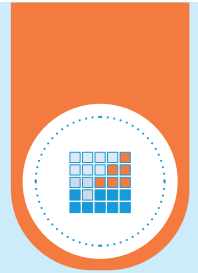




UNITED NATIONS  
INDUSTRIAL DEVELOPMENT ORGANIZATION



INTERNATIONAL CENTER  
ON SMALL HYDROPOWER



**World Small Hydropower Development Report 2022**

---

**GLOBAL SMALL HYDROPOWER  
DATABASE**

## Disclaimer

Copyright © 2022 by the United Nations Industrial Development Organization and the International Center on Small Hydro Power.

*The World Small Hydropower Development Report 2022. Global Small Hydropower Database* is jointly produced by the United Nations Industrial Development Organization (UNIDO) and the International Center on Small Hydro Power (ICSHP) to provide development information about small hydropower.

The opinions, statistical data and estimates contained in signed articles are the responsibility of the authors and should not necessarily be considered as reflecting the views or bearing the endorsement of UNIDO or ICSHP. Although great care has been taken to maintain the accuracy of information herein, neither UNIDO, its Member States nor ICSHP assume any responsibility for consequences that may arise from the use of the material.

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the UNIDO Secretariat concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as 'developed', 'industrialized' and 'developing' are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

This document may be freely quoted or reprinted but acknowledgement is requested.

### *Suggested citation:*

UNIDO, ICSHP (2022). *World Small Hydropower Development Report 2022. Global Small Hydropower Database*. United Nations Industrial Development Organization, Vienna, Austria; International Center on Small Hydro Power, Hangzhou, China. Available from [www.unido.org/WSHPDR2022](http://www.unido.org/WSHPDR2022).

ISSN: 2406-4580 (print)

ISSN: 2706-7599 (online)

The digital copy is available at [www.unido.org/WSHPDR2022](http://www.unido.org/WSHPDR2022).

Design: red not 'n' cool

Cover Picture: depostihphotos

**World Small Hydropower Development Report 2022**

**GLOBAL SMALL HYDROPOWER  
DATABASE**

# Acknowledgements

*The World Small Hydropower Development Report 2022 Global Small Hydropower Database* was prepared under the overall guidance of Tareq Emtairah, Director of the Division of Decarbonization and Sustainable Energy, Petra Schwager-Kederst, Chief of the Division of Climate and Technology Partnerships at the United Nations Industrial Development Organization (UNIDO) and LIU Deyou, Director General of the International Center on Small Hydropower (ICSHP).

The preparation of this databases was headed by LIU Heng, Senior Technical Expert at UNIDO and consulted by HU Xiaobo, Chief of the Division of the Multilateral Development at ICSHP. The work was coordinated by Oxana Lopatina at ICSHP and Eva Krēmere at UNIDO. The publication is the result of several months of intense work and was backed by a vast number of experts in the field of small hydropower.

## Head

LIU Heng, United Nations Industrial Development Organization (UNIDO).

## Coordinators

Eva Krēmere, United Nations Industrial Development Organization (UNIDO).

Oxana Lopatina, International Center on Small Hydro Power (ICSHP).

## Data manager

LIU Fangjie, United Nations Industrial Development Organization (UNIDO).

## Partners



UNITED NATIONS  
INDUSTRIAL DEVELOPMENT ORGANIZATION



INTERNATIONAL CENTER  
ON SMALL HYDROPOWER

# Introduction

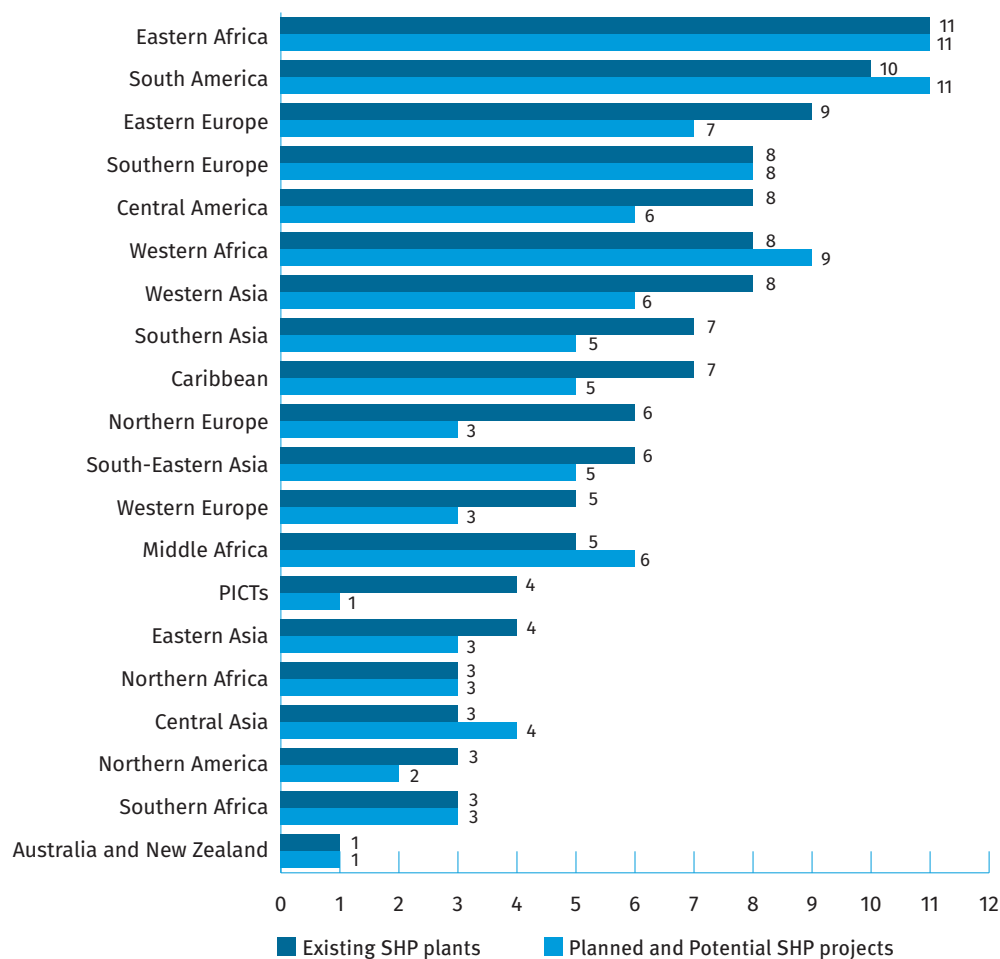
The Global Small Hydropower (SHP) Database aims to collect and make easily accessible detailed information on SHP projects worldwide. Currently, the database includes data from 129 countries and territories across five continents (Figure 1). The data included in the database was provided by the contributing authors of the *World Small Hydropower Development Report (WSHPDR) 2022*.

Our publication provides essential data on small hydropower plants worldwide and offers an overview of the industry. It's a valuable resource for researchers, policymakers, and stakeholders in the renewable energy sector, with the goal of promoting the development and investment in small hydropower projects globally. It's worth noting that SHP plants and projects are included in the database according to local definitions, which may differ from the standard definition of 10 MW. To ensure compliance with local regulations on data sharing and respect the privacy of power plant owners and operators, we've decided not to publish a detailed list of plants.

For anyone seeking more information on specific small hydropower plants and projects, we recommend contacting UNIDO or ICSHP directly. Overall, our publication aims to be a comprehensive and informative resource for the small hydropower industry, while also being mindful of the privacy and data regulations of power plant owners and operators.

The database consists of two sections: (1) existing SHP plants and (2) planned and potential SHP projects. While the former reflects the current status of SHP development by country, the latter indicates SHP projects that are under development or are available for investment. However, it should be noted that the status of SHP projects can change and some of the projects reported as planned can already be commissioned.

Figure 1. Number of Countries Included in the Global SHP Database by Region



Our comprehensive database currently contains data on 6,249 existing small hydropower (SHP) plants worldwide, with a combined installed capacity of 24,436 MW. In addition, we have information on 8,860 potential and planned SHP projects, with a combined capacity of 34,208 MW.

Of the existing SHP plants, the majority are located in Northern America, while Southern Asia has the highest number of potential projects (Figure 2). Norway tops the list for the countries with the greatest number of existing SHP plants in the database, with 1,338 plants and a capacity of 2,924 MW. Brazil follows closely with 1,012 plants and a capacity of 5,887 MW, and Switzerland with 509 plants and a capacity of 987 MW (Figures 3 and 4).

Looking at potential SHP projects, India is the leader with 5,062 projects and a capacity of 11,540 MW, followed by Brazil with 686 projects and a capacity of 9,788 MW, and Ireland with 510 projects and a capacity of 35 MW (Figures 5 and 6). Although China is a global leader in terms of SHP development, we were unable to include detailed data on its SHP plants due to unavailability, and hence, they are not present in the database.

Our database offers a valuable resource for researchers, policymakers, and investors interested in the small hydropower sector, providing them with insights into the distribution and potential of SHP projects worldwide.”

Figure 2. Number of Existing and Potential SHP Plants in the Global SHP Database by Region

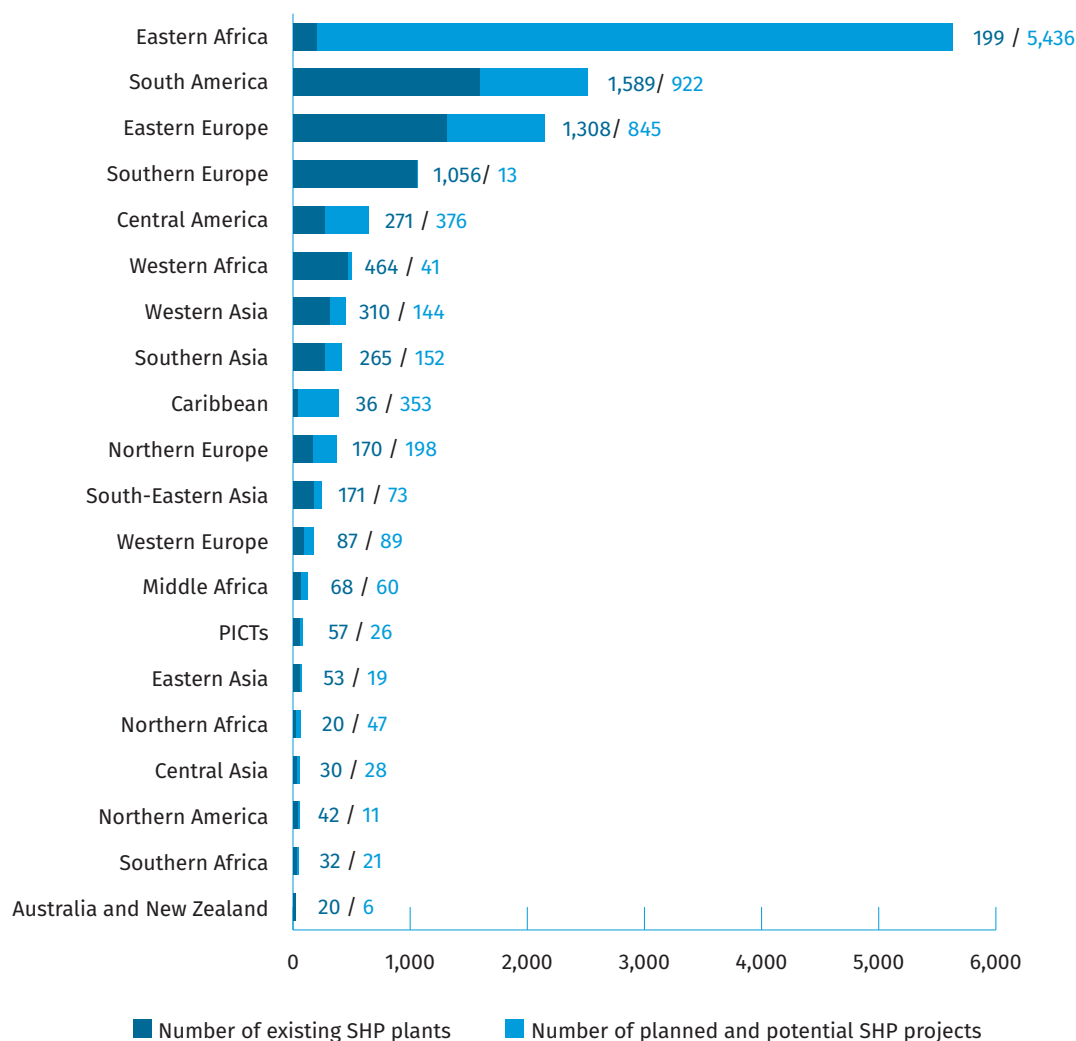


Figure 3. Top 10 Countries in Terms of the Number of Existing SHP Plants in the Global SHP Database

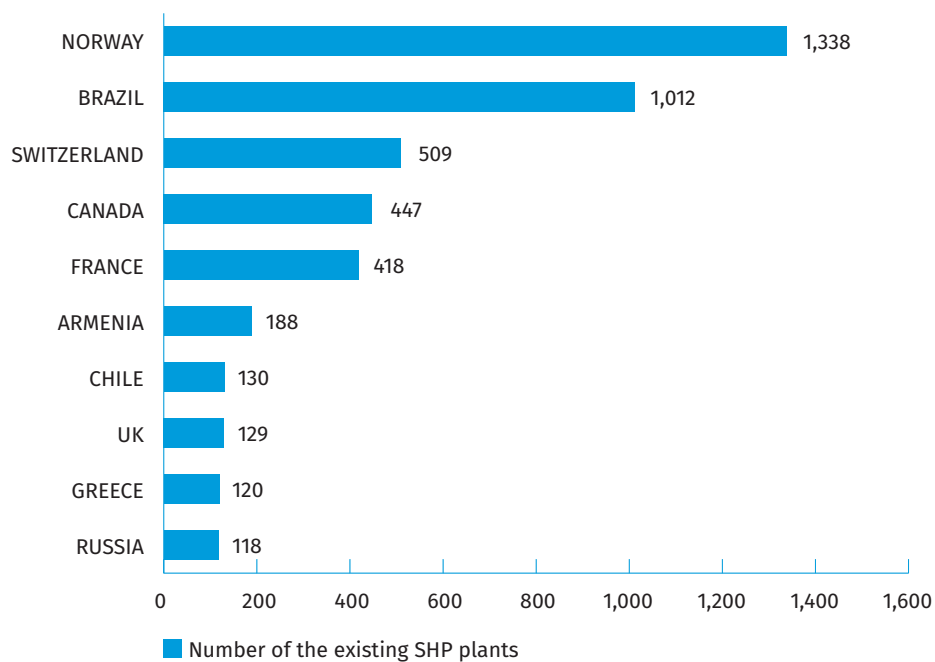
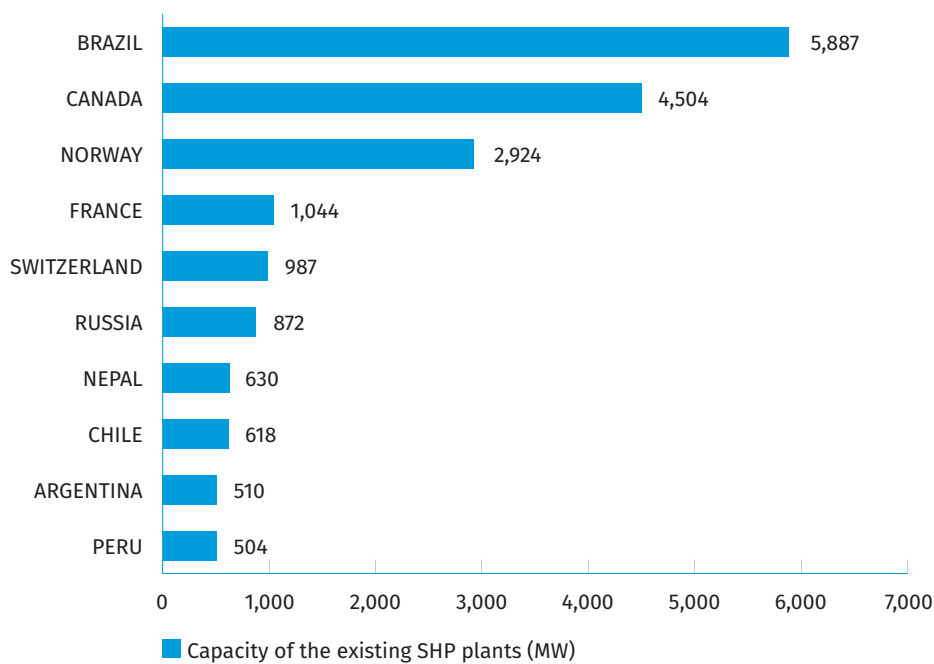


Figure 4. Top 10 Countries in Terms of the Installed Capacity of Existing SHP Plants in the Global SHP Database



Note: The definition of SHP may vary by country

Figure 5. Top 10 Countries in Terms of the Number of Planned and Potential SHP Plants in the Global SHP Database

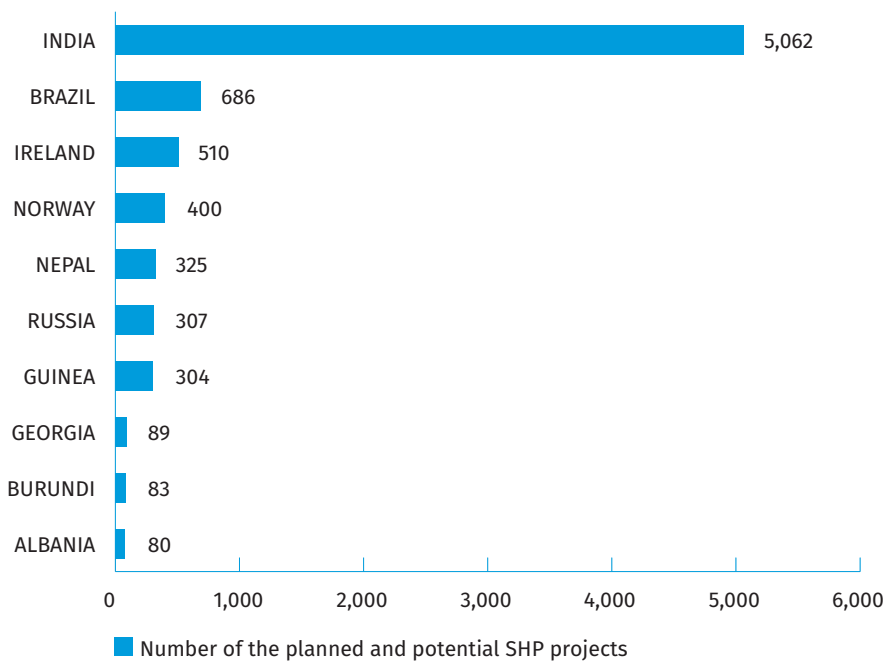
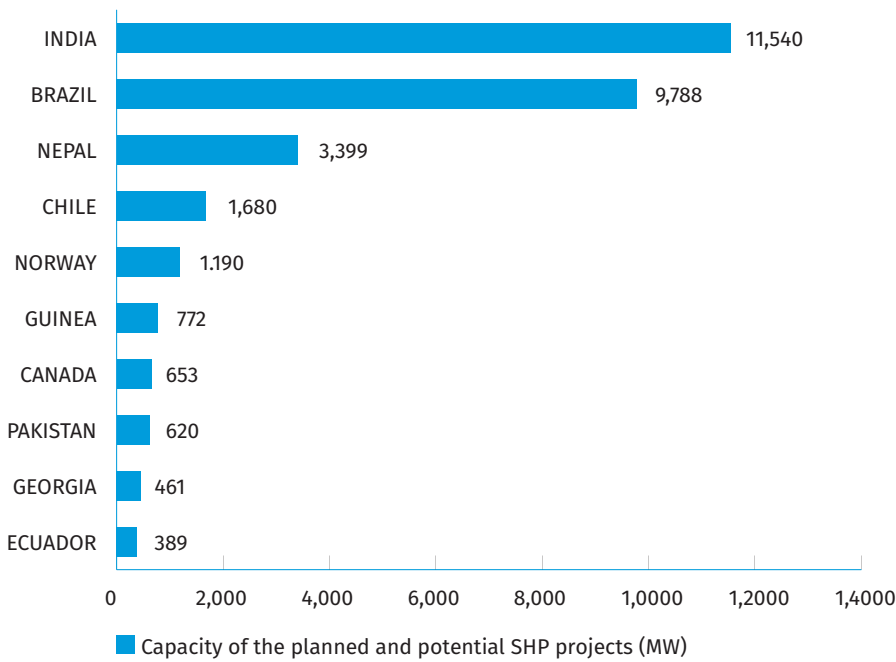


Figure 6. Top 10 Countries in Terms of the Capacity of Planned and Potential SHP Plants in the Global SHP Database



Note: The definition of SHP may vary by country.





UNITED NATIONS  
INDUSTRIAL DEVELOPMENT ORGANIZATION

Vienna International Centre  
P.O. Box 300 · 1400 Vienna · Austria  
Tel.: (+43-1) 26026-0  
E-mail: [renewables@unido.org](mailto:renewables@unido.org)  
[www.unido.org](http://www.unido.org)



INTERNATIONAL CENTER  
ON SMALL HYDROPOWER

136 Nanshan Road  
Hangzhou · 310002 · P.R.China  
Tel.: (+86-571) 87132780  
E-mail: [report@icshp.org](mailto:report@icshp.org)  
[www.icshp.org](http://www.icshp.org)