

Center for Solar Energy
Technologies



Study case:
Integration of solar thermal energy
to a mining process

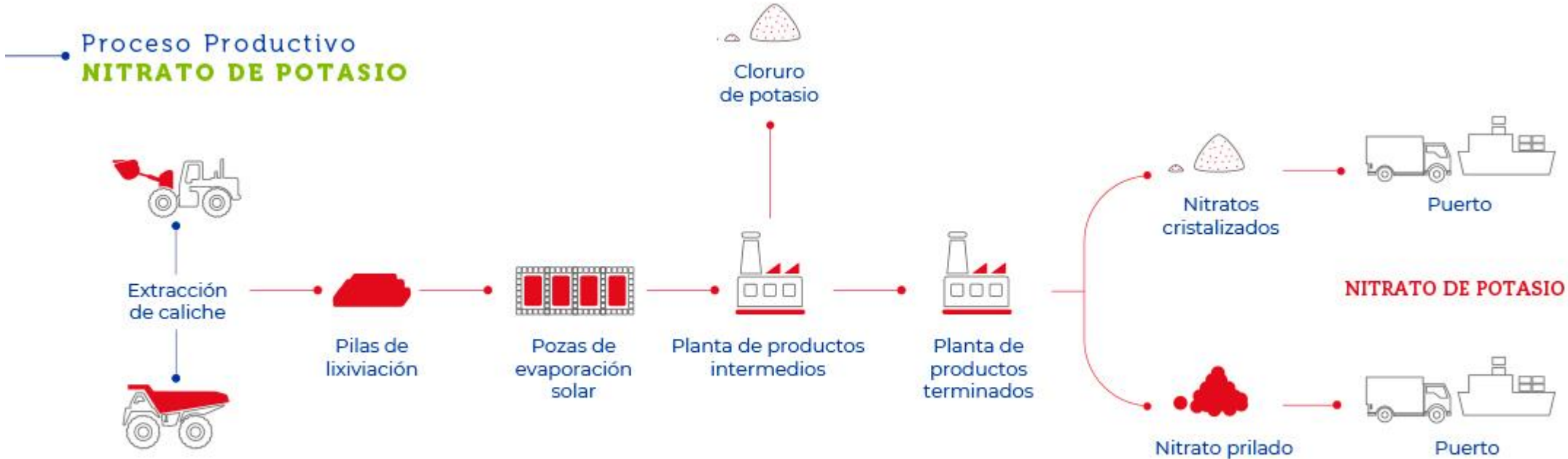
Iván Muñoz
27.05.2021

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Project background

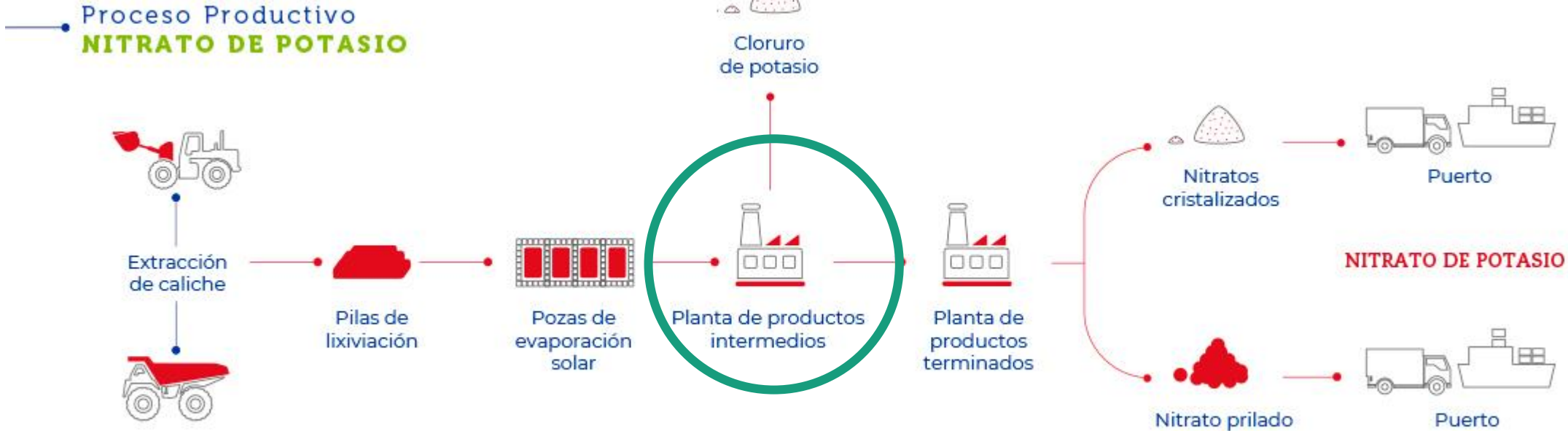
SQM Coya Sur solar integration



Proceso realizado total o parcialmente en: María Elena, Pedro de Valdivia y Nueva Victoria.

Project background

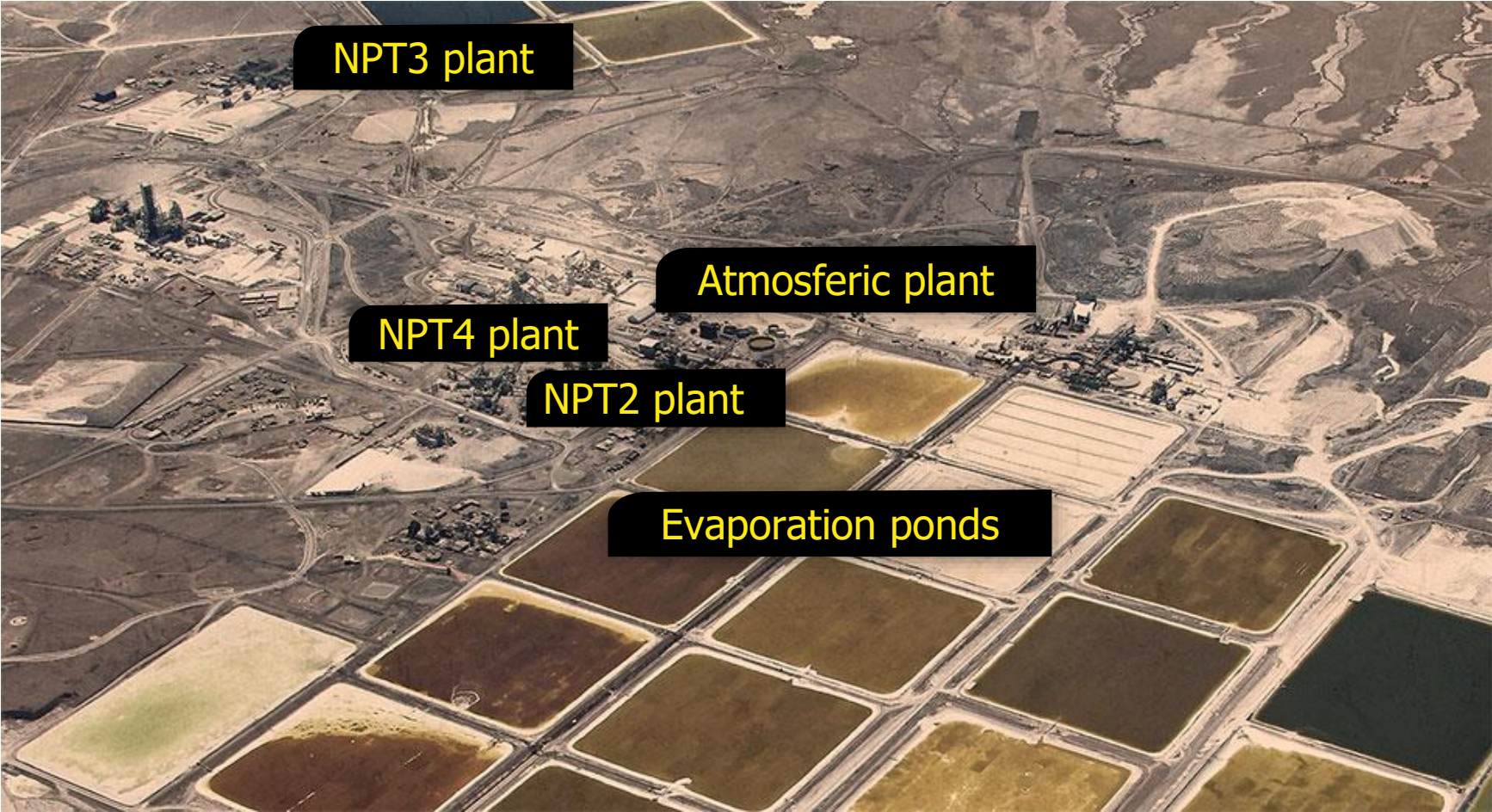
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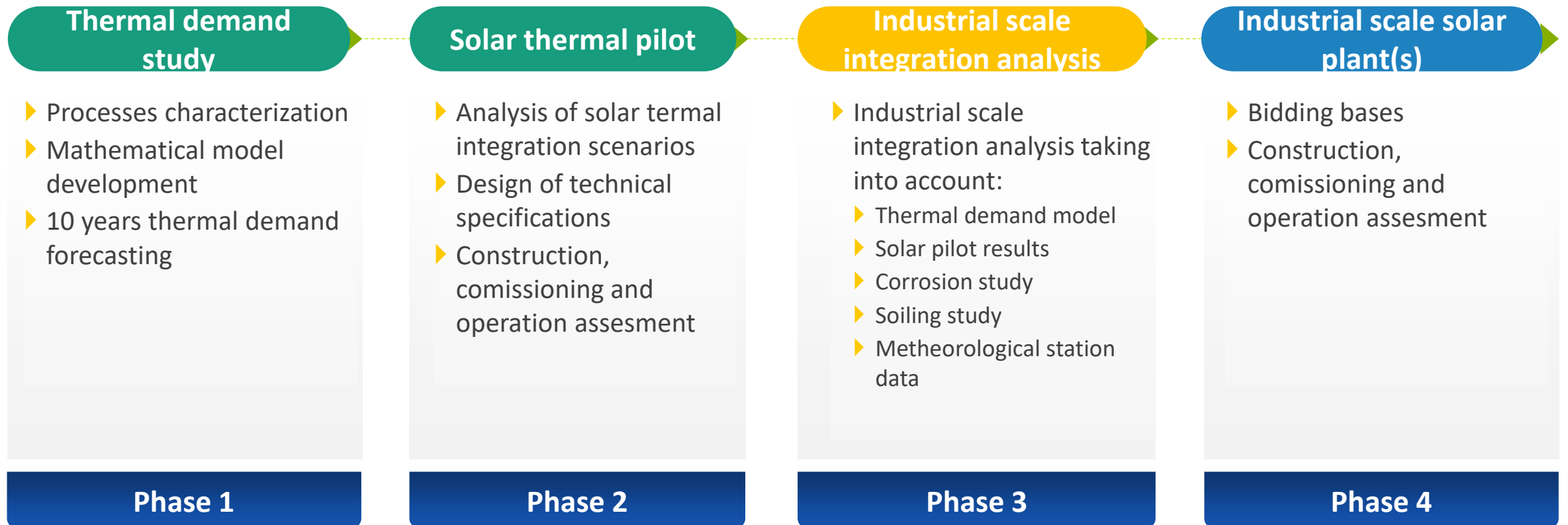
Project background

SQM Coya Sur solar integration



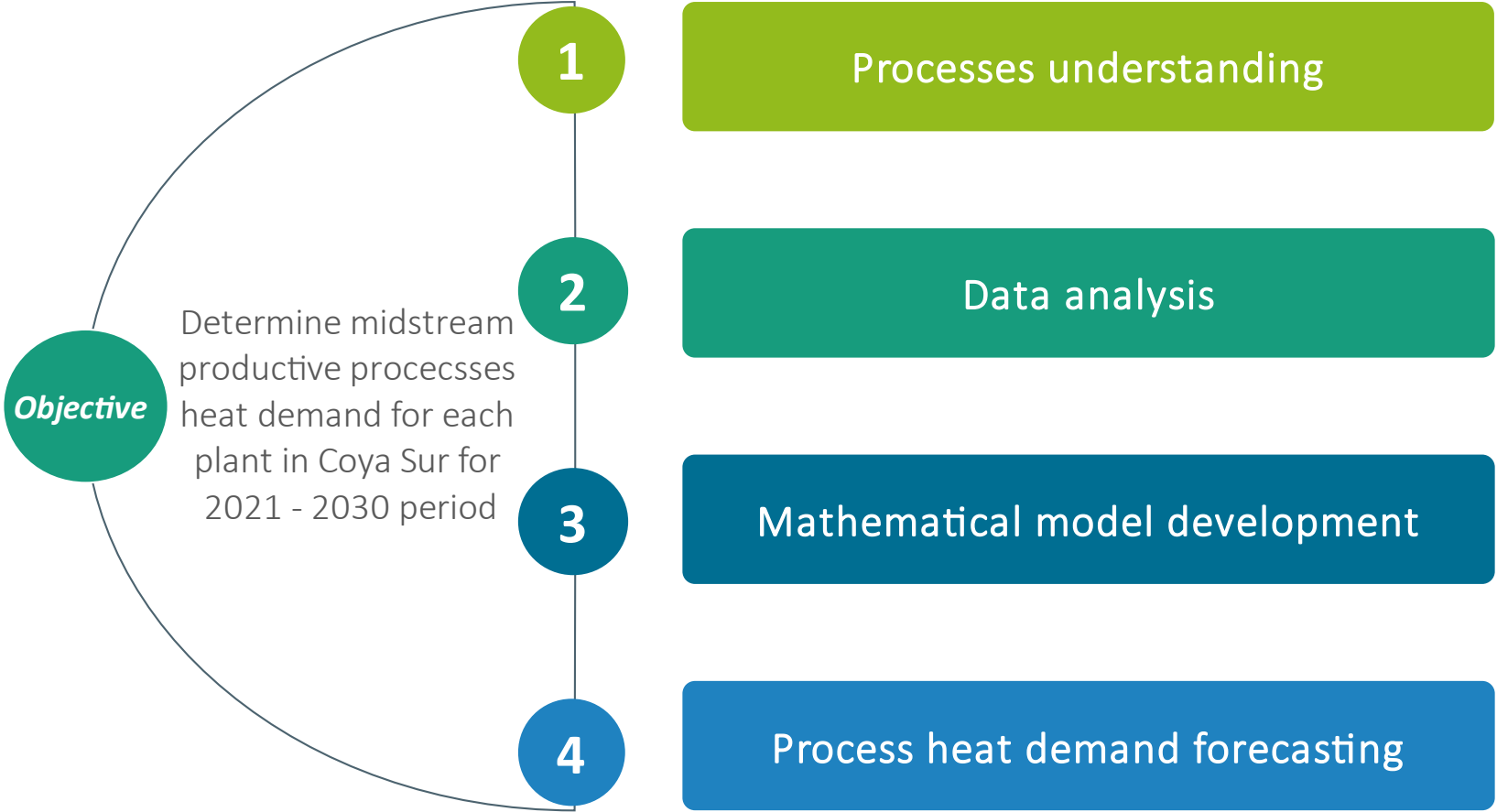
Project background

FCR – CSET supported SQM’s roadmap to zero emissions by solar thermal integration study



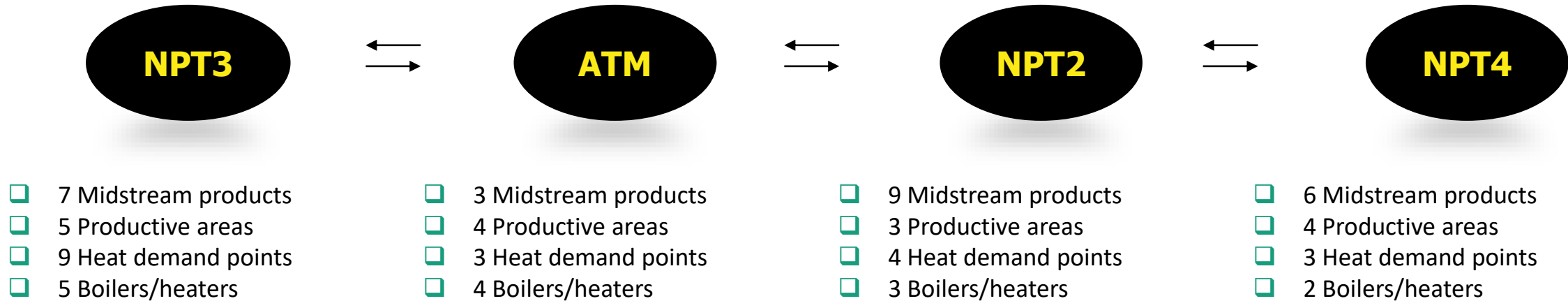
Phase 1

Thermal demand forecasting



Phase 1

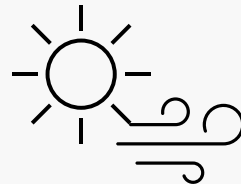
Thermal demand forecasting



Analysed data



Process data from
SQM platforms



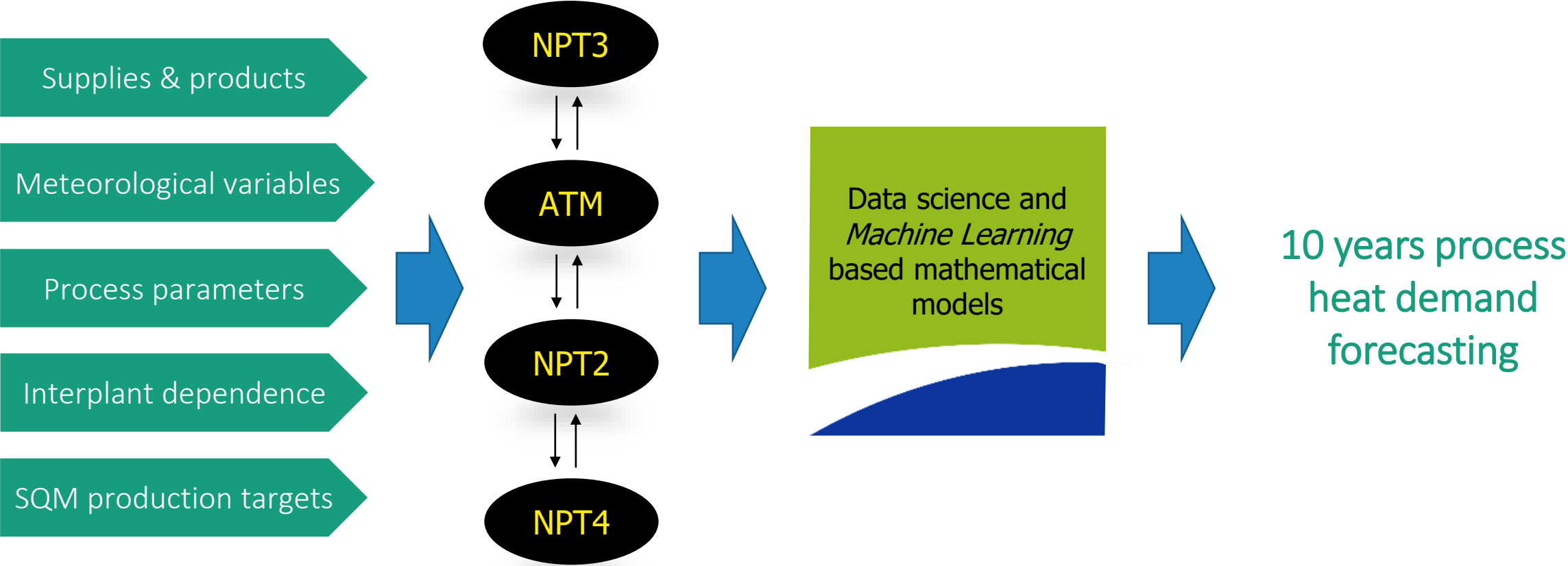
Meteorological data



Complementary information
from processes experts

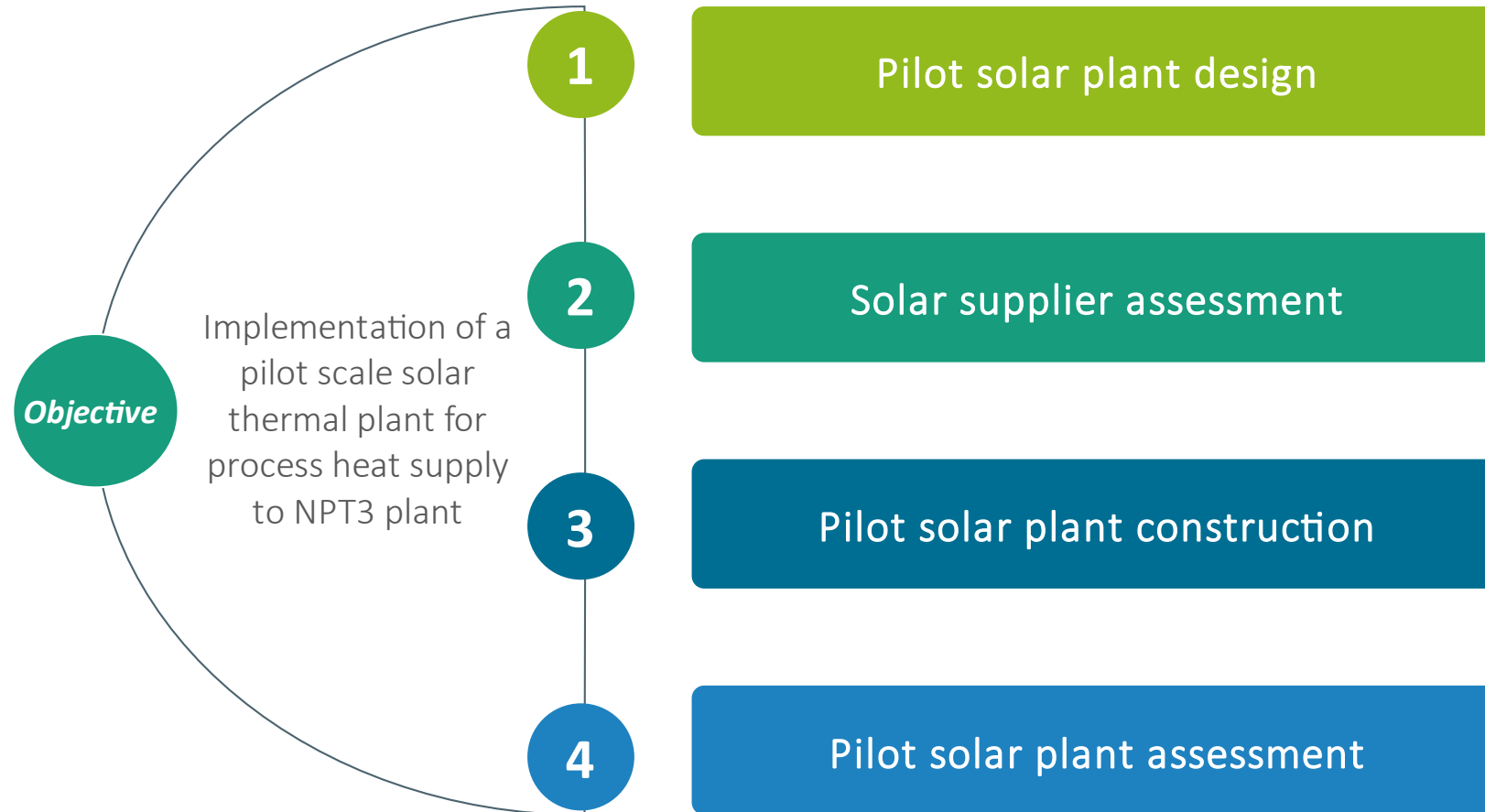
Phase 1

Thermal demand forecasting



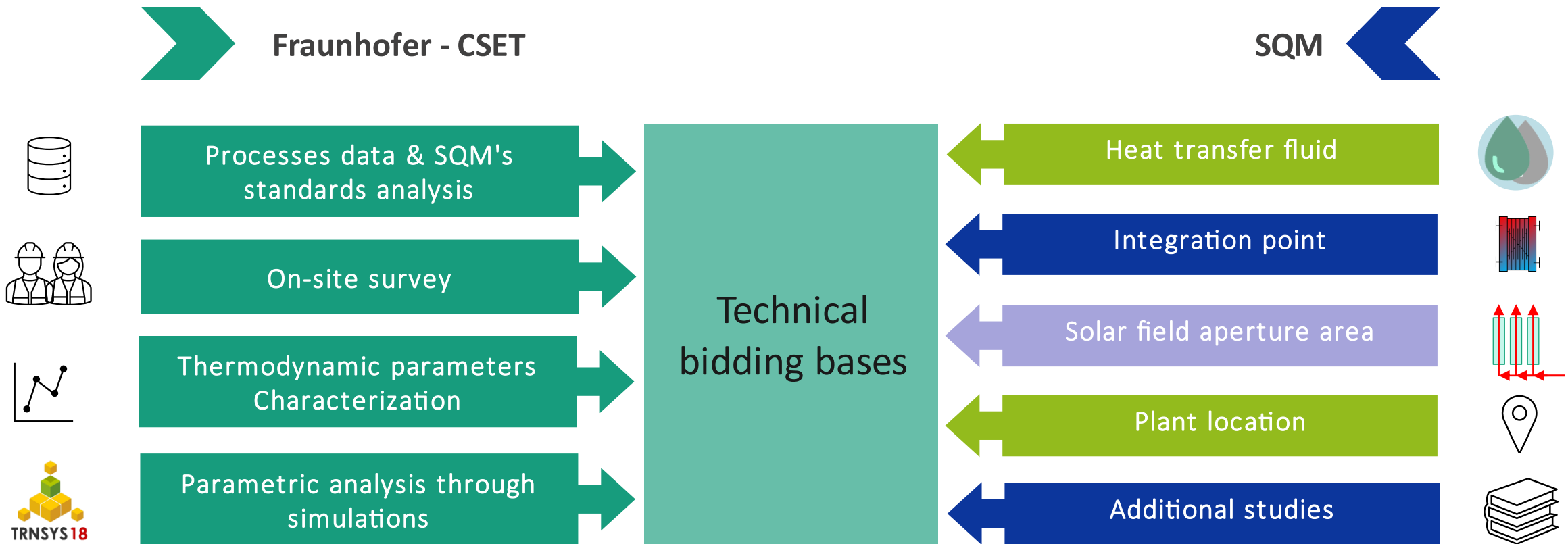
Phase 2

Pilot scale solar thermal plant integration



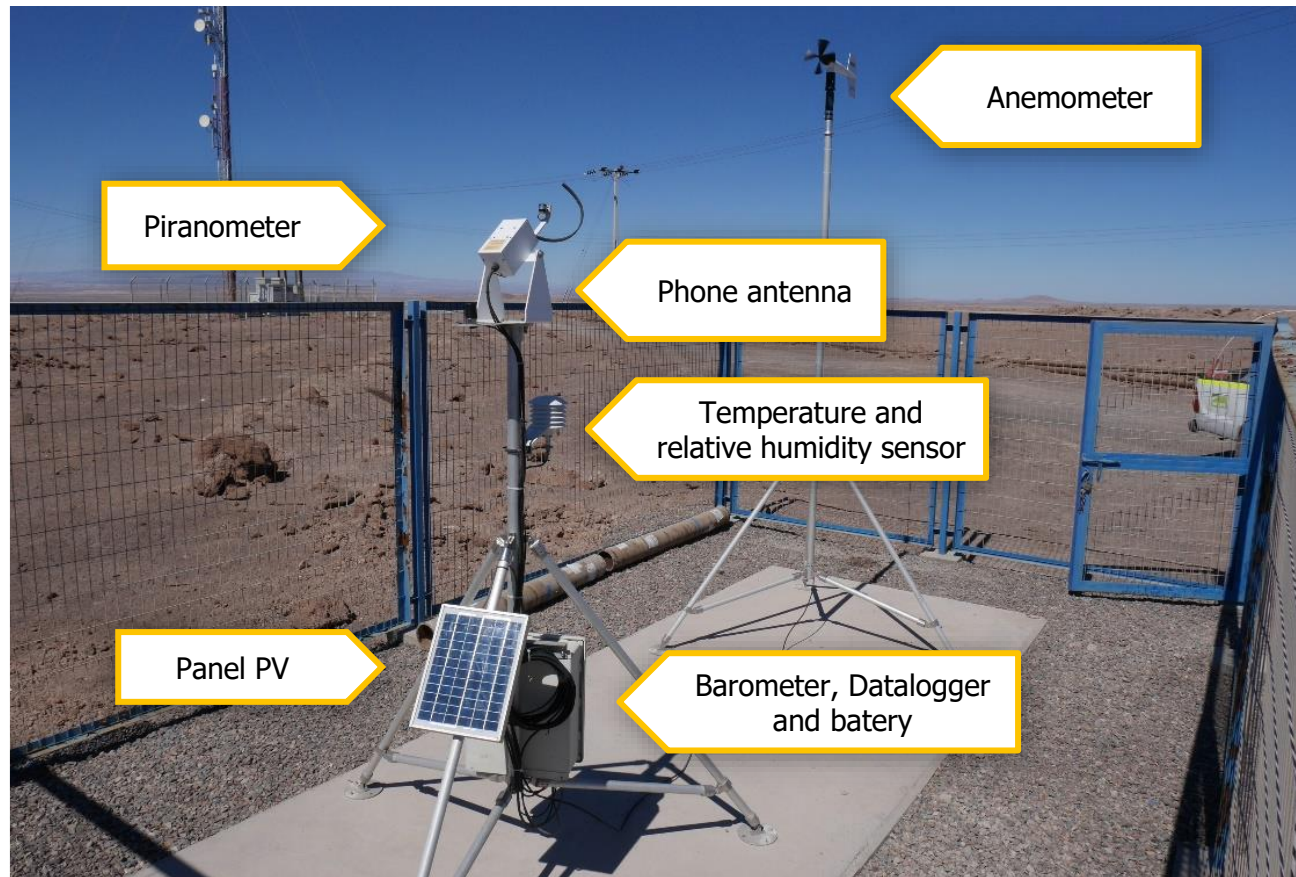
Phase 2

Pilot scale solar thermal plant integration



Additional studies

Weather station refurbishment



- Bimonthly maintenance and monthly reports.

Additional studies

Environmental corrosivity study



- In order to determine the corresponding environmental aggressiveness category and atmospheric corrosiveness at the mine site
- This study will be carried out by a third-party institution

Additional studies

Reflectivity study



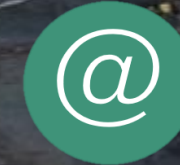
Spider structure to position mirrors to be studied in multiple orientations and angles



Reflectivity measurement



Specular reflectivity measuring equipment
15R-RGB model




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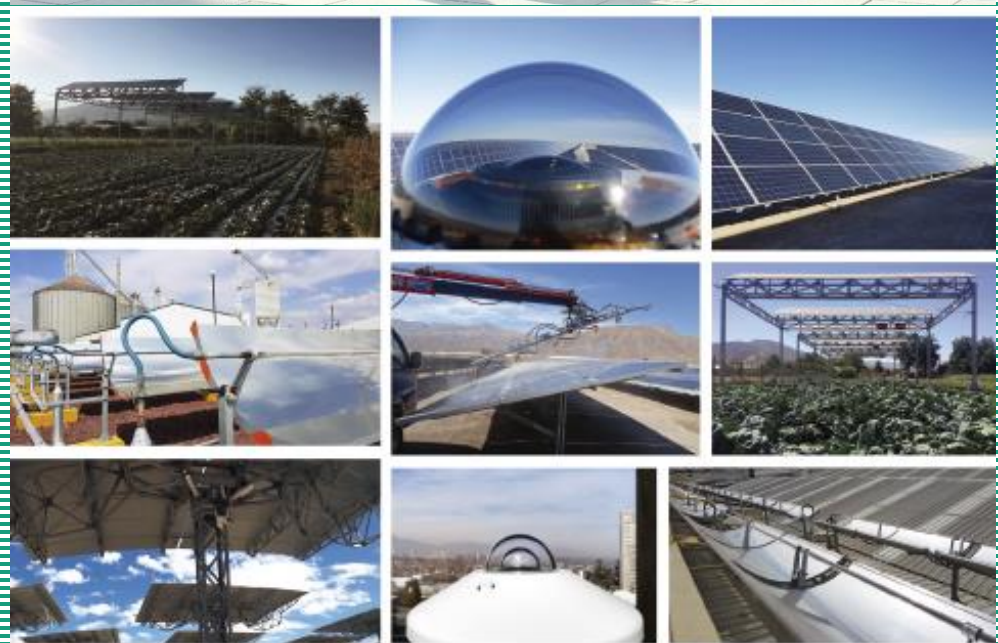
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