



Technical data for concentrated solar power plants in operation, under construction and in project

Ugo Pelay, Lingai Luo, Yilin Fan, Driss Stitou, Mark Rood

► To cite this version:

Ugo Pelay, Lingai Luo, Yilin Fan, Driss Stitou, Mark Rood. Technical data for concentrated solar power plants in operation, under construction and in project. Data in Brief, 2017, 13, pp.597-599. <10.1016/j.dib.2017.06.030>. <hal-03155856>

HAL Id: hal-03155856

<https://hal.science/hal-03155856v1>

Submitted on 21 May 2024

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



Distributed under a Creative Commons CC BY 4.0 - Attribution - International License



Contents lists available at ScienceDirect

Data in Brief

journal homepage: www.elsevier.com/locate/dib



Data Article

Technical data for concentrated solar power plants in operation, under construction and in project



Ugo Pelay^a, Lingai Luo^{a,*}, Yilin Fan^a, Driss Stitou^b, Mark Rood^c

^a Laboratoire de Thermique et Energie de Nantes, UMR CNRS 6607, Polytech' Nantes – Université de Nantes, La Chantrerie, Rue Christian Pauc, BP 50609, 44306 Nantes Cedex 03, France

^b Laboratoire PROcédés, Matériaux et Energie Solaire (PROMES), UPR CNRS 8521, Rambla de la Thermodynamique, Tecnosud, 66100 Perpignan, France

^c Department of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign, 205N. Mathews Avenue, IL 61801, USA

ARTICLE INFO

Article history:

Received 11 May 2017

Received in revised form

1 June 2017

Accepted 17 June 2017

Available online 23 June 2017

ABSTRACT

This article presents technical data for concentrated solar power (CSP) plants in operation, under construction and in project all over the world in the form of tables. These tables provide information about plants (e.g., name of the CSP plant, country of construction, owner of the plant, aim of the plant) and their technical characteristics (e.g., CSP technology, solar power, area of the plant, presence and type of hybridization system, electricity cost, presence and type of TES, power cycle fluid, heat transfer fluid, operating temperature, operating pressure, type of turbine, type and duration of storage, etc.). Further interpretation of the data and discussions on the current state-of-the-art and future trends of CSP can be found in the associated research article (Pelay et al., 2017) [1].

© 2017 The Authors. Published by Elsevier Inc. This is an open access article under the CC BY license

(<http://creativecommons.org/licenses/by/4.0/>).

DOI of original article: <http://dx.doi.org/10.1016/j.rser.2017.03.139>

* Corresponding author.

E-mail address: lingai.luo@univ-nantes.fr (L. Luo).

<http://dx.doi.org/10.1016/j.dib.2017.06.030>

2352-3409/© 2017 The Authors. Published by Elsevier Inc. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

Specifications Table

Subject area	Energy
More specific subject area	Solar Energy
Type of data	Table
How data was acquired	Survey
Data format	Raw
Experimental factors	Not applicable
Experimental features	Not applicable
Data source location	Not applicable
Data accessibility	Data are with this article

Value of the data

- A detailed database for the technical data of CSP plants all over the world
- Make possible an analysis of actual state-of-the-art of CSP plants
- Make possible an analysis of future trends on CSP plants

1. Data

Technical data for concentrated solar power (CSP) plants in operation, under construction and in project all over the world in the form of tables. These tables provide information about plants (e.g., name of the CSP plant, country of construction, owner of the plant, aim of the plant) and their technical characteristics (e.g., CSP technology, solar power, area of the plant, presence and type of hybridization system, electricity cost, presence and type of TES, power cycle fluid, heat transfer fluid, operating temperature, operating pressure, type of turbine, type and duration of storage, etc.). Further interpretation of the data and discussions on the current state-of-the-art and future trends of CSP can be found in the associated research article [1].

2. Experimental design, materials and methods

First, a large part of the data have been collected from the websites “cspworld.org” and “globaleenergyobservatory.org”. Then a detailed research has also been made for each identified CSP plant on its proper website or related documents so as to find additional information.

Acknowledgements

Authors would like to thank the financial support of the French “Agence Nationale de la Recherche” within the project In-STORES (ANR-12-SEED-0008). Authors would like to thank the websites “csp-word.com” and “globalenergyobservatory.org” for all available online and available to the general public domain.

Transparency document. Supporting information

Transparency data associated with this article can be found in the online version at <http://dx.doi.org/10.1016/j.dib.2017.06.030>.

Appendix A. Supplementary material

Supplementary data associated with this article can be found in the online version at <http://dx.doi.org/10.1016/j.dib.2017.06.030>.

References

- [1] U. Pelay, L. Luo, Y. Fan, D. Stitou, M. Rood, Thermal energy storage systems for concentrated solar power plants, *Renewable and Sustainable Energy Reviews*, 79 (2017) 82–100, ISSN 1364-0321, <http://dx.doi.org/10.1016/j.rser.2017.03.139>.