

Small Modular Reactor Market by Reactor (HWR, LWR, HTR, FNR, MSR), Deployment (Single, Multi), Connectivity (Grid, Off-grid), Location (Land, Marine), Application (Power Generation, Desalination, Industrial), Coolant and Region - Global Forecast to 2030

Market Report | 2022-08-22 | 213 pages | MarketsandMarkets

## **AVAILABLE LICENSES:**

- Single User \$4950.00
- Multi User \$6650.00
- Corporate License \$8150.00
- Enterprise Site License \$10000.00

## Report description:

The small modular reactor market is projected to reach USD 7.0 billion by 2030 from an estimated USD 5.7 billion in 2022, at a CAGR of 2.7% during the forecast period. The cost reduction due to modularization and factory production is expected to drive the small modular reactor market growth. Furthermore, the need for clean, stable and reliable nuclear energy for the supply of baseload power is driving the market. However, stringent nuclear regulatory requirements for deployment of SMRs is likely to hamper the growth of small modular reactor market.

"The water segment, by coolant, is expected to be the largest and the fastest-growing market from 2022 to 2030"
The SMR market, by coolant is bifurcated into heavy liquid metals, water, gases and molten salts. The water segment is expected to hold the largest market share in 2030. The largest market share can be attributed to the increasing adoption of light-water reactors and heavy-water reactors across various regions.

"The multi-module power plant, by deployment, is expected to be the fastest-growing market from 2021 to 2026"

The multi-module power plant segment is expected to be the fastest-growing deployment segment during the forecast period, owing to the ease of financing additional modules. Multi-module SMR plants are easier to finance compared with large nuclear reactors, as SMRs require lower upfront investments for a unit, and additional capacity may be built over time. The ability to add modules incrementally in multi-module SMRs provides economies of series production. This, in turn, could permit investors and operators to adjust to the changes in demand for electricity and budgetary constraints to reduce financial risks. These factors are expected to drive the demand for SMRs for deployment in multi-module power plants.

Breakdown of Primaries:

**Scotts International. EU Vat number: PL 6772247784** tel. 0048 603 394 346 e-mail: support@scotts-international.com

In-depth interviews have been conducted with various key industry participants, subject-matter experts, C-level executives of key market players, and industry consultants, among other experts, to obtain and verify critical qualitative and quantitative information, as well as to assess future market prospects. The distribution of primary interviews is as follows:

By Company Type: Tier 1- 65%, Tier 2- 24%, and Tier 3- 11%

By Designation: C-Level- 30%, Director Level- 25%, and Others- 45%

By Region: Asia Pacific- 33%, Middle East & Africa - 20%, Europe- 20%, and Americas 27%

Note: Others includes sales managers, marketing managers, product managers, and product engineers.

The tier of the companies is defined based on their total revenue as of 2017. Tier 1: USD 1 billion and above, Tier 2: From USD 500 million to USD 1 billion, and Tier 3: <USD 500 million.

The small modular reactor market is dominated by a few major players that have a wide regional presence. The leading players in the small modular reactor market Westinghouse Electric Corporation (US), NuScale Power, LLC. (US), GE Hitachi Nuclear Energy (US), Terrestrial Energy Inc. (Canada), Moltex Energy (Canada), X-energy (US), Hotec International (US), General Atomics (US), LeadCold Reactors (Sweden), ARC Clean Energy (Canada), Rolls-Royce (UK), Tokamak Energy (UK), Ultra Safe Nuclear (US), Toshiba Energy Systems & Solutions (Japan), SNC-Lavalin Group (Canada) and others.

Study Coverage:

The report defines, describes, and forecasts the small modular reactor market, by reactor type, connectivity, deployment, location, application, and region. It also offers a detailed qualitative and quantitative analysis of the market. The report provides a comprehensive review of the major market drivers, restraints, opportunities, and challenges. It also covers various important aspects of the market, which include the analysis of the competitive landscape, market dynamics, market estimates in terms of value, and future trends in the small modular reactor market.

Key Benefits of Buying the Report

- 1. The report identifies and addresses the key markets for small modular reactor operations and services, which would help equipment manufacturers and service providers review the growth in demand.
- 2. The report helps system providers understand the pulse of the market and provides insights into drivers, restraints, opportunities, and challenges.
- 3. The report will help key players understand the strategies of their competitors better and help them in making better strategic decisions

## **Table of Contents:**

1 Introduction 26

- 1.1 STUDY OBJECTIVES 26
- 1.2 MARKET DEFINITION 26
- 1.2.1 INCLUSIONS AND EXCLUSIONS IN 27
- 1.3 MARKET SCOPE 27
- 1.3.1 MARKETS COVERED 27
- 1.3.2 REGIONAL SCOPE 28
- 1.3.3 ☐YEARS CONSIDERED ☐ 28
- 1.4 CURRENCY CONSIDERED 29
- 1.5□LIMITATIONS□29
- 1.6 STAKEHOLDERS 29
- 1.7 SUMMARY OF CHANGES 30
- 2 RESEARCH METHODOLOGY 31
- 2.1 RESEARCH DATA 31

FIGURE 1 SMALL MODULAR REACTOR MARKET: RESEARCH DESIGN 31

2.2□DATA TRIANGULATION□32

FIGURE 2 DATA TRIANGULATION 32

2.2.1 SECONDARY DATA 33

Scotts International, EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com www.scotts-international.com

2.2.1.1 Key data from secondary sources 33

2.2.2 PRIMARY DATA 34

2.2.2.1 Key data from primary sources 34

FIGURE 3□KEY INDUSTRY INSIGHTS□34

2.2.2.2 Breakdown of primaries 35

FIGURE 4 BREAKDOWN OF PRIMARY INTERVIEWS: BY COMPANY TYPE, DESIGNATION, AND REGION 35

2.3 MARKET SIZE ESTIMATION 36

2.3.1 BOTTOM-UP APPROACH 36

FIGURE 5 MARKET SIZE ESTIMATION METHODOLOGY: BOTTOM-UP APPROACH 36

2.3.2 TOP-DOWN APPROACH 37

FIGURE 6 MARKET SIZE ESTIMATION METHODOLOGY: TOP-DOWN APPROACH 37

2.3.3 DEMAND-SIDE ANALYSIS □ 38

FIGURE 7∏DEMAND-SIDE CALCULATION∏38

FIGURE 8∏METRICS CONSIDERED FOR ANALYZING AND ASSESSING DEMAND FOR SMALL MODULAR REACTORS∏38

2.3.3.1 Assumptions for demand-side analysis 39

2.3.4∏FORECAST∏39

?

3∏EXECUTIVE SUMMARY∏40

TABLE 1 SMALL MODULAR REACTOR MARKET: SNAPSHOT 40

FIGURE 9 ASIA PACIFIC DOMINATED SMALL MODULAR REACTOR MARKET IN 2021 41

FIGURE 10 WATER SEGMENT TO ACCOUNT FOR LARGEST SHARE OF SMALL MODULAR REACTOR MARKET, BY COOLANT, FROM 2022 TO 2030 141

FIGURE 11 LIGHT-WATER REACTORS TO ACCOUNT FOR LARGEST SHARE OF SMALL MODULAR REACTOR MARKET, BY TYPE, FROM 2022 TO 2030 42

FIGURE 12∏OFF-GRID SEGMENT TO LEAD SMALL MODULAR REACTOR MARKET DURING FORECAST PERIOD∏42

FIGURE 13 MULTI-MODULE SEGMENT TO CONTINUE TO HOLD LARGER SHARE OF SMALL MODULAR REACTOR MARKET, BY DEPLOYMENT, DURING FORECAST PERIOD 143

FIGURE 14 LAND SEGMENT TO ACCOUNT FOR LARGER SHARE OF SMALL MODULAR REACTOR MARKET, BY LOCATION, DURING 2022-2030 143

FIGURE 15 $\square$ INDUSTRIAL SEGMENT TO CONTINUE TO ACCOUNT FOR LARGEST SIZE OF SMALL MODULAR REACTOR MARKET, BY APPLICATION, FROM 2022 TO 2030 $\square$ 44

4∏PREMIUM INSIGHTS∏45

4.1 TATTRACTIVE OPPORTUNITIES FOR SMALL MODULAR REACTOR MARKET PLAYERS THAT

FIGURE 16 LOW COST OF SMRS DUE TO MODULARIZATION AND FACTORY CONSTRUCTION IS EXPECTED TO DRIVE SMALL MODULAR REACTOR MARKET DURING 2022-2030 45

4.2□SMALL MODULAR REACTOR MARKET, BY REGION□46

FIGURE 17 SMALL MODULAR REACTOR MARKET IN ASIA PACIFIC TO GROW AT HIGHEST CAGR DURING FORECAST PERIOD 46
4.3 SMALL MODULAR REACTOR MARKET, BY COOLANT 46

FIGURE 18∏WATER SEGMENT TO ACCOUNT FOR LARGEST MARKET SHARE, BY COOLANT, IN 2030∏46

4.4∏SMALL MODULAR REACTOR MARKET, BY TYPE∏47

FIGURE 19 LIGHT-WATER REACTORS ACCOUNTED FOR LARGEST MARKET SHARE,

BY TYPE, IN 2021∏47

4.5∏SMALL MODULAR REACTOR MARKET, BY CONNECTIVITY∏47

FIGURE 20[]OFF-GRID SEGMENT HELD LARGER SHARE OF SMALL MODULAR REACTOR MARKET, BY CONNECTIVITY, IN 2021[]47 4.6[]SMALL MODULAR REACTOR MARKET, BY DEPLOYMENT[]48

FIGURE 21  $\square$  MULTI-MODULE POWER PLANT HELD LARGER SHARE OF SMALL MODULAR REACTOR MARKET, BY DEPLOYMENT, IN 2021  $\square$  48

Scotts International, EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

4.7□SMALL MODULAR REACTOR MARKET, BY LOCATION□48

FIGURE 22 LAND SEGMENT DOMINATED SMALL MODULAR REACTOR MARKET,

BY LOCATION, IN 2021 48

4.8∏SMALL MODULAR REACTOR MARKET, BY APPLICATION∏49

FIGURE 23 INDUSTRIAL SEGMENT DOMINATED SMALL MODULAR REACTOR MARKET,

BY APPLICATION, IN 2021 □ 49

4.9□SMALL MODULAR REACTOR MARKET IN ASIA PACIFIC, BY TYPE AND COUNTRY□49

FIGURE 24 LIGHT-WATER REACTORS AND CHINA WERE LARGEST SHAREHOLDERS IN SMALL MODULAR REACTOR MARKET IN ASIA PACIFIC IN 2021 49

?

5∏MARKET OVERVIEW∏50

5.1∏INTRODUCTION∏50

5.2 MARKET DYNAMICS 51

FIGURE 25∏SMALL MODULAR REACTOR MARKET: DRIVERS, RESTRAINTS, OPPORTUNITIES, AND CHALLENGES∏51

5.2.1 DRIVERS 51

5.2.1.1 | Versatile nature of nuclear power | 51

FIGURE 26 GLOBAL LOW-CARBON ENERGY GENERATION, BY SOURCE, 2010-2020 52

5.2.1.2 Benefits of modularization and factory construction 52

5.2.2 RESTRAINTS 53

5.2.2.1 Stringent regulatory policies and standards to deploy SMRs 53

5.2.2.2 Negative public perception of nuclear power technology 53

5.2.3 □ OPPORTUNITIES □ 54

5.2.3.1 Progression into sustainable future with net zero emission and decarbonization of energy sector □54

5.2.3.2 Integration of SMRs with renewable energy sources 54

5.2.4 CHALLENGES 55

5.2.4.1 Lack of standard licensing process 55

5.3□COVID-19 IMPACT□56

5.4 TRENDS/DISRUPTIONS IMPACTING CUSTOMERS' BUSINESSES 56

5.4.1 REVENUE SHIFT AND NEW REVENUE POCKETS FOR SMALL MODULAR REACTOR MARKET PLAYERS 5.6.4.1

FIGURE 27 REVENUE SHIFT OF SMALL MODULAR REACTOR PROVIDERS 157

5.5 PRICING ANALYSIS 57

TABLE 2 CAPEX OF SMALL MODULAR REACTOR PROJECTS, BY TYPE 57

5.6 SUPPLY CHAIN ANALYSIS 58

FIGURE 28 SMALL MODULAR REACTOR MARKET: SUPPLY CHAIN ANALYSIS 58

5.6.1 COMPONENT MANUFACTURERS 58

5.6.2 SMALL MODULAR REACTOR MANUFACTURERS 58

5.6.3 SMALL MODULAR REACTOR SUPPORT SERVICE PROVIDERS/ INTEGRATORS 58

5.6.4□END-USERS□58

5.7 ECOSYSTEM/MARKET MAP 59

TABLE 3 SMALL MODULAR REACTOR MARKET: ECOSYSTEM 59

5.8 KEY CONFERENCES AND EVENTS, 2022-2023 60

TABLE 4 $\square$ SMALL MODULAR REACTOR MARKET: LIST OF CONFERENCES AND EVENTS $\square$ 60

5.9∏SMALL MODULAR REACTOR MARKET: REGULATIONS∏61

5.9.1 ⊓REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS ☐ 61

TABLE 5∏NORTH AMERICA: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS∏61

TABLE 6  $\square$  EUROPE: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS  $\square$  61

TABLE 7  $\square$  ASIA PACIFIC: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS  $\square$  62

Scotts International, EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

TABLE 8 GLOBAL: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS 62

5.9.2 STANDARDS AND REGULATIONS 62

TABLE 9 SMALL MODULAR REACTOR MARKET: STANDARDS AND REGULATIONS 62

5.10 PATENT ANALYSIS 65

5.11 PORTER'S FIVE FORCES ANALYSIS 69

FIGURE 29 PORTER'S FIVE FORCES ANALYSIS FOR SMALL MODULAR REACTOR MARKET 69

TABLE 10∏SMALL MODULAR REACTOR MARKET: PORTER'S FIVE FORCES ANALYSIS∏70

5.11.1 THREAT OF SUBSTITUTES 70

5.11.2 BARGAINING POWER OF SUPPLIERS 70

5.11.3 BARGAINING POWER OF BUYERS 70

5.11.4 THREAT OF NEW ENTRANTS 71

5.11.5 | INTENSITY OF COMPETITIVE RIVALRY | 71

5.12 TECHNOLOGY ANALYSIS 71

5.13 TRADE ANALYSIS 72

5.13.1□EXPORT SCENARIO□72

TABLE 11 EXPORT SCENARIO FOR HS CODE: 840110, BY COUNTRY, 2017-2021 (USD MILLIONS) 72

FIGURE 30 EXPORT DATA FOR TOP 5 COUNTRIES, 2017-2021 (USD THOUSANDS) 72

5.13.2 IMPORT SCENARIO 73

TABLE 12 IMPORT SCENARIO FOR HS CODE: 840110, BY COUNTRY, 2017-2021 (USD MILLIONS) 73

FIGURE 31 | IMPORT DATA FOR TOP 5 COUNTRIES, 2017-2021 (USD THOUSANDS) | 73

5.14 KEY STAKEHOLDERS AND BUYING CRITERIA 74

5.14.1 KEY STAKEHOLDERS IN BUYING PROCESS 74

FIGURE 32□INFLUENCE OF STAKEHOLDERS IN BUYING PROCESS FOR THREE APPLICATIONS□74

TABLE 13 INFLUENCE OF STAKEHOLDERS IN BUYING PROCESS FOR THREE APPLICATIONS (%) 174

5.14.2 BUYING CRITERIA 75

FIGURE 33 KEY BUYING CRITERIA FOR THREE APPLICATIONS 75

TABLE 14□KEY BUYING CRITERIA FOR THREE APPLICATIONS□75

6□SMALL MODULAR REACTOR MARKET, BY COOLANT 176

6.1□INTRODUCTION□77

FIGURE 34 SMALL MODULAR REACTOR MARKET, BY COOLANT, 2021 77

TABLE 15 SMALL MODULAR REACTOR MARKET, BY COOLANT, 2019-2030 (USD MILLION) 77

6.2 ☐ HEAVY LIQUID METALS ☐ 78

6.2.1∏THERMODYNAMIC PROPERTIES OF HEAVY LIQUID METALS TO SUPPORT MARKET GROWTH∏78

TABLE 16 HEAVY LIQUID METALS: SMALL MODULAR REACTOR MARKET, BY REGION, 2019-2030 (USD MILLION) 78

6.3∏WATER∏78

6.3.1 CAN BE USED AS SUPER-CRITICAL COOLANT IN REACTORS 78

TABLE 17∏WATER: SMALL MODULAR REACTOR MARKET, BY REGION, 2019-2030 (USD MILLION)∏78

6.4□MOLTEN SALTS□79

6.4.1 ⊓HAVE POTENTIAL TO SERVE VARIED HIGH-TEMPERATURE APPLICATIONS □79

TABLE 18  $\square$  MOLTEN SALTS: SMALL MODULAR REACTOR MARKET, BY REGION, 2019-2030 (USD MILLION)  $\square$  79

6.5∏GASES∏79

 $6.5.1 \square OFFER$  IMPROVED EFFICIENCY IN GAS-COOLED REACTOR-RELATED PROCESSES  $\square 79$ 

TABLE 19∏GASES: SMALL MODULAR REACTOR MARKET, BY REGION, 2019-2030 (USD MILLION)∏79

7□SMALL MODULAR REACTOR MARKET, BY TYPE□80

7.1□INTRODUCTION□81

FIGURE 35 SMALL MODULAR REACTOR MARKET, BY TYPE, 2021 (USD MILLION) 81

Scotts International, EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

TABLE 20 SMALL MODULAR REACTOR MARKET, BY TYPE, 2019-2030 (USD MILLION) 81

7.2 HEAVY-WATER REACTORS 82

7.2.1 USE NATURAL AND LOW ENRICHED URANIUM 82

TABLE 21 HEAVY-WATER REACTORS: SMALL MODULAR REACTOR MARKET, BY REGION, 2019-2030 (USD MILLION) 82

7.3 LIGHT-WATER REACTORS 82

7.3.1 □ HAVE HIGH DEGREE OF TECHNOLOGICAL READINESS □ 82

TABLE 22∏LIGHT-WATER REACTORS: SMALL MODULAR REACTOR MARKET, BY REGION, 2019-2030 (USD MILLION)∏83

TABLE 23 LIGHT-WATER REACTOR MARKET, BY SUBTYPE, 2019-2030 (USD MILLION) 83

7.3.2 PRESSURIZED-WATER REACTORS 83

TABLE 24 PRESSURIZED-WATER REACTORS: SMALL MODULAR REACTOR MARKET, BY REGION, 2019-2030 (USD MILLION) 84

7.3.3 BOILING-WATER REACTORS 84

TABLE 25∏BOILING-WATER REACTORS: SMALL MODULAR REACTOR MARKET, BY REGION, 2019-2030 (USD MILLION)∏84

7.4∏HIGH-TEMPERATURE REACTORS∏85

7.4.1 USEFUL IN VARIOUS HIGH-TEMPERATURE INDUSTRIAL APPLICATIONS 185

TABLE 26∏HIGH-TEMPERATURE REACTORS: SMALL MODULAR REACTOR MARKET, BY REGION, 2019-2030 (USD MILLION)∏85

7.5∏FAST-NEUTRON REACTORS∏86

7.5.1 HELP REDUCE NUCLEAR WASTE 86

TABLE 27 FAST NEUTRON REACTORS: SMALL MODULAR REACTOR MARKET, BY REGION, 2019-2030 (USD MILLION) 86

7.5.2 LEAD-COOLED REACTORS 86

7.5.3 LEAD-BISMUTH REACTORS 87

7.5.4 SODIUM-COOLED REACTORS 87

?

7.6 MOLTEN SALT REACTORS 87

7.6.1∏LIKELY TO BE ADOPTED BY COUNTRIES THAT SPEND SIGNIFICANTLY ON NUCLEAR FUEL∏87

TABLE 28 MOLTEN SALT REACTORS: SMALL MODULAR REACTOR MARKET, BY REGION, 2019-2030 (USD MILLION) 88

8 SMALL MODULAR REACTOR MARKET, BY CONNECTIVITY 89

8.1⊓INTRODUCTION□90

FIGURE 36 SMALL MODULAR REACTOR MARKET, BY CONNECTIVITY, 2021 90

TABLE 29 SMALL MODULAR REACTOR MARKET, BY CONNECTIVITY, 2019-2030 (USD MILLION) 90

8.2⊓OFF-GRID⊓91

8.2.1 REQUIREMENT FOR CLEAN, FLEXIBLE, AND RELIABLE POWER GENERATION 91

TABLE 30∏OFF-GRID: SMALL MODULAR REACTOR MARKET, BY REGION, 2019-2030 (USD MILLION)∏91

8.3∏GRID-CONNECTED∏92

8.3.1 | INTEGRATION OF RENEWABLES TO STRENGTHEN MARKET GROWTH | 92

TABLE 31∏GRID-CONNECTED: SMALL MODULAR REACTOR MARKET, BY REGION, 2019-2030 (USD MILLION)∏92

9∏SMALL MODULAR REACTOR MARKET, BY DEPLOYMENT∏93

9.1 INTRODUCTION 94

FIGURE 37 SMALL MODULAR REACTOR MARKET, BY DEPLOYMENT, 2021 94

TABLE 32 SMALL MODULAR REACTOR MARKET, BY DEPLOYMENT, 2019-2030 (USD MILLION) [94

9.2 SINGLE-MODULE POWER PLANT 95

9.2.1 RELATIVE EASE OF LICENSING TO DRIVE MARKET GROWTH 95

TABLE 33  $\square$  SINGLE-MODULE POWER PLANT: SMALL MODULAR REACTOR MARKET, BY REGION, 2019-2030 (USD MILLION)  $\square$  95

9.3∏MULTI-MODULE POWER PLANT∏96

9.3.1∏EASE OF FINANCING ADDITIONAL UNITS OF MULTI-MODULE POWER PLANT TO DRIVE MARKET∏96

TABLE 34[MULTI-MODULE POWER PLANT: SMALL MODULAR REACTOR MARKET, BY REGION, 2019-2030 (USD MILLION)[]96

10 $\square$ SMALL MODULAR REACTOR MARKET, BY LOCATION $\square$ 97

10.1 INTRODUCTION 98

Scotts International, EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

FIGURE 38 SMALL MODULAR REACTOR MARKET, BY LOCATION, 2021 98

TABLE 35 SMALL MODULAR REACTOR MARKET, BY LOCATION, 2019-2030 (USD MILLION) 98

10.2□LAND□99

10.2.1 HIGHER THERMAL EFFICIENCY TO DRIVE MARKET 99

TABLE 36 LAND: SMALL MODULAR REACTOR MARKET, BY REGION, 2019-2030 (USD MILLION) 99

?

10.3 MARINE 100

10.3.1 DEPLOYMENT IN ISLANDS, REMOTE, AND COASTAL REGIONS TO BOOST MARKET GROWTH 100

TABLE 37 MARINE: SMALL MODULAR REACTOR MARKET, BY REGION, 2019-2030 (USD MILLION) 100

11∏SMALL MODULAR REACTOR MARKET, BY APPLICATION∏101

11.1□INTRODUCTION□102

FIGURE 39 SMALL MODULAR REACTOR MARKET: BY APPLICATION, 2021 102

TABLE 38∏SMALL MODULAR REACTOR MARKET, BY APPLICATION, 2019-2030 (USD MILLION)∏102

11.2 POWER GENERATION 103

11.2.1□EASE OF SITING AND OPERATING FLEXIBILITY DRIVE DEMAND FOR SMALL MODULAR REACTORS IN POWER GENERATION APPLICATIONS□103

TABLE 39∏POWER GENERATION: SMALL MODULAR REACTOR MARKET, BY REGION, 2019-2030 (USD MILLION)∏103

11.3 DESALINATION 103

11.3.1 INCREASING DEMAND FOR POTABLE WATER IN ARID AND SEMI-ARID ZONES DRIVES MARKET GROWTH 103

TABLE 40 DESALINATION: SMALL MODULAR REACTOR MARKET, BY REGION, 2019-2030 (USD MILLION) 104

11.4 INDUSTRIAL 104

11.4.1 ANTICIPATED DEPLOYMENT OF SMR IN DIVERSE INDUSTRIAL APPLICATIONS TO BOOST MARKET GROWTH 104

TABLE 41 | INDUSTRIAL: SMALL MODULAR REACTOR MARKET, BY REGION, 2019-2030 (USD MILLION) | 104

TABLE 42 SMALL MODULAR REACTOR MARKET, BY INDUSTRIAL, 2019-2030 (USD MILLION) 105

TABLE 43 PROCESS HEAT: SMALL MODULAR REACTOR MARKET, BY REGION, 2019-2030 (USD MILLION) □105

TABLE 44∏OTHERS: SMALL MODULAR REACTOR MARKET, BY REGION, 2019-2030 (USD MILLION)∏105

11.4.2 PROCESS HEAT □ 106

11.4.3 CAPTIVE ELECTRICITY GENERATION 106

11.4.4 DISTRICT HEATING 106

11.5 ☐ HYDROGEN PRODUCTION ☐ 106

11.5.1 ABILITY TO MAXIMIZE LOAD FACTORS AND POWER PLANT EFFICIENCY TO DRIVE MARKET 106

TABLE 45 HYDROGEN PRODUCTION: SMALL MODULAR REACTOR MARKET, BY REGION, 2019-2030 (USD MILLION) 107

12∏GEOGRAPHIC ANALYSIS∏108

12.1 INTRODUCTION 109

FIGURE 40∏SMALL MODULAR REACTOR MARKET IN ASIA PACIFIC TO REGISTER HIGHEST CAGR FROM 2022 TO 2030∏109

FIGURE 41 SMALL MODULAR REACTOR MARKET SHARE, BY REGION, 2021 (%) 110

TABLE 46∏SMALL MODULAR REACTOR MARKET, BY REGION, 2019-2030 (USD MILLION)∏110

12.2□ASIA PACIFIC□110

FIGURE 42 ASIA PACIFIC: SNAPSHOT OF SMALL MODULAR REACTOR MARKET IN 2021 111

TABLE 47∏ASIA PACIFIC: SMALL MODULAR REACTOR MARKET, BY COOLANT, 2019-2030 (USD MILLION)∏111

TABLE 48□ASIA PACIFIC: SMALL MODULAR REACTOR MARKET, BY TYPE, 2019-2030 (USD MILLION)□112

TABLE 49

ASIA PACIFIC: SMALL MODULAR REACTOR MARKET, BY CONNECTIVITY, 2019-2030 (USD MILLION)

112

TABLE 50∏ASIA PACIFIC: SMALL MODULAR REACTOR MARKET, BY DEPLOYMENT, 2019-2030 (USD MILLION)∏112

TABLE 51∏ASIA PACIFIC: SMALL MODULAR REACTOR MARKET, BY LOCATION, 2019-2030 (USD MILLION)∏112

TABLE 52∏ASIA PACIFIC: SMALL MODULAR REACTOR MARKET, BY APPLICATION, 2019-2030 (USD MILLION)∏113

TABLE 53[ASIA PACIFIC: SMALL MODULAR REACTOR MARKET, BY COUNTRY, 2019-2030 (USD MILLION)[113

Scotts International, EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

```
12.2.1 CHINA 113
12.2.1.1 Deploys SMRs in coastal, island, and offshore areas 113
12.2.2∏APAN∏114
```

TABLE 54∏CHINA: SMALL MODULAR REACTOR MARKET, BY APPLICATION, 2019-2030 (USD MILLION)∏114

12.2.2.1 Integrates renewable energy sources with SMRs 114

TABLE 55∏APAN: SMALL MODULAR REACTOR MARKET, BY APPLICATION, 2019-2030 (USD MILLION)∏115

12.2.3□INDIA□115

12.2.3.1 Witnesses prevailing negative perspective about nuclear power technology 115

TABLE 56□INDIA: SMALL MODULAR REACTOR MARKET, BY APPLICATION, 2019-2030 (USD MILLION)□116

12.2.4∏SOUTH KOREA∏116

12.2.4.1 Develops SMRs for floating power plants 116

TABLE 57 SOUTH KOREA: SMALL MODULAR REACTOR MARKET, BY APPLICATION, 2019-2030 (USD MILLION) 117

12.2.5 ⊓REST OF ASIA PACIFIC ∏117

TABLE 58 REST OF ASIA PACIFIC: SMALL MODULAR REACTOR MARKET, BY APPLICATION, 2019-2030 (USD MILLION) □118 ?

12.3∏EUROPE∏118

FIGURE 43 EUROPE: SMALL MODULAR REACTOR MARKET SNAPSHOT, 2021 119

TABLE 59∏EUROPE: SMALL MODULAR REACTOR MARKET, BY COOLANT, 2019-2030 (USD MILLION)∏119

TABLE 60 EUROPE: SMALL MODULAR REACTOR MARKET, BY TYPE, 2019-2030 (USD MILLION) 120

TABLE 61∏EUROPE: SMALL MODULAR REACTOR MARKET, BY CONNECTIVITY, 2019-2030 (USD MILLION)∏120

TABLE 62 EUROPE: MODULAR REACTOR MARKET, BY DEPLOYMENT, 2019-2030 (USD MILLION) 120

TABLE 63 EUROPE: SMLL MODULAR REACTOR MARKET, BY LOCATION, 2019-2030 (USD MILLION) 120

TABLE 64∏EUROPE: SMALL MODULAR REACTOR MARKET, BY APPLICATION, 2019-2030 (USD MILLION)∏121

TABLE 65∏EUROPE: SMALL MODULAR REACTOR MARKET, BY COUNTRY, 2019-2030 (USD MILLION)∏121

12.3.1 RUSSIA 121

12.3.1.1 Adopts SMRs for power generation in remote areas 121

TABLE 66 TRUSSIA: SMALL MODULAR REACTOR MARKET, BY APPLICATION, 2019-2030 (USD MILLION) 122

12.3.2∏UK∏122

12.3.2.1 Government is keen on investing in SMR programs 122

TABLE 67∏UK: SMALL MODULAR REACTOR MARKET, BY APPLICATION, 2019-2030 (USD MILLION)∏123

12.3.3 | FRANCE | 123

12.3.3.1 Witnesses limited market due to referendum against nuclear power □123

TABLE 68∏FRANCE: SMALL MODULAR REACTOR MARKET, BY APPLICATION, 2019-2030 (USD MILLION)∏124

12.3.4⊓REST OF EUROPE⊓124

TABLE 69 TREST OF EUROPE: SMALL MODULAR REACTOR MARKET, BY APPLICATION, 2019-2030 (USD MILLION) 125

12.4

☐ AMERICAS

☐ 125

TABLE 70∏AMERICAS: SMALL MODULAR REACTOR MARKET, BY COOLANT, 2019-2030 (USD MILLION)∏126

TABLE 71∏AMERICAS: SMALL MODULAR REACTOR MARKET, BY TYPE, 2019-2030 (USD MILLION)∏126

TABLE 72∏AMERICAS: SMALL MODULAR REACTOR MARKET, BY CONNECTIVITY, 2019-2030 (USD MILLION)∏126

TABLE 73∏AMERICAS: SMALL MODULAR REACTOR MARKET, BY DEPLOYMENT, 2019-2030 (USD MILLION)∏127

TABLE 74∏AMERICAS: SMALL MODULAR REACTOR MARKET, BY LOCATION, 2019-2030 (USD MILLION)∏127

TABLE 75 AMERICAS: SMALL MODULAR REACTOR MARKET, BY APPLICATION, 2019-2030 (USD MILLION) 127

TABLE 76∏AMERICAS: SMALL MODULAR REACTOR MARKET, BY COUNTRY, 2019-2030 (USD MILLION)∏127

12.4.1 US 128

12.4.1.1 US government has launched SMR Licensing Technical Support 128

TABLE 77∏US: SMALL MODULAR REACTOR MARKET, BY APPLICATION, 2019-2030 (USD MILLION)∏129

Scotts International, EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

```
12.4.2 CANADA 129
```

12.4.2.1 Witnesses demand from remote locations 129

TABLE 78∏CANADA: SMALL MODULAR REACTOR MARKET, BY APPLICATION, 2019-2030 (USD MILLION)∏130

12.4.3∏ARGENTINA∏130

12.4.3.1 Focused on power generation and desalination 130

TABLE 79∏ARGENTINA: SMALL MODULAR REACTOR MARKET, BY APPLICATION, 2019-2030 (USD MILLION)□131

12.5 MIDDLE EAST & AFRICA 131

TABLE 80 MIDDLE EAST & AFRICA: SMALL MODULAR REACTOR MARKET, BY COOLANT, 2019-2030 (USD MILLION) 131

TABLE 81 MIDDLE EAST & AFRICA: SMALL MODULAR REACTOR MARKET, BY TYPE, 2019-2030 (USD MILLION) 132

TABLE 82 MIDDLE EAST & AFRICA: SMALL MODULAR REACTOR MARKET, BY CONNECTIVITY, 2019-2030 (USD MILLION) 132

TABLE 83[MIDDLE EAST & AFRICA: SMALL MODULAR REACTOR MARKET, BY DEPLOYMENT, 2019-2030 (USD MILLION)[132]

TABLE 84 MIDDLE EAST & AFRICA: SMALL MODULAR REACTOR MARKET, BY LOCATION, 2019-2030 (USD MILLION) 133

TABLE 85 MIDDLE EAST & AFRICA: SMALL MODULAR REACTOR MARKET, BY APPLICATION, 2019-2030 (USD MILLION) 133

TABLE 86∏MIDDLE EAST & AFRICA: SMALL MODULAR REACTOR MARKET, BY COUNTRY, 2019-2030 (USD MILLION)∏133

12.5.1 SAUDI ARABIA 134

12.5.1.1 Keen on reducing dependency on fossil fuels to generate power 134

TABLE 87 SAUDI ARABIA: SMALL MODULAR REACTOR MARKET, BY APPLICATION, 2019-2030 (USD MILLION) 135

12.5.2 SOUTH AFRICA 135

12.5.2.1 Interested in Generation II and III technologies 135

TABLE 88 SOUTH AFRICA: SMALL MODULAR REACTOR MARKET, BY APPLICATION, 2019-2030 (USD MILLION) 136

12.5.3 REST OF MIDDLE EAST & AFRICA 136

TABLE 89 REST OF MIDDLE EAST & AFRICA: SMALL MODULAR REACTOR MARKET, BY APPLICATION, 2019-2030 (USD MILLION) 136

13 COMPETITIVE LANDSCAPE 137

13.1 OVERVIEW 137

FIGURE 44 TKEY DEVELOPMENTS IN SMALL MODULAR REACTOR MARKET, 2018 TO 2022 138

13.2 MARKET EVALUATION FRAMEWORK 139

TABLE 90 MARKET EVALUATION FRAMEWORK, 2018-2022 139

?

13.3 RECENT DEVELOPMENTS 140

 $13.3.1 \square \mathsf{DEALS} \square 140$ 

13.3.1.1 Small modular reactor market: Deals, 2018-2022 140

13.3.2∏OTHERS∏141

13.3.2.1 Small modular reactor market: Others, 2018-2022 141

13.4 COMPETITIVE LEADERSHIP AND MAPPING 142

13.4.1□STARS□142

13.4.2∏EMERGING LEADERS∏142

13.4.3 PERVASIVE PLAYERS 142

13.4.4 PARTICIPANTS 142

FIGURE 45 SMALL MODULAR REACTOR MARKET: COMPETITIVE LEADERSHIP MAPPING, 2021 143

TABLE 91□COMPANY TYPE FOOTPRINT□144

TABLE 92 COMPANY APPLICATION FOOTPRINT 145

TABLE 93 COMPANY REGION FOOTPRINT 146

14 COMPANY PROFILES 148

14.1 KEY PLAYERS 148

(Business overview, Products/solutions/services offered, Recent Developments, MNM view)\*

14.1.1 WESTINGHOUSE ELECTRIC COMPANY LLC 148

TABLE 94 WESTINGHOUSE ELECTRIC COMPANY LLC: BUSINESS OVERVIEW 148

Scotts International, EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

TABLE 95 WESTINGHOUSE ELECTRIC COMPANY LLC: PRODUCTS OFFERED 149

TABLE 96 WESTINGHOUSE ELECTRIC COMPANY LLC: OTHERS 152

14.1.2 NUSCALE POWER, LLC. 154

TABLE 97 NUSCALE POWER, LLC.: BUSINESS OVERVIEW 154
TABLE 98 NUSCALE POWER, LLC.: PRODUCTS OFFERD 154

TABLE 99 NUSCALE POWER, LLC.: DEALS 155
TABLE 100 NUSCALE POWER, LLC.: OTHERS 160

14.1.3 TERRESTRIAL ENERGY INC. 162

TABLE 101 TERRESTRIAL ENERGY INC.: BUSINESS OVERVIEW 162 TABLE 102 TERRESTRIAL ENERGY INC.: PRODUCTS OFFERED 162

TABLE 103[TERRESTRIAL ENERGY INC.: DEALS[]163
TABLE 104[TERRESTRIAL ENERGY INC.: OTHERS[]166

14.1.4 MOLTEX ENERGY 168

TABLE 105 MOLTEX ENERGY: BUSINESS OVERVIEW 168
TABLE 106 MOLTEX ENERGY: PRODUCTS OFFERED 168

TABLE 107 MOLTEX ENERGY: DEALS 169 14.1.5 GE HITACHI NUCLEAR ENERGY 173

TABLE 108 GE HITACHI NUCLEAR ENERGY: BUSINESS OVERVIEW 173
TABLE 109 GE HITACHI NUCLEAR ENERGY: PRODUCTS OFFERED 173

TABLE 110 GE HITACHI NUCLEAR ENERGY: DEALS 174
TABLE 111 GE HITACHI NUCLEAR ENERGY: OTHERS 175

14.1.6 X ENERGY, LLC. 177

TABLE 112 $\square$ X ENERGY, LLC.: BUSINESS OVERVIEW $\square$ 177 TABLE 113 $\square$ X ENERGY, LLC.: PRODUCTS OFFERED $\square$ 177

TABLE 114

X ENERGY, LLC.: DEALS

14.1.7

HOLTEC INTERNATIONAL

180

TABLE 115 HOLTEC INTERNATIONAL: BUSINESS OVERVIEW 180 TABLE 116 HOLTEC INTERNATIONAL: PRODUCTS OFFERED 180

TABLE 117 HOLTEC INTERNATIONAL: DEALS 181

14.1.8 | | GENERAL ATOMICS | | 183

TABLE 118 GENERAL ATOMICS: BUSINESS OVERVIEW 183
TABLE 119 GENERAL ATOMICS: PRODUCTS OFFERED 183

TABLE 120 GENERAL ATOMICS: DEALS 184 14.1.9 ARC CLEAN ENERGY, INC. 186

TABLE 121 ARC CLEAN ENERGY, INC.: BUSINESS OVERVIEW 186 TABLE 122 ARC CLEAN ENERGY, INC.: PRODUCTS OFFERD 186

TABLE 123 ARC CLEAN ENERGY, INC.: DEALS 187
TABLE 124 ARC CLEAN ENERGY, INC.: OTHERS 188

14.1.10 LEADCOLD REACTORS 189

TABLE 125 LEADCOLD REACTORS: BUSINESS OVERVIEW 189 TABLE 126 LEADCOLD REACTORS: PRODUCTS OFFERED 189

TABLE 127 LEADCOLD REACTORS: DEALS 190

14.1.11 ROLLS-ROYCE PLC 191

TABLE 128 ROLLS-ROYCE PLC: BUSINESS OVERVIEW 191
FIGURE 46 ROLLS-ROYCE PLC: COMPANY SNAPSHOT 192
TABLE 129 ROLLS-ROYCE PLC: PRODUCTS OFFERED 192

TABLE 130 ROLLS-ROYCE PLC: DEALS 193

Scotts International, EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

14.1.12 ULTRA SAFE NUCLEAR 195

TABLE 131 ULTRA SAFE NUCLEAR: BUSINESS OVERVIEW 195
TABLE 132 ULTRA SAFE NUCLEAR: PRODUCTS OFFERED 195

TABLE 133 ULTRA SAFE NUCLEAR: DEALS 196
TABLE 134 ULTRA SAFE NUCLEAR: OTHERS 198

14.1.13 TOSHIBA ENERGY SYSTEMS & SOLUTIONS CORPORATION 199

TABLE 135 TOSHIBA ENERGY SYSTEMS & SOLUTIONS CORPORATION: BUSINESS OVERVIEW 199

TABLE 136 TOSHIBA ENERGY SYSTEMS & SOLUTIONS CORPORATION:

PRODUCTS OFFERED[]199

14.1.14 TOKAMAK ENERGY LTD. 201

TABLE 137 TOKAMAK ENERGY LTD.: BUSINESS OVERVIEW 201 TABLE 138 TOKAMAK ENERGY LTD.: PRODUCTS OFFERED 201

TABLE 139 TOKAMAK ENERGY LTD.: DEALS 202

14.1.15 SNC-LAVALIN GROUP 204

TABLE 140 SNC-LAVALIN GROUP: BUSINESS OVERVIEW 204 FIGURE 47 SNC-LAVALIN GROUP: COMPANY SNAPSHOT 205 TABLE 141 SNC-LAVALIN GROUP: PRODUCTS OFFERED 205

TABLE 142 SNC-LAVALIN GROUP: DEALS 206

14.1.16 MOZWELI GROUP 207

TABLE 143 MOZWELI GROUP: BUSINESS OVERVIEW 207

14.2 OTHER PLAYERS 208

14.2.1 AFRIKANTOV OKB MECHANICAL ENGINEERING 208

14.2.2 CHINA NATIONAL NUCLEAR CORPORATION 209

14.2.3 FRAMATOME 209

14.2.4 U-BATTERY 210

14.2.5 | SEABORG TECHNOLOGIES | 210

\*Details on Business overview, Products/solutions/services offered, Recent Developments, MNM view might not be captured in case of unlisted companies.

15 APPENDIX 211

15.1 $\square$ INSIGHTS OF INDUSTRY EXPERTS $\square$ 211

15.2 DISCUSSION GUIDE 212

15.3 KNOWLEDGE STORE: MARKETSANDMARKETS' SUBSCRIPTION PORTAL 215

15.4□CUSTOMIZATION OPTIONS□217

15.5 RELATED REPORTS 217

15.6 AUTHOR DETAILS 218



To place an Order with Scotts International:

Complete the relevant blank fields and sign

**Scotts International. EU Vat number: PL 6772247784** tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

☐ - Print this form

## Small Modular Reactor Market by Reactor (HWR, LWR, HTR, FNR, MSR), Deployment (Single, Multi), Connectivity (Grid, Off-grid), Location (Land, Marine), Application (Power Generation, Desalination, Industrial), Coolant and Region - Global Forecast to 2030

Market Report | 2022-08-22 | 213 pages | MarketsandMarkets

DDED FORM		
RDER FORM:		
elect license	License	Price
	Single User	\$4950.00
	Multi User	\$6650.00
	Corporate License	\$8150.00
	Enterprise Site License	\$10000.00
	VA	Т
	Total	al
lease circle the rele	evant license option. For any questions please contact support@scotts-international.com or 0048 603	394 346.
* VAT will be added	evant license option. For any questions please contact support@scotts-international.com or 0048 603 at 23% for Polish based companies, individuals and EU based companies who are unable to provide  Phone*	
** VAT will be added mail*	at 23% for Polish based companies, individuals and EU based companies who are unable to provide  Phone*	
** VAT will be added mail* rst Name*	at 23% for Polish based companies, individuals and EU based companies who are unable to provide	
* VAT will be added mail* rst Name*	at 23% for Polish based companies, individuals and EU based companies who are unable to provide  Phone*	
** VAT will be added	at 23% for Polish based companies, individuals and EU based companies who are unable to provide  Phone*	

Zip Code*	Country*	
	Date	2025-05-20
	Signature	