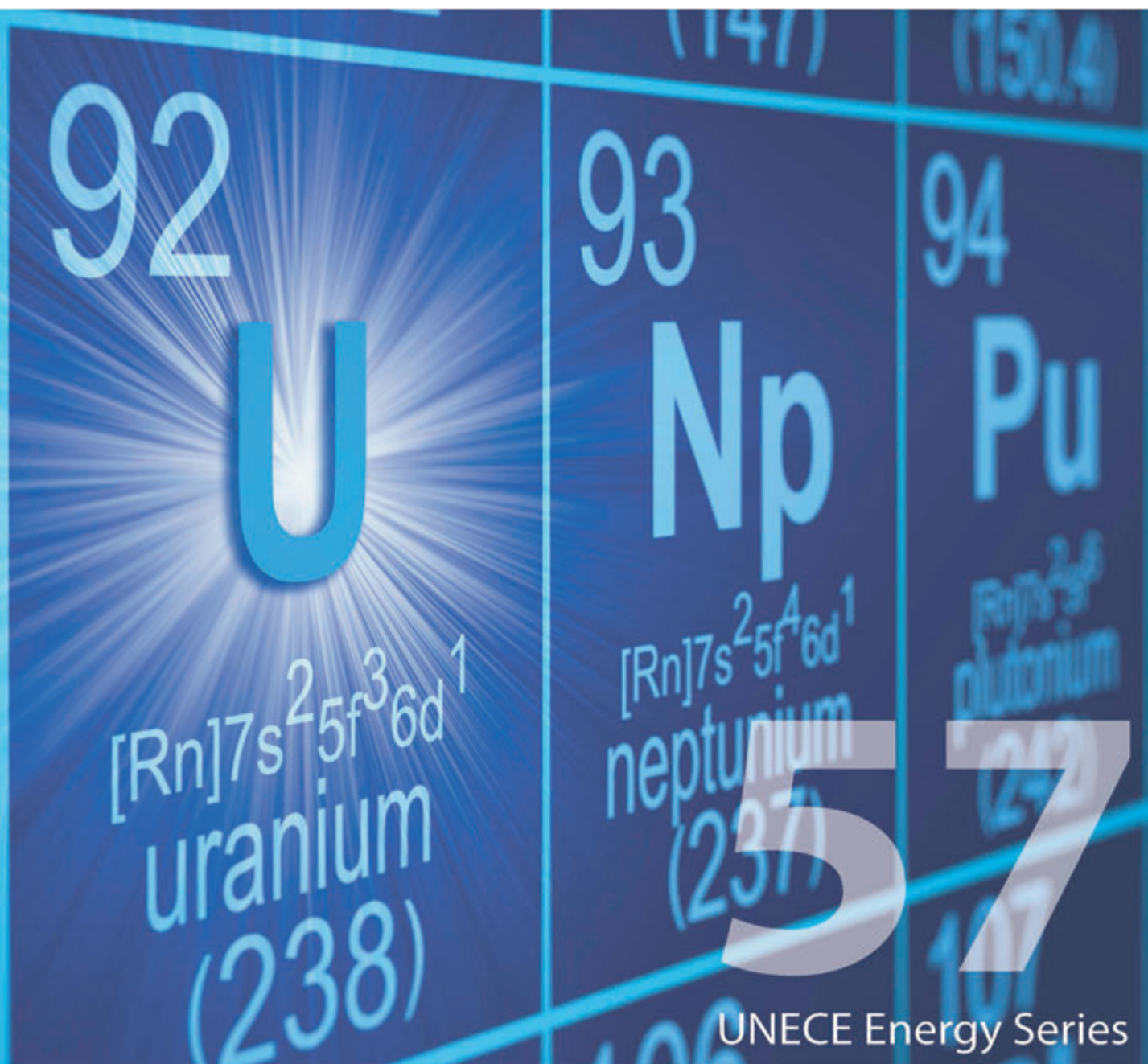


Redesigning the Uranium Resource Pathway

Application of the United Nations Framework Classification
for Resources for Planning and Implementing Sustainable Uranium Projects



UNECE Energy Series



UNITED NATIONS

UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE

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Foreword

As the world's population continues to grow and with a strong demand for a higher quality of life for all, access to clean and affordable energy is increasingly critical for sustainable development. The realities of anthropogenic climate change require all countries to seek increased use of low-carbon energy sources. These two realities reinforce the argument that good social outcomes should shape how energy and raw materials are managed and used responsibly in the future.

The ECE region is a leading producer of uranium, with significant production coming from Canada, Kazakhstan, Russian Federation, Ukraine, United States of America and Uzbekistan. Globally, uranium resources are mainly treated as a mineral commodity with little recognition of their contribution as fuel for affordable and low-carbon electricity production. The reality that nuclear energy reduces or displaces carbon emissions is becoming more widely recognized. Over 30 countries rely on nuclear power to meet their energy needs, and several others plan to join this group. On the other hand, some countries have chosen to not pursue nuclear energy because of the risks of incidents or accidents, the high cost and lengthy commitment nuclear power requires or because of the long-term waste disposal challenges and have announced phase-outs of this energy source.

Uranium resources fuel 452 reactors with a total net capacity of 399 GigaWatt (electric), which represents approximately 10 per cent of global electrical generating capacity. This capacity has an availability factor of 80 per cent or more. Global nuclear capacity has the potential to increase significantly by 2030. China, for example, is putting a new nuclear reactor into operation every two months. New nuclear unit construction is also progressing in other countries, including in Belarus, France, Finland, Russian Federation, Turkey, United Kingdom, India and the United Arab Emirates.

This publication examines uranium in the context both of its contributions to climate action as a low-carbon, small-footprint energy material and of the value of applying the United Nations Framework Classification for Resources (UNFC) to planning and implementing transparent, sustainable uranium projects. Specifications and guidelines for the management of nuclear fuel resources, according to UNFC, are available. Use of UNFC can enable countries and companies to consider fully the socio-economic viability, environmental sensitivity, technological maturity and level of knowledge at a project level to ensure that uranium resources contribute to sustainable development and attainment of the 2030 Agenda for Sustainable Development.

I am pleased to note that this publication is part of ECE's ongoing efforts to focus on responsible production and consumption of resources. It was prepared by the ECE Expert Group on Resource Management. The Expert Group's Working Group on Nuclear Fuel Resources developed the report under the leadership and support of the International Atomic Energy Agency (IAEA). I thank all the experts involved and, in particular, IAEA for its continued invaluable support of and cooperation in our work on sustainable resource management. I recommend this publication for extensive discussion, review and feedback.



Olga ALGAYEROVA

Under-Secretary-General, United Nations
and
Executive Secretary, United Nations
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