

**UNECE**

# **Application of the United Nations Framework Classification for Resources (UNFC) to Geothermal Energy Resources**

**Selected case studies**



**UNITED NATIONS**

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Classification**

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## Foreword

Over the last century, different energy and raw material sectors, as well as countries, adopted a range of approaches to classify and manage resources. New challenges to the production, distribution and utilization of energy and raw materials have, however, emerged in recent years that demand innovative approaches for an integrated resource management system. The 2030 Agenda for Sustainable Development defines a clear pathway to address these challenges in a holistic manner.

The United Nations Framework Classification for Resources (UNFC) was developed under the auspices of the United Nations Economic Commission for Europe by a dedicated community of experts drawn from a range of fields, but with the common goal to develop an internationally applicable scheme for the classification, reporting and management of energy and mineral resources. Though initially developed for the mineral and petroleum sectors, UNFC has recently expanded its scope to include renewable energy. Growing awareness and interest in renewable energy resources, including geothermal resources, has highlighted a need to standardize the way in which renewable energy potential is classified and reported.

To facilitate improved global communication in the geothermal sector, the ECE Expert Group on Resource Classification, under the framework of a Memorandum of Understanding between the United Nations Economic Commission for Europe and the International Geothermal Association (IGA), developed specifications for applying UNFC to geothermal energy resources. The specifications were issued in September 2016.

A set of 14 case studies from Australia, Germany, Hungary, Iceland, Italy, Netherlands, New Zealand, Philippines and Russian Federation are presented here to facilitate a better understanding of the specifications and the uniform application of UNFC to geothermal resources. These application examples illustrate the classification of a range of different geothermal resource scenarios in a manner consistent with other energy resources. The approach also provides valuable indicators to the value of UNFC as a tool to support attainment of the Sustainable Development Goals.

Experts in geothermal energy resources, as well as those in other energy and mineral sectors, will find this collection of case studies a useful reference document in their efforts to apply a globally applicable integrated resource management system. I commend all those involved in the preparation, review and verification of these case studies and thank, in particular, the International Geothermal Association for its support.



Olga Algayerova  
Executive Secretary  
United Nations Economic Commission for Europe

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