SOLAR GRID-TIE SYSTEM

SOLAR GRID TIE SYSTEM

What is a Grid Tie System?

Grid-tied, On-grid, Utility-interactive, Grid Inter-tie And Grid Back Feeding are all terms used to describe the same concept – a solar system that is connected/ Synchronized to the utility power grid.

20 KWp String Inverter

50-100 KWp Grid Tie Central Inverter

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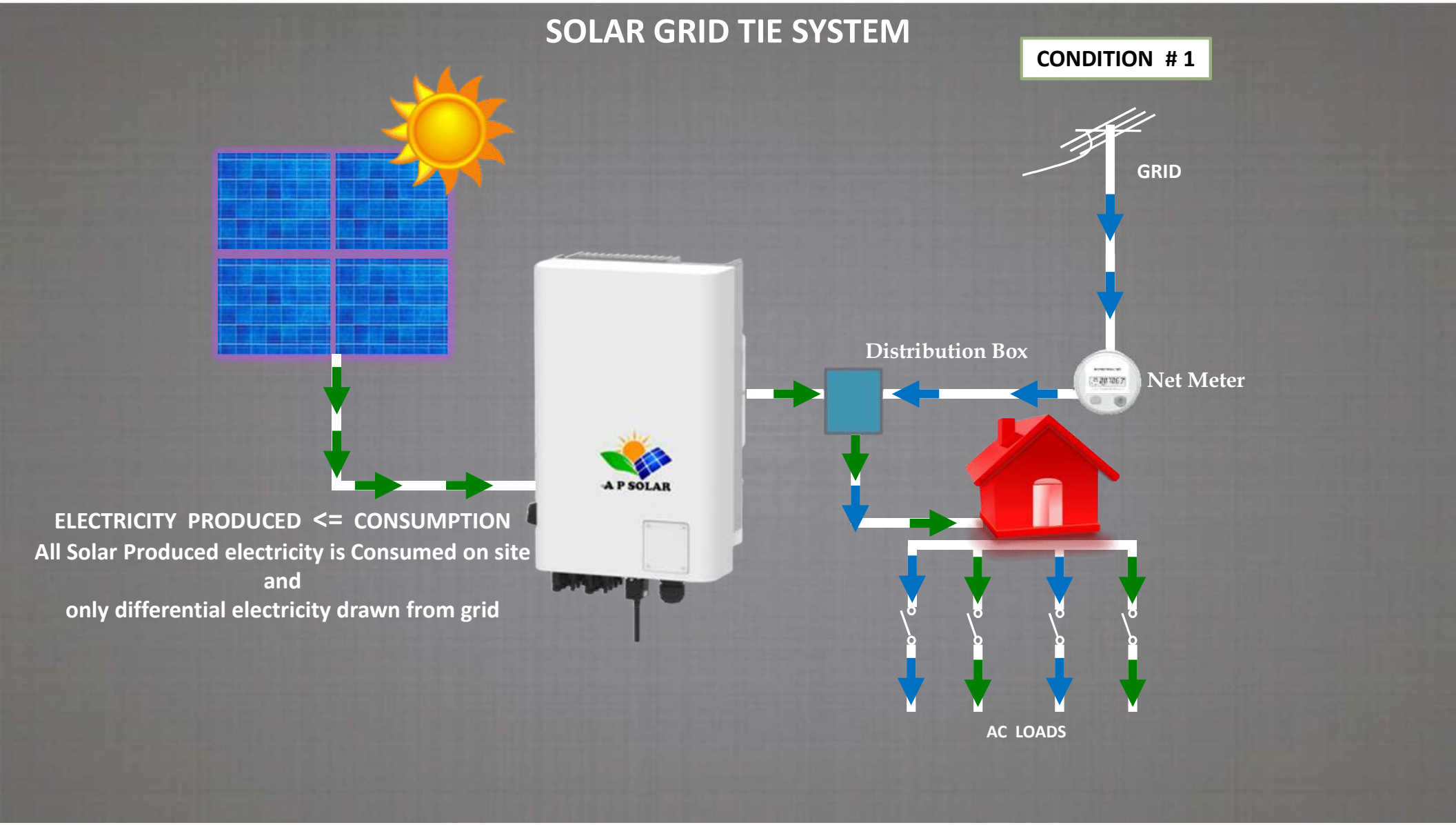
CONDITION # 1



ELECTRICITY PRODUCED <= CONSUMPTION

All Solar Produced electricity is Consumed on site and only differential electricity drawn from grid

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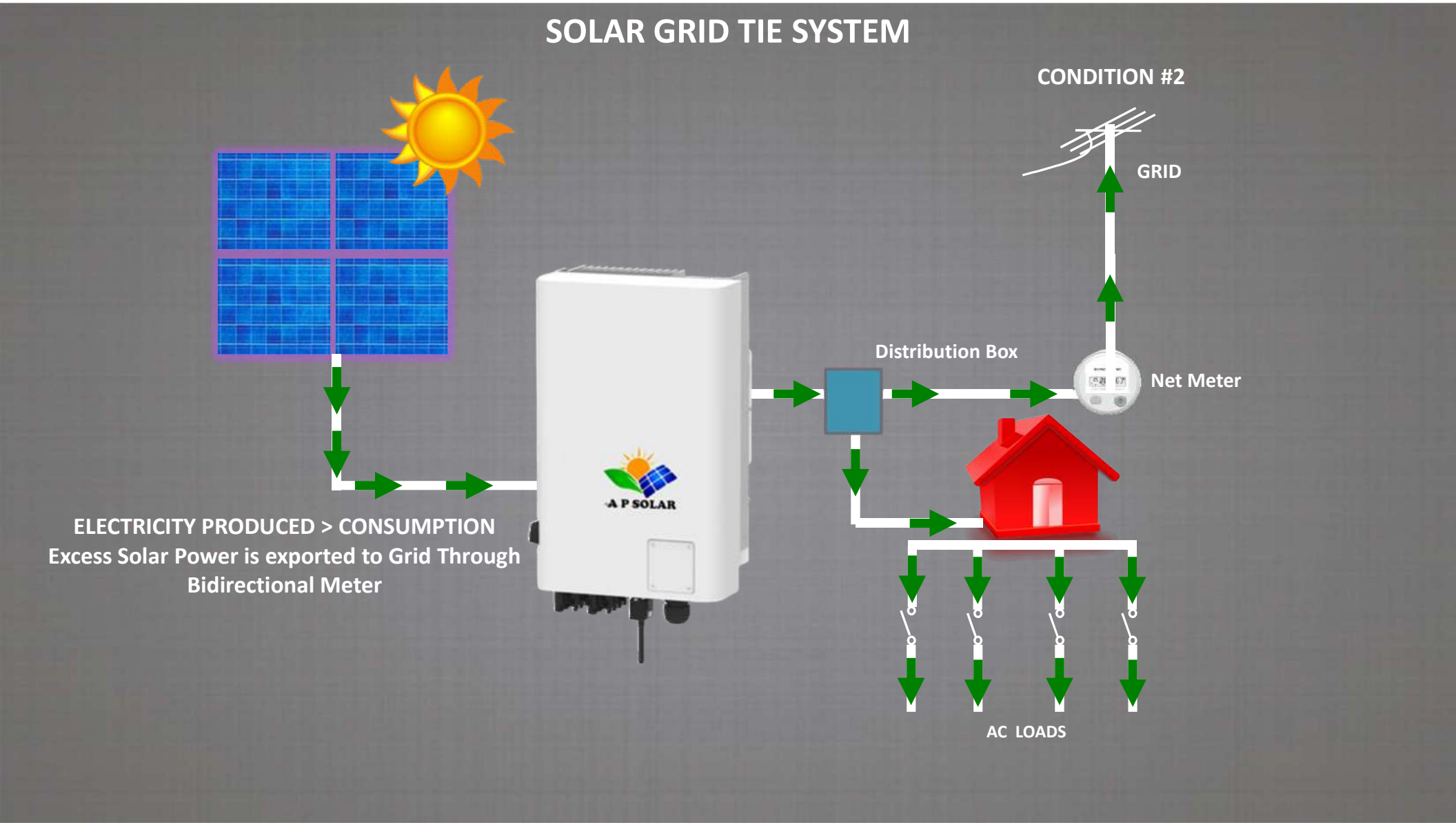

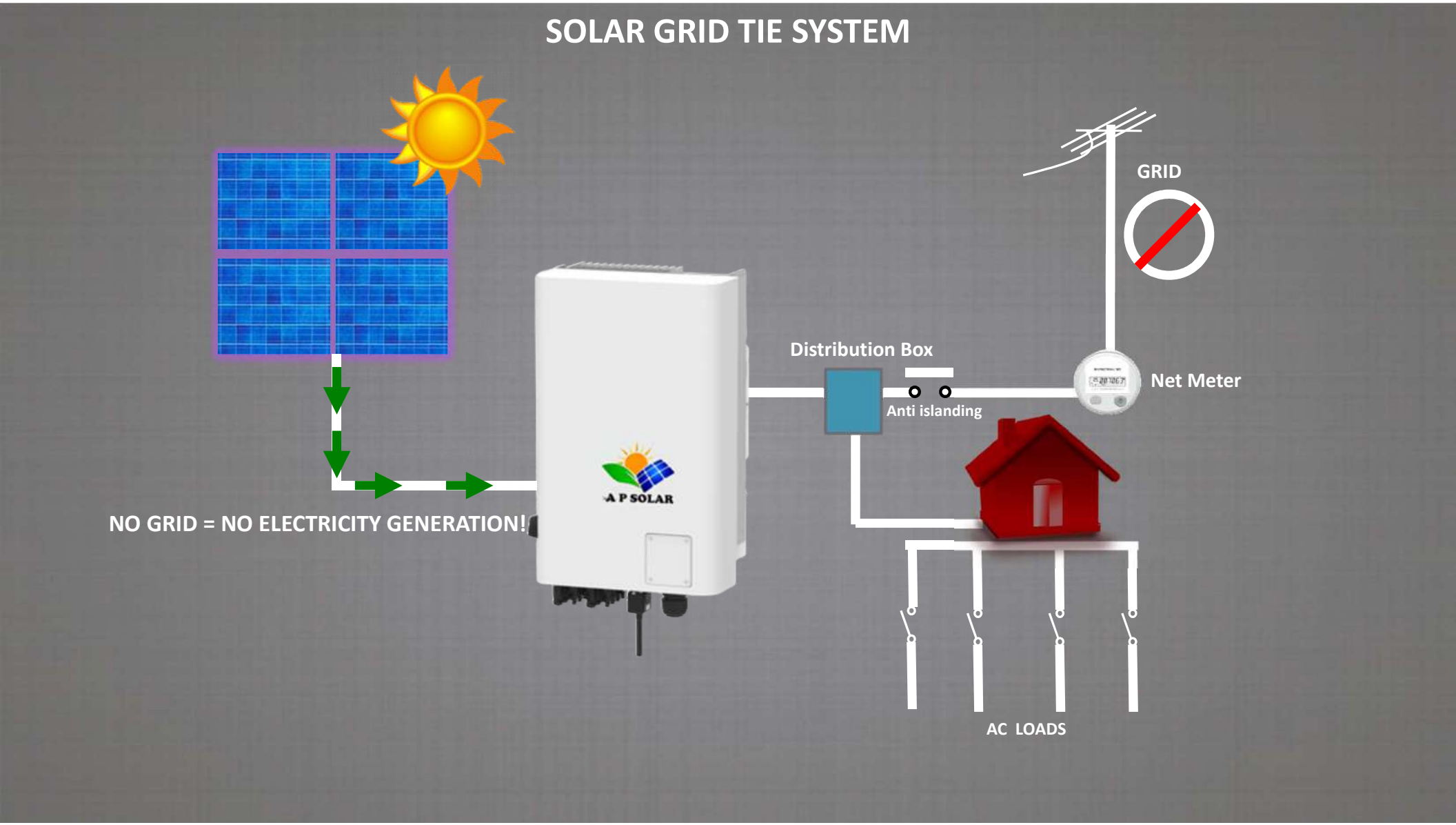
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GRID
Distribution Box
Net Meter
Anti islanding
A P SOLAR
NO GRID = NO ELECTRICITY GENERATION!
AC LOADS

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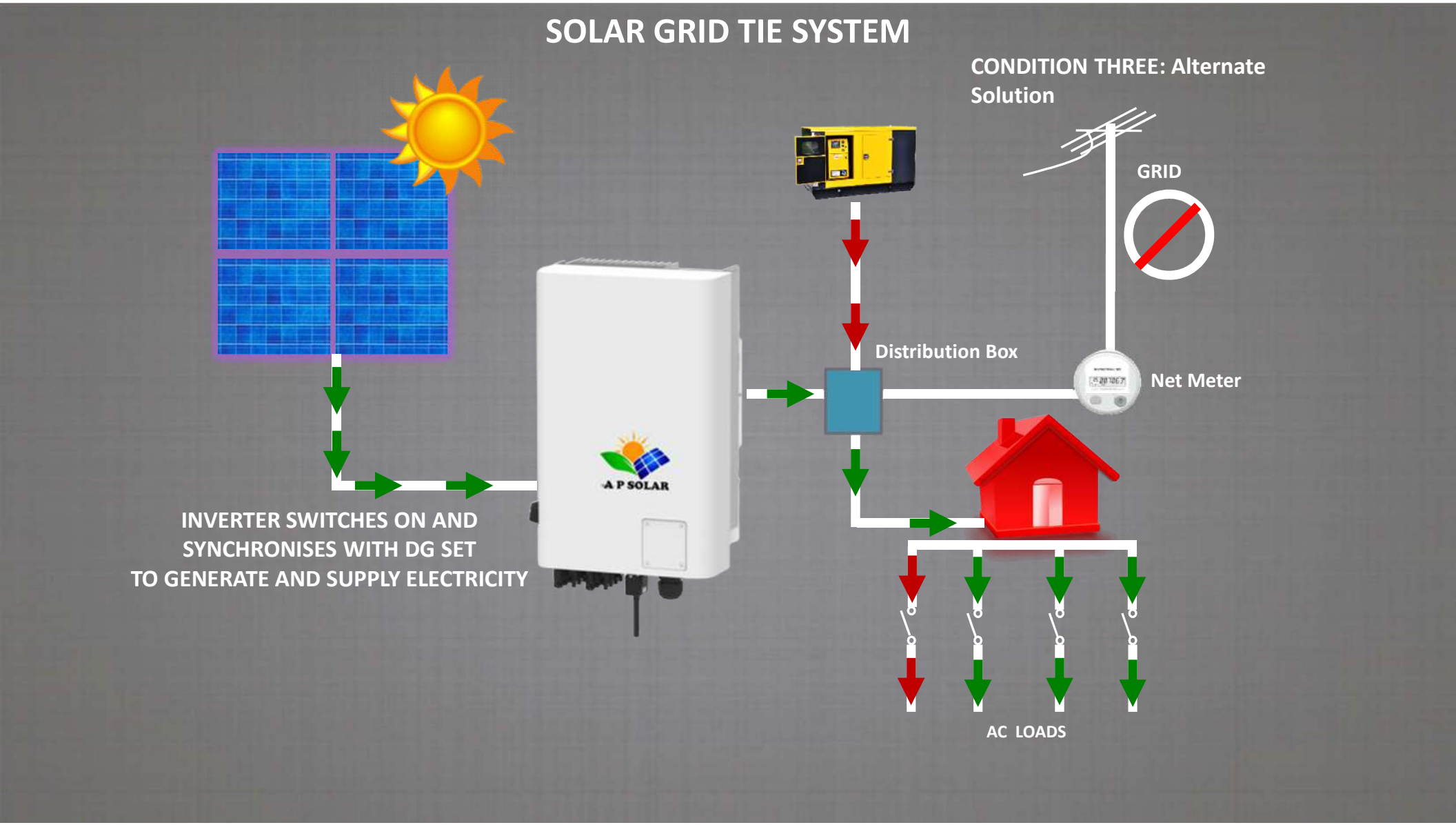

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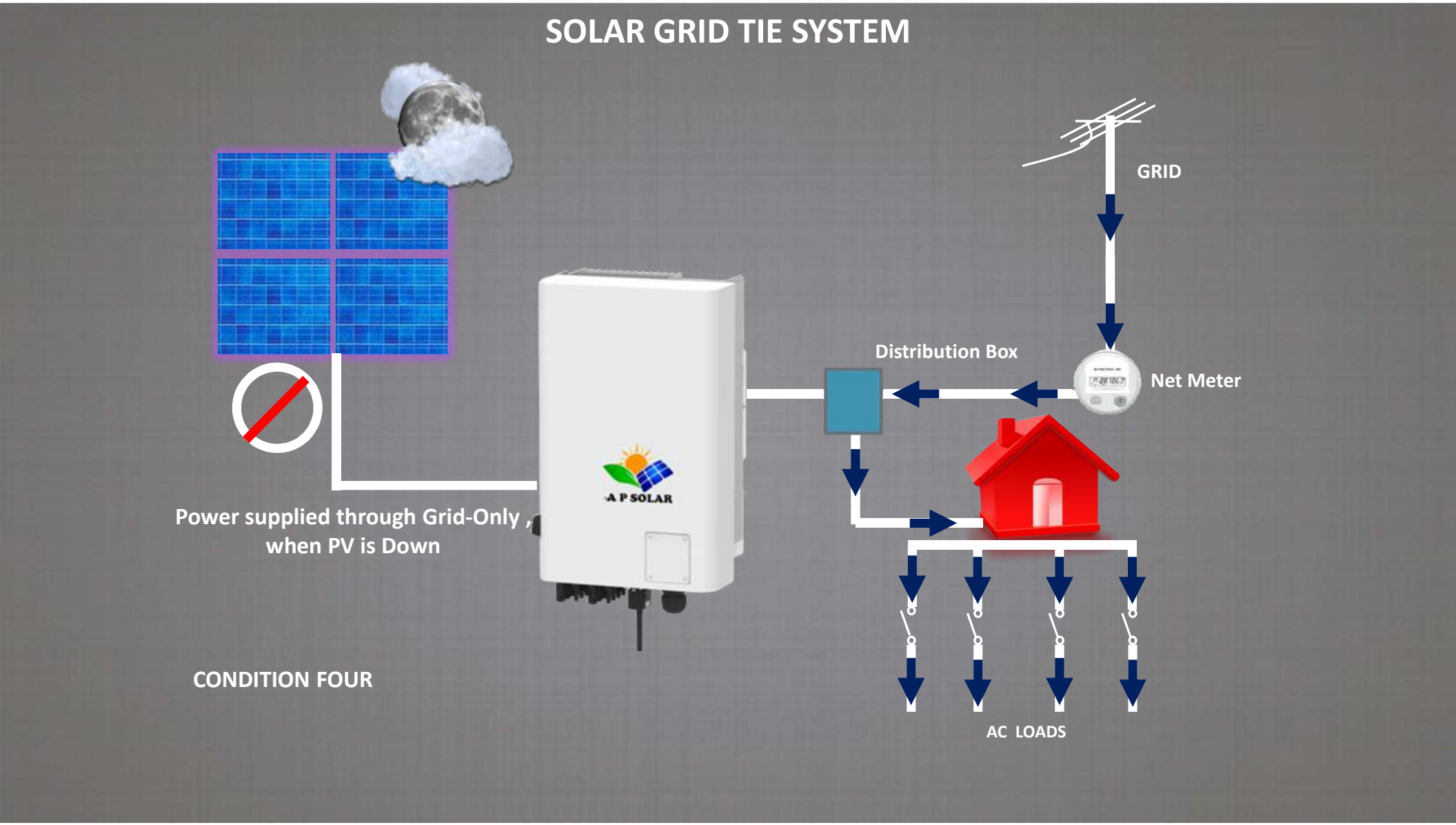

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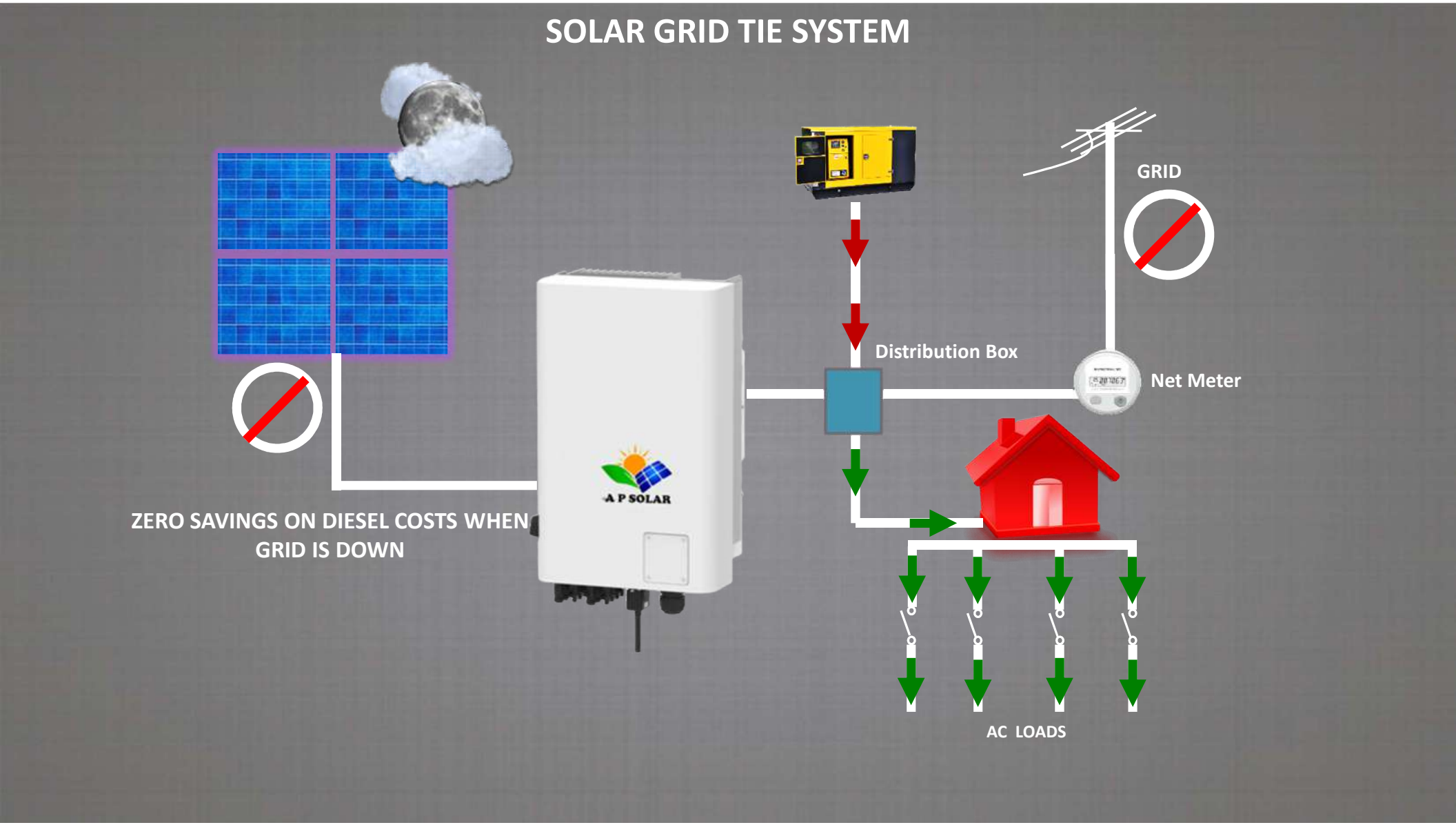

ADVANTAGES

1. Saves more money with net metering

- Better efficiency rates
- Lower equipment installation costs
- No investment for purchase and maintenance of costly batteries
- With NET METERING, consumer can put this excess electricity onto the utility grid instead of storing it in batteries.

2. The utility grid is a virtual battery

The electric power grid is in many ways also a battery, without the need for maintenance or replacements, and with much better efficiency rates.

DISADVANTAGES

1. No Electricity When grid is absent

In a power deficient country like India where the Grid is unreliable and power outages are frequent, the Pure Grid-Tie Inverter will not work to give electricity even when the sun is shining.

2. Cannot Guarantee 24x7 Electricity

As there is no storage, the consumer will have to suffer from blackouts if there is no DG Set.

3. Limitations While using with Diesel-Generator

4.Poor DG utilisation

With Solar power being generated, Lesser loading on DG Sets resulting into poor DG utilisation , thus indicating higher cost per unit through DG.

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