw rooftop solar on 12 public buildings

Phase 1	50kwh lithium ion battery storage
Phase 2	10kwh lithium ion battery storage
Total	60kwh lithium ion battery storage

Phase 1	65 smart meters with data management system
Phase 2	20 smart meters with data management system
Total	85 smart meters with data management system

Phase 1	1400 meters HT underground network
Phase 2	1300 meters LT underground network
Total	2700 meters HT/ LT underground network

A 100% sourcing of Auroville's electricity demand from renewable sources can be achieved by 2030

