

## **Radioactive Waste Management: Global Markets**

Market Research Report | 2023-01-17 | 212 pages | BCC Research

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### **Report description:**

Description

Report Scope:

The radioactive waste management technologies and service global market study has been undertaken with a global perspective in terms of technologies and their applications. Market projections have been conducted for four regional segments (North America, Europe, Asia-Pacific, and Rest of the World) and for the global market.

The report provides business planers, investors and managers with an improved understanding of the trends and impact of treatment technologies in radioactive waste management and also presents how the markets will be affected by new technology opportunities as well social and economic factors.

The report contains:

- An in-depth analysis of the technologies used for radioactive waste treatment.
- An overview of the quantities of hazardous waste produced per regional segment, type and source.
- Current and potential applications and technologies for radioactive waste management.
- Current and future market projections for radioactive waste technologies in each regional market.
- Profiles of current industry players per regional segment including services suppliers and contractors.
- A review of market and economic opportunities for current industry participants and new entrants.

The report also features a separate section highlighting the impact of the COVID-19 pandemic on the radioactive waste management market at the global level. The section covers the pandemic's disruption on nuclear power plants and surveys the strategic investments taken by governments to boost the growth of the market globally.

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A separate section on the Russia-Ukraine war is also included. This section provides a detailed analysis of the impact of the Russia-Ukraine war on the radioactive waste management market.

The market size and estimations are provided in terms of value (\$ millions), with 2021 serving as the base year and market forecasts given for the period 2022 to 2027. Regional-level market sizes, with respect to the technology segment, are provided for all four regions. In addition, regional data on radioactive waste production is also provided with projections through 2027. The impact of COVID-19 and the Russia-Ukraine war have been factored into the estimates of market size.

#### Report Includes:

- 91 data tables and 37 additional tables
- A comprehensive overview and up-to-date analysis of the global markets for radioactive waste management technologies and services
- Analyses of the global market trends, with market revenue data for 2021, estimates for 2022, and projections of compound annual growth rates (CAGRs) through 2027
- Discussion of the industry growth driving factors and restraints that will shape the market for radioactive waste management as the basis for projecting demand in the next few years (2022-2027)
- Estimation of the actual market size and revenue forecast for the global radioactive waste management market in USD million values, and their corresponding market share analysis by type of technology and region
- Highlights of the impact of COVID-19 and Russia-Ukraine war on the market for radioactive waste management at the global level
- Technology assessment of the key drivers, restraints and opportunities that will shape the market for radioactive waste management production and technologies over the forecast period
- Review of the quantities of hazardous waste produced per regional segment, type and source, as well as current and potential technologies for radioactive waste management
- Analysis of market and economic opportunities for current industry participants and new entrants
- A relevant patent analysis with data corresponding to number of U.S. patents related to radioactive waste management technologies
- Updated information on recent industry acquisitions, partnerships, agreements, collaborations, and other strategic alliances in the global radioactive waste management market
- Descriptive company profiles of the leading global market players, including Veolia, EDF, Perma-Fix Environmental Services, Jacobs Solutions Inc., US Ecology Inc., and Studsvik AB

#### Executive Summary

##### Summary:

A variety of nuclear activities have been carried out in the last 60 years. Military applications were the most common initially, followed by more peaceful uses such as nuclear energy production, nuclear materials for diagnosis and disease treatment, radioactive materials in industry, and research. Regardless of the activity, nuclear activities generate radioactive waste. The accumulations of radioactive materials and the wastes generated can be considered a burden for human society, both at present and in the future, since they require continuing monitoring, control and treatment. Knowing the amounts and types of such radioactive waste inventories can help in the assessment of the relative burdens.

The global market for radioactive waste management technologies and services was estimated to be worth \$REDACTED in 2021. This figure is expected to rise to \$REDACTED by the end of 2027, at a projected five-year compound annual growth rate (CAGR) of

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REDACTED%.

Radioactive waste management involves two fundamental approaches: the radioactive materials can be either released or discharged to the environment, or they must be confined and isolated from the biosphere until the noxious radionuclides have decayed to innocuous concentrations. Releases of radioactivity to the environment generally occur as liquid or gaseous discharges (effluents) from nuclear facilities. The amount of radioactivity that can be released is based on allowable exposures to population groups and is controlled by national regulations and guidelines, usually based on recommendations of the International Committee on Radiation Protection.

There are very few instances where radioactive effluents from nuclear facilities can be released without some form of control or treatment to remove excessive radioactivity. Most of the radioactive wastes arising from the operation of nuclear fuel cycle facilities require processing to concentrate the radioactive elements into a smaller volume that can be more conveniently handled, thereby permitting the release or disposal of the bulk of the processed material.

Based on technology, the market for radioactive waste management market is segmented into transportation and disposal services, physical treatment, containment and storage, chemical treatment, decontamination and decommissioning, thermal destruction, stabilization and encapsulation, size reduction, and remediation technologies.

Transportation and disposal technologies dominate the market with about REDACTED% of total sales in 2021. Physical treatment technologies accounted for the second-largest share of the market in 2021 (at REDACTED%) due to simplicity of operation and low investment and operational cost. The projection for this market share segment is expected to increase to REDACTED% by 2027. Containment and storage technologies accounted for the third-largest share of the market in 2021 (at REDACTED%) including traditional and well-known methods for radioactive waste treatment. Chemical treatment, decontamination and decommissioning, thermal destruction, and stabilization and encapsulation technologies accounted for the fourth, fifth, sixth, and seventh-largest shares, respectively, of the radioactive waste market based on the advantages of well-established technologies used and energy conservation they can offer. All four methods account for more than REDACTED% of the global market sales for 2021.

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