

Next-Generation Solar Cell Market by Material Type (Cadmium Telluride (CdTe), Copper Indium Gallium Selenide (CIGS), Amorphous Silicon, Gallium-Arsenide, Others), Installation (On-Grid, Off-Grid), End User and Geography - Global Forecast to 2028

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Abstracts

The next-generation solar cell market is valued at USD 3.0 billion in 2023 and is projected to reach USD 7.4 billion by 2028, growing at a CAGR of 19.5% from 2023 to 2028. The advantages of the next-generation solar cell over traditional solar cells are one of the major drivers in the market. One of the major restraints in the market is intense competition from players providing other renewable resources, including wind power and hydropower.

Copper indium gallium selenides is expected to account for a significant market share during the forecast period

Copper indium gallium selenides (CIGS) solar cells are among the most efficient thin-film PV technologies. CIGS PV cells are manufactured using CIGS by compressing between conductive layers. This material is characterized by its direct band gap, which allows it to absorb a high amount of energy while limiting the transmittance of light. This material can be deposited over substrates such as glass, plastic, steel, and aluminum and is thin enough to allow full-panel flexibility when deposited on a flexible backing. CIGS PV modules have efficiencies exceeding 20% in laboratories. Its solar panels can be installed on roofs and other surfaces because they are more efficient in producing more electricity. They are also cheaper than silicon-based panels.

Commercial & Industrial segments to exhibit significant growth in the next-generation solar cell market during the forecast period

The commercial and industrial sector includes commercial buildings, banks and financial institutes, educational institutions, enterprises, manufacturing plants, hospitals, hospitality buildings, and so on. The lighting and other electricity needs are fulfilled by installing PV systems on the rooftop and open areas. The excess electricity generated can be sold to local electricity companies by transmitting it through local grids (depending on the technical feasibility). PV systems are also used for electrification in various places, such as visitor centers in parks, hunting lodges, park ranger sites, remote farm workshops, vacation cabins, village lighting, highway rest stops, and public beaches. Hybrid PV systems, comprising PV modules and heat extraction units, are mounted together for industrial applications. These systems can also provide electrical and thermal energy simultaneously and achieve a higher energy conversion rate of the absorbed solar radiation than plain photovoltaics. Hence, they are used to generate electricity for commercial and industrial facilities.

US in North America is expected to record the largest market size during the forecast period

The US held the largest share of the North American next-generation solar cell market in 2022 and is expected to register a significant CAGR during the forecast period. The growth of the next-generation solar cell market in the US is driven by factors like an increase in state and federal policies and PV systems adoption programs, among others. Due to constant developments and government funding promoting renewable energy in North America, the next-generation solar cell market can anticipate rising demand from utilities in the region.

The break-up of the profile of primary participants in the Next-generation Solar Cell Market:

By Company Type: Tier 1 – 40 %, Tier 2 – 40%, and Tier 3 – 20%

By Designation: C-Level Executives –40%, Directors- 40%, and Others – 20%

By Region: North America– 40%, Asia Pacific – 30%, Europe- 20%, and RoW – 10%

The report profiles key players in the next-generation solar cell market and analyzes their market shares. Players profiled in this report are First Solar (US), Hanwha Q

CELLS (South Korea), Ascent Solar Technologies (US), Oxford PV (UK), Kaneka Solar Energy (Japan), Flisom (Switzerland), Solatron (US), Mitsubishi Chemical Group (Japan), MiaSole (US), and Hanergy thin film power group (China), Heliatek (Germany), Polysolar Technology (US), NanoPV technologies(US), 3D-Micromac(Germany), Suntech Power Holdings (China), Sharp Corporation(Japan), Trina Solar (China), Panasonic Corporation(Japan), Sol Voltaics(Sweden), Geo Green Power(England), Jinko Solar(China), Canadian Solar(Canada), Sunpower Corporation(US), Yingli Solar(China), REC Group(Norway)

Research Coverage

The report defines, describes, and forecasts the next-generation solar cell market based on material type, installation, end-user industry, and region. It provides detailed information regarding drivers, restraints, opportunities, and challenges influencing the growth of the next-generation solar cell market. It also analyzes competitive developments such as product launches, acquisitions, expansions, contracts, partnerships, and actions carried out by the key players to grow in the market.

Reasons to Buy This Report

The report will help the market leaders/new entrants in this market with information on the closest approximations of the revenue numbers for the overall next-generation solar cell market and the subsegments. This report will help stakeholders understand the competitive landscape and gain more insights to position their businesses better and to plan suitable go-to-market strategies. The report also helps stakeholders understand the pulse of the market and provides them with information on key market drivers, restraints, challenges, and opportunities.

The report will help leaders/new entrants in the next-generation solar cell market in the following ways:

1. The report segments the next-generation solar cell market comprehensively and provides the closest market size estimation for all subsegments across regions.
2. The report will help stakeholders understand the pulse of the market and provide them with information on key drivers, restraints, challenges, and opportunities in the d next-generation solar cell market.
3. The report will help stakeholders understand their competitors better and gain insights to improve their position in the next-generation solar cell market. The competitive landscape section describes the competitor ecosystem.

4. Detailed insights on upcoming technologies, research & development activities, and new product & service launches in the next-generation solar cell market
5. In-depth assessment of market shares, growth strategies and product offerings of leading players like First Solar (US), Hanwha Q CELLS (South Korea), Ascent Solar Technologies (US), Oxford PV (UK), Kaneka Solar Energy (Japan), among others.

Contents

1 INTRODUCTION

1.1 STUDY OBJECTIVES

1.2 MARKET DEFINITION

1.3 STUDY SCOPE

1.3.1 MARKETS COVERED

FIGURE 1 NEXT-GENERATION SOLAR CELL MARKET

1.4 INCLUSIONS AND EXCLUSIONS

1.4.1 REGIONAL SCOPE

1.4.2 YEARS CONSIDERED

1.5 CURRENCY CONSIDERED

1.6 STAKEHOLDERS

1.7 RECESSION IMPACT

2 RESEARCH METHODOLOGY

2.1 RESEARCH DATA

FIGURE 2 PROCESS FLOW: NEXT-GENERATION SOLAR CELL MARKET SIZE ESTIMATION

FIGURE 3 NEXT-GENERATION SOLAR CELL MARKET: RESEARCH DESIGN

2.1.1 SECONDARY AND PRIMARY RESEARCH

2.1.2 SECONDARY DATA

2.1.2.1 Secondary sources

2.1.2.2 List of key secondary sources

2.1.3 PRIMARY DATA

2.1.3.1 Primary sources

2.1.3.2 Key industry insights

2.1.3.3 Primary interviews with experts

2.1.3.4 Breakdown of primaries

2.2 MARKET SIZE ESTIMATION

2.2.1 BOTTOM-UP APPROACH

2.2.1.1 Approach to arrive at market size using bottom-up analysis

FIGURE 4 NEXT-GENERATION SOLAR CELL MARKET: BOTTOM-UP APPROACH

2.2.2 TOP-DOWN APPROACH

2.2.2.1 Approach to arrive at market size using top-down analysis

FIGURE 5 NEXT-GENERATION SOLAR CELL MARKET: TOP-DOWN APPROACH

2.3 DATA TRIANGULATION

FIGURE 6 DATA TRIANGULATION

2.4 RESEARCH ASSUMPTIONS

FIGURE 7 RESEARCH STUDY ASSUMPTIONS

2.5 PARAMETERS CONSIDERED TO ANALYZE IMPACT OF RECESSION ON NEXT-GENERATION SOLAR CELL MARKET

2.6 RISK ASSESSMENT

TABLE 1 ANALYSIS OF RISK FACTORS

3 EXECUTIVE SUMMARY

3.1 NEXT-GENERATION SOLAR CELL MARKET: RECESSION IMPACT

FIGURE 8 RECESSION IMPACT: GDP GROWTH PROJECTION TILL 2023 FOR MAJOR ECONOMIES

FIGURE 9 RECESSION IMPACT ON NEXT-GENERATION SOLAR CELL MARKET, 2019–2028 (USD MILLION)

FIGURE 10 CADMIUM TELLURIDE SEGMENT TO HOLD LARGEST SHARE OF NEXT-GENERATION SOLAR CELL MARKET THROUGHOUT FORECAST PERIOD

FIGURE 11 UTILITIES SEGMENT TO CAPTURE LARGEST MARKET SHARE THROUGHOUT FORECAST PERIOD

FIGURE 12 ASIA PACIFIC HELD LARGEST SIZE OF NEXT-GENERATION SOLAR CELL MARKET IN 2022

4 PREMIUM INSIGHTS

4.1 ATTRACTIVE OPPORTUNITIES FOR PLAYERS IN NEXT-GENERATION SOLAR CELL MARKET

FIGURE 13 NEXT-GENERATION SOLAR CELL MARKET TO GROW AT SIGNIFICANT RATE OWING TO INCREASING DEMAND FROM UTILITIES

4.2 NEXT-GENERATION SOLAR CELL MARKET, BY MATERIAL TYPE

FIGURE 14 CADMIUM TELLURIDE TO ACCOUNT FOR LARGEST SHARE OF NEXT-GENERATION SOLAR CELL MARKET, BY MATERIAL, IN 2028

4.3 NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY

FIGURE 15 UTILITIES HELD LARGEST MARKET SHARE IN 2022

4.4 NEXT-GENERATION SOLAR CELL MARKET, BY COUNTRY

FIGURE 16 NEXT-GENERATION SOLAR CELL MARKET IN MEXICO TO GROW AT HIGHEST CAGR DURING FORECAST PERIOD

5 MARKET OVERVIEW

5.1 INTRODUCTION

5.2 MARKET DYNAMICS

FIGURE 17 NEXT-GENERATION SOLAR CELL MARKET: DRIVERS, RESTRAINTS, OPPORTUNITIES, AND CHALLENGES

5.2.1 DRIVERS

5.2.1.1 Advancements in next-generation solar cell technology

5.2.1.2 Advantages of next-generation over traditional solar cells

5.2.1.3 Government initiatives in solar PV projects

5.2.1.4 Increasing demand for solar cells in residential and commercial sectors

FIGURE 18 IMPACT OF DRIVERS ON NEXT-GENERATION SOLAR CELL MARKET

5.2.2 RESTRAINTS

5.2.2.1 High installation costs and requirement for skilled workforce

5.2.2.2 Intense competition from players providing other renewable resources, including wind power and hydropower

FIGURE 19 IMPACT OF RESTRAINTS ON NEXT-GENERATION SOLAR CELL MARKET

5.2.3 OPPORTUNITIES

5.2.3.1 Surging demand for renewable energy

FIGURE 20 IMPACT OF OPPORTUNITIES ON NEXT-GENERATION SOLAR CELL MARKET

5.2.4 CHALLENGES

5.2.4.1 Supply chain challenges in next-generation solar cell technologies

FIGURE 21 IMPACT OF CHALLENGES ON NEXT-GENERATION SOLAR CELL MARKET

5.3 VALUE CHAIN ANALYSIS

FIGURE 22 SOLAR CELL VALUE CHAIN ANALYSIS

5.4 CASE STUDY ANALYSIS

5.4.1 SUNPOWER MANUFACTURES HIGH-EFFICIENCY SOLAR PANELS FOR CUSTOMERS WITH LIMITED BUDGETS

5.4.2 HANWHA Q CELLS HELPS COPENHAGEN ZOO IMPLEMENT C&I ROOFTOP SYSTEM TO MEET SUSTAINABILITY GOAL

5.4.3 SHARP HELPS BIG C SUPERMARKET (THAILAND) INSTALL ROOFTOP SOLAR PANELS

5.4.4 SHARP INSTALLS ROOFTOP SOLAR PANELS FOR HEWLETT PACKARD (HP) TO MINIMIZE CARBON FOOTPRINT

5.4.5 TATA POWER SOLAR COMMISSIONS 3 MW SOLAR PV POWER PLANT IN IRON ORE MINE AT NOAMUNDI

5.5 TECHNOLOGY ANALYSIS

TABLE 2 TECHNOLOGIES IN SOLAR CELL ECOSYSTEM

5.6 PORTER'S FIVE FORCES ANALYSIS

TABLE 3 NEXT-GENERATION SOLAR CELL MARKET: PORTER'S FIVE FORCES ANALYSIS

5.6.1 THREAT OF NEW ENTRANTS

5.6.2 THREAT OF SUBSTITUTES

5.6.3 BARGAINING POWER OF SUPPLIERS

5.6.4 BARGAINING POWER OF BUYERS

5.6.5 INTENSITY OF COMPETITIVE RIVALRY

5.7 ECOSYSTEM/MARKET MAP

TABLE 4 PLAYERS AND THEIR ROLE IN ECOSYSTEM

5.8 PATENT ANALYSIS

FIGURE 23 TOP 10 COMPANIES WITH HIGHEST NUMBER OF PATENT APPLICATIONS IN LAST 10 YEARS

TABLE 5 TOP 20 PATENT OWNERS IN US IN LAST 10 YEARS

FIGURE 24 NUMBER OF PATENTS GRANTED EVERY YEAR, 2012–2022

TABLE 6 LIST OF PATENTS

5.9 TRADE ANALYSIS

5.9.1 IMPORT SCENARIO

FIGURE 25 IMPORT DATA FOR HS CODE 854140, BY COUNTRY, 2018–2021

TABLE 7 IMPORT DATA, BY COUNTRY, 2018–2021 (USD THOUSAND)

5.9.2 EXPORT SCENARIO

FIGURE 26 EXPORT DATA FOR HS CODE 854140, BY COUNTRY, 2018–2021

TABLE 8 EXPORT DATA, BY COUNTRY, 2018–2021 (USD THOUSAND)

5.10 REGULATORY LANDSCAPE AND STANDARDS

5.10.1 REGULATORY COMPLIANCE

5.10.1.1 Regulations

5.10.1.2 Standards

TABLE 9 NORTH AMERICA: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

TABLE 10 EUROPE: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

TABLE 11 ASIA PACIFIC: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

TABLE 12 ROW: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

5.11 TRENDS/DISRUPTIONS IMPACTING BUSINESS OF MARKET PLAYERS AND RAW MATERIAL SUPPLIERS

5.11.1 REVENUE SHIFT AND NEW REVENUE POCKETS FOR NEXT-GENERATION SOLAR CELL MARKET PLAYERS

FIGURE 27 REVENUE SHIFT AND NEW REVENUE POCKETS IN NEXT-GENERATION SOLAR CELL MARKET

5.12 KEY STAKEHOLDERS AND BUYING CRITERIA

5.12.1 KEY STAKEHOLDERS IN BUYING PROCESS

TABLE 13 INFLUENCE OF STAKEHOLDERS ON BUYING PROCESS FOR TOP 3 END-USER INDUSTRY (%)

5.13 PRICING ANALYSIS

TABLE 14 AVERAGE SELLING PRICE OF PHOTOVOLTAIC MODULES, 2022

TABLE 15 AVERAGE SELLING PRICE OF PV SYSTEMS, BY END-USER INDUSTRY

5.13.1 AVERAGE SELLING PRICE OF PV MODULES OFFERED BY MARKET PLAYERS

FIGURE 28 AVERAGE SELLING PRICE OF PV MODULES OFFERED BY KEY PLAYERS, BY END-USER INDUSTRY

TABLE 16 AVERAGE SELLING PRICE OF PV MODULES OFFERED BY KEY PLAYERS, BY END-USER INDUSTRY (USD/WATT)

5.13.2 BUYING CRITERIA

FIGURE 29 KEY BUYING CRITERIA FOR TOP 3 END-USER INDUSTRY

TABLE 17 KEY BUYING CRITERIA FOR TOP 3 END-USER INDUSTRIES

TABLE 18 NEXT-GENERATION SOLAR CELL MARKET: LIST OF CONFERENCES AND EVENTS

6 INSTALLATION TYPES OF NEXT-GENERATION SOLAR CELLS

6.1 INTRODUCTION

FIGURE 30 INSTALLATION TYPES OF NEXT-GENERATION SOLAR CELLS

6.2 ON-GRID

6.2.1 FOCUS ON REDUCING TRANSMISSION LOSSES AND STRAIN ON GRIDS TO INCREASE DEMAND FOR ON-GRID SOLAR CELLS

6.3 OFF-GRID

6.3.1 GROWING USE OF OFF-GRID SOLAR SYSTEMS IN REMOTE AREAS, CABINS, BOATS, AND RVS TO DRIVE DEMAND

7 NEXT-GENERATION SOLAR CELL MARKET, BY MATERIAL TYPE

7.1 INTRODUCTION

FIGURE 31 NEXT-GENERATION SOLAR CELL MARKET, BY MATERIAL TYPE

FIGURE 32 CADMIUM TELLURIDE-BASED SOLAR CELLS TO HOLD LARGEST MARKET SHARE IN 2023

TABLE 19 NEXT-GENERATION SOLAR CELL MARKET, BY MATERIAL TYPE,

2019–2022 (USD MILLION)

TABLE 20 NEXT-GENERATION SOLAR CELL MARKET, BY MATERIAL TYPE,
2023–2028 (USD MILLION)

7.2 AMORPHOUS SILICON (A-SI)

7.2.1 BETTER PERFORMANCE OF A-SI IN LOW-LIGHT CONDITIONS TO BOOST
ITS DEMAND

TABLE 21 AMORPHOUS SILICON (A-SI): NEXT-GENERATION SOLAR CELL
MARKET, BY REGION, 2019–2022 (USD MILLION)

TABLE 22 AMORPHOUS SILICON (A-SI): NEXT-GENERATION SOLAR CELL
MARKET, BY REGION, 2023–2028 (USD MILLION)

TABLE 23 AMORPHOUS SILICON (A-SI): NEXT-GENERATION SOLAR CELL
MARKET, BY END-USER INDUSTRY, 2019–2022 (USD MILLION)

TABLE 24 AMORPHOUS SILICON (A-SI): NEXT-GENERATION SOLAR CELL
MARKET, BY END-USER INDUSTRY, 2023–2028 (USD MILLION)

7.2.2 COPPER INDIUM GALLIUM SELENIDE (CIGS)

7.2.2.1 High demand for lightweight and flexible solar modules for rooftops and
portable electronics to fuel segmental growth

TABLE 25 COPPER INDIUM GALLIUM SELENIDE (CIGS): NEXT-GENERATION
SOLAR CELL MARKET, BY REGION, 2019–2022 (USD MILLION)

TABLE 26 COPPER INDIUM GALLIUM SELENIDE (CIGS): NEXT-GENERATION
SOLAR CELL MARKET, BY REGION, 2023–2028 (USD MILLION)

TABLE 27 COPPER INDIUM GALLIUM SELENIDE (CIGS): NEXT-GENERATION
SOLAR CELL MARKET, BY END-USER INDUSTRY, 2019–2022 (USD MILLION)

TABLE 28 COPPER INDIUM GALLIUM SELENIDE (CIGS): NEXT-GENERATION
SOLAR CELL MARKET, BY END-USER INDUSTRY, 2023–2028 (USD MILLION)

7.2.3 CADMIUM TELLURIDE (CDTE)

7.2.3.1 Low manufacturing cost of CdTe solar modules to propel market

TABLE 29 CADMIUM TELLURIDE (CDTE): NEXT-GENERATION SOLAR CELL
MARKET, BY REGION, 2019–2022 (USD MILLION)

TABLE 30 CADMIUM TELLURIDE (CDTE): NEXT-GENERATION SOLAR CELL
MARKET, BY REGION, 2023–2028 (USD MILLION)

TABLE 31 CADMIUM TELLURIDE (CDTE): NEXT-GENERATION SOLAR CELL
MARKET, BY END-USER INDUSTRY, 2019–2022 (USD MILLION)

TABLE 32 CADMIUM TELLURIDE (CDTE): NEXT-GENERATION SOLAR CELL
MARKET, BY END-USER INDUSTRY, 2023–2028 (USD MILLION)

7.2.4 GALLIUM ARSENIDE

7.2.4.1 High resistance, flexibility, and stability of GaAs PV cells at higher
temperatures to fuel segmental growth

TABLE 33 GALLIUM ARSENIDE (GAAS): NEXT-GENERATION SOLAR CELL

MARKET, BY REGION, 2019–2022 (USD MILLION)

TABLE 34 GALLIUM ARSENIDE (GAAS): NEXT-GENERATION SOLAR CELL

MARKET, BY REGION, 2023–2028 (USD MILLION)

TABLE 35 GALLIUM ARSENIDE (GAAS): NEXT-GENERATION SOLAR CELL

MARKET, BY END-USER INDUSTRY, 2019–2022 (USD MILLION)

TABLE 36 GALLIUM ARSENIDE (GAAS): NEXT-GENERATION SOLAR CELL

MARKET, BY END-USER INDUSTRY, 2023–2028 (USD MILLION)

7.2.5 OTHER MATERIALS

7.2.5.1 Perovskite

7.2.5.2 Dye-synthesized

7.2.5.3 Organic

TABLE 37 OTHER MATERIALS: NEXT-GENERATION SOLAR CELL MARKET, BY REGION, 2019–2022 (USD MILLION)

TABLE 38 OTHER MATERIALS: NEXT-GENERATION SOLAR CELL MARKET, BY REGION, 2023–2028 (USD MILLION)

TABLE 39 OTHER MATERIALS: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY, 2019–2022 (USD MILLION)

TABLE 40 OTHER MATERIALS: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY, 2023–2028 (USD MILLION)

8 NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY

8.1 INTRODUCTION

FIGURE 33 NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY

FIGURE 34 RESIDENTIAL SEGMENT TO EXHIBIT HIGHEST CAGR IN NEXT-GENERATION SOLAR CELL MARKET DURING FORECAST PERIOD

TABLE 41 NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY, 2019–2022 (USD MILLION)

TABLE 42 NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY, 2023–2028 (USD MILLION)

8.2 RESIDENTIAL

8.2.1 GOVERNMENT SUBSIDIES TO BOOST ADOPTION OF SOLAR CELLS IN RESIDENTIAL APPLICATIONS

TABLE 43 RESIDENTIAL: NEXT-GENERATION SOLAR CELL MARKET, BY REGION, 2019–2022 (USD MILLION)

TABLE 44 RESIDENTIAL: NEXT-GENERATION SOLAR CELL MARKET, BY REGION, 2023–2028 (USD MILLION)

TABLE 45 RESIDENTIAL: NEXT-GENERATION SOLAR CELL MARKET, BY MATERIAL TYPE, 2019–2022 (USD MILLION)

TABLE 46 RESIDENTIAL: NEXT-GENERATION SOLAR CELL MARKET, BY MATERIAL TYPE, 2023–2028 (USD MILLION)

8.3 COMMERCIAL & INDUSTRIAL

8.3.1 ENVIRONMENTAL, ECONOMIC, AND TAX BENEFITS TO SUPPORT MARKET GROWTH FOR COMMERCIAL & INDUSTRIAL APPLICATIONS

TABLE 47 COMMERCIAL & INDUSTRIAL: NEXT-GENERATION SOLAR CELL MARKET, BY REGION, 2019–2022 (USD MILLION)

TABLE 48 COMMERCIAL & INDUSTRIAL: NEXT-GENERATION SOLAR CELL MARKET, BY REGION, 2023–2028 (USD MILLION)

TABLE 49 COMMERCIAL & INDUSTRIAL: NEXT-GENERATION SOLAR CELL MARKET, BY MATERIAL TYPE, 2019–2022 (USD MILLION)

TABLE 50 COMMERCIAL & INDUSTRIAL: NEXT-GENERATION SOLAR CELL MARKET, BY MATERIAL TYPE, 2023–2028 (USD MILLION)

8.4 UTILITIES

8.4.1 NEED FOR RELIABLE AND CONSISTENT SOURCE OF ELECTRICITY BY UTILITIES TO DRIVE MARKET

FIGURE 35 OTHER MATERIALS SEGMENT TO WITNESS HIGHEST CAGR IN NEXT-GENERATION SOLAR CELL MARKET FOR UTILITIES DURING FORECAST PERIOD

TABLE 51 UTILITIES: NEXT-GENERATION SOLAR CELL MARKET, BY MATERIAL TYPE, 2019–2022 (USD MILLION)

TABLE 52 UTILITIES: NEXT-GENERATION SOLAR CELL MARKET, BY MATERIAL TYPE, 2023–2028 (USD MILLION)

TABLE 53 UTILITIES: NEXT-GENERATION SOLAR CELL MARKET, BY REGION, 2019–2022 (USD MILLION)

TABLE 54 UTILITIES: NEXT-GENERATION SOLAR CELL MARKET, BY REGION, 2023–2028 (USD MILLION)

8.5 OTHER END-USER INDUSTRIES

TABLE 55 OTHER END-USER INDUSTRIES: NEXT-GENERATION SOLAR CELL MARKET, BY REGION, 2019–2022 (USD MILLION)

TABLE 56 OTHER END-USER INDUSTRIES: NEXT-GENERATION SOLAR CELL MARKET, BY REGION, 2023–2028 (USD MILLION)

TABLE 57 OTHER END-USER INDUSTRIES: NEXT-GENERATION SOLAR CELL MARKET, BY MATERIAL TYPE, 2019–2022 (USD MILLION)

TABLE 58 OTHER END-USER INDUSTRIES: NEXT-GENERATION SOLAR CELL MARKET, BY MATERIAL TYPE, 2023–2028 (USD MILLION)

9 NEXT-GENERATION SOLAR CELL MARKET, BY GEOGRAPHY

9.1 INTRODUCTION

Next-Generation Solar Cell Market by Material Type (Cadmium Telluride (CdTe), Copper Indium Gallium Selenide (...)

FIGURE 36 NEXT-GENERATION SOLAR CELL MARKET, BY REGION**TABLE 59 NEXT-GENERATION SOLAR CELL MARKET, BY REGION, 2019–2022
(USD MILLION)****TABLE 60 NEXT-GENERATION SOLAR CELL MARKET, BY REGION, 2023–2028
(USD MILLION)****9.2 NORTH AMERICA****FIGURE 37 NORTH AMERICA: SNAPSHOT OF NEXT-GENERATION SOLAR CELL
MARKET****TABLE 61 NORTH AMERICA: NEXT-GENERATION SOLAR CELL MARKET, BY END-
USER INDUSTRY, 2019–2022 (USD MILLION)****TABLE 62 NORTH AMERICA: NEXT-GENERATION SOLAR CELL MARKET, BY END-
USER INDUSTRY, 2023–2028 (USD MILLION)****TABLE 63 NORTH AMERICA: NEXT-GENERATION SOLAR CELL MARKET, BY
MATERIAL TYPE, 2019–2022 (USD MILLION)****TABLE 64 NORTH AMERICA: NEXT-GENERATION SOLAR CELL MARKET, BY
MATERIAL TYPE, 2023–2028 (USD MILLION)****TABLE 65 NORTH AMERICA: NEXT-GENERATION SOLAR CELL MARKET, BY
COUNTRY, 2019–2022 (USD MILLION)****TABLE 66 NORTH AMERICA: NEXT-GENERATION SOLAR CELL MARKET, BY
COUNTRY, 2023–2028 (USD MILLION)****9.2.1 US****9.2.1.1 Rise in state and federal policies and programs to boost adoption of PV
modules****TABLE 67 US: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER
INDUSTRY, 2019–2022 (USD MILLION)****TABLE 68 US: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER
INDUSTRY, 2023–2028 (USD MILLION)****9.2.2 CANADA****9.2.2.1 Abundance of solar energy resources and large areas for installations to drive
market****TABLE 69 CANADA: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER
INDUSTRY, 2019–2022 (USD MILLION)****TABLE 70 CANADA: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER
INDUSTRY, 2023–2028 (USD MILLION)****9.2.3 MEXICO****9.2.3.1 Booming solar industry to boost demand for next-generation solar cells**
**TABLE 71 MEXICO: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER
INDUSTRY, 2019–2022 (USD MILLION)****TABLE 72 MEXICO: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER**

INDUSTRY, 2023–2028 (USD MILLION)

9.2.4 IMPACT OF RECESSION ON NEXT-GENERATION SOLAR CELL MARKET IN NORTH AMERICA

9.3 EUROPE

FIGURE 38 EUROPE: SNAPSHOT OF NEXT-GENERATION SOLAR CELL MARKET

TABLE 73 EUROPE: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY, 2019–2022 (USD MILLION)

TABLE 74 EUROPE: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY, 2023–2028 (USD MILLION)

TABLE 75 EUROPE: NEXT-GENERATION SOLAR CELL MARKET, BY MATERIAL TYPE, 2019–2022 (USD MILLION)

TABLE 76 EUROPE: NEXT-GENERATION SOLAR CELL MARKET, BY MATERIAL TYPE, 2023–2028 (USD MILLION)

TABLE 77 EUROPE: NEXT-GENERATION SOLAR CELL MARKET, BY COUNTRY, 2019–2022 (USD MILLION)

TABLE 78 EUROPE: NEXT-GENERATION SOLAR CELL MARKET, BY COUNTRY, 2023–2028 (USD MILLION)

9.3.1 GERMANY

9.3.1.1 Growing adoption of PV systems to propel market

TABLE 79 GERMANY: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY, 2019–2022 (USD MILLION)

TABLE 80 GERMANY: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY, 2023–2028 (USD MILLION)

9.3.2 UK

9.3.2.1 Increasing installation of PV systems to harness solar resources to foster market growth

TABLE 81 UK: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY, 2019–2022 (USD MILLION)

TABLE 82 UK: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY, 2023–2028 (USD MILLION)

9.3.3 FRANCE

9.3.3.1 Collaboration between solar technology providers and government to boost PV installation capacity

TABLE 83 FRANCE: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY, 2019–2022 (USD MILLION)

TABLE 84 FRANCE: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY, 2023–2028 (USD MILLION)

9.3.4 ITALY

9.3.4.1 Rising investments in R&D of solar energy

TABLE 85 ITALY: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY, 2019–2022 (USD MILLION)

TABLE 86 ITALY: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY, 2023–2028 (USD MILLION)

9.3.5 REST OF EUROPE

TABLE 87 REST OF EUROPE: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY, 2019–2022 (USD MILLION)

TABLE 88 REST OF EUROPE: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY, 2023–2028 (USD MILLION)

9.3.6 IMPACT OF RECESSION ON NEXT-GENERATION SOLAR CELL MARKET IN EUROPE

9.4 ASIA PACIFIC

FIGURE 39 ASIA PACIFIC: SNAPSHOT OF NEXT-GENERATION SOLAR CELL MARKET

TABLE 89 ASIA PACIFIC: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY, 2019–2022 (USD MILLION)

TABLE 90 ASIA PACIFIC: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY, 2023–2028 (USD MILLION)

TABLE 91 ASIA PACIFIC: NEXT-GENERATION SOLAR CELL MARKET, BY MATERIAL TYPE, 2019–2022 (USD MILLION)

TABLE 92 ASIA PACIFIC: NEXT-GENERATION SOLAR CELL MARKET, BY MATERIAL TYPE, 2023–2028 (USD MILLION)

TABLE 93 ASIA PACIFIC: NEXT-GENERATION SOLAR CELL MARKET, BY COUNTRY, 2019–2022 (USD MILLION)

TABLE 94 ASIA PACIFIC: NEXT-GENERATION SOLAR CELL MARKET, BY COUNTRY, 2023–2028 (USD MILLION)

9.4.1 CHINA

9.4.1.1 Rapid expansion of solar industry to boost demand for next-generation solar cells

TABLE 95 CHINA: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY, 2019–2022 (USD MILLION)

TABLE 96 CHINA: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY, 2023–2028 (USD MILLION)

9.4.2 JAPAN

9.4.2.1 Large presence of floating PV plants to fuel market

TABLE 97 JAPAN: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY, 2019–2022 (USD MILLION)

TABLE 98 JAPAN: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY, 2023–2028 (USD MILLION)

9.4.3 INDIA

9.4.3.1 Government-led developments in next-generation solar cells to accelerate market growth

TABLE 99 INDIA: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY, 2019–2022 (USD MILLION)

TABLE 100 INDIA: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY, 2023–2028 (USD MILLION)

9.4.4 SOUTH KOREA

9.4.4.1 Focus on powering every public building with solar energy to boost demand for solar cells

TABLE 101 SOUTH KOREA: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY, 2019–2022 (USD MILLION)

TABLE 102 SOUTH KOREA: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY, 2023–2028 (USD MILLION)

9.4.5 REST OF ASIA PACIFIC

TABLE 103 REST OF ASIA PACIFIC: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY, 2019–2022 (USD MILLION)

TABLE 104 REST OF ASIA PACIFIC: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY, 2023–2028 (USD MILLION)

9.4.6 IMPACT OF RECESSION ON NEXT-GENERATION SOLAR CELL MARKET IN ASIA PACIFIC

9.5 ROW

TABLE 105 ROW: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY, 2019–2022 (USD MILLION)

TABLE 106 ROW: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY, 2023–2028 (USD MILLION)

TABLE 107 ROW: NEXT-GENERATION SOLAR CELL MARKET, BY MATERIAL TYPE, 2019–2022 (USD MILLION)

TABLE 108 ROW: NEXT-GENERATION SOLAR CELL MARKET, BY MATERIAL TYPE, 2023–2028 (USD MILLION)

TABLE 109 ROW: NEXT-GENERATION SOLAR CELL MARKET, BY REGION, 2019–2022 (USD MILLION)

TABLE 110 ROW: NEXT-GENERATION SOLAR CELL MARKET, BY REGION, 2023–2028 (USD MILLION)

9.5.1 SOUTH AMERICA

9.5.1.1 R&D on perovskite solar cells to contribute to next-generation solar cell market growth

TABLE 111 SOUTH AMERICA: NEXT-GENERATION SOLAR CELL MARKET, BY END-USER INDUSTRY, 2019–2022 (USD MILLION)

TABLE 112 SOUTH AMERICA: NEXT-GENERATION SOLAR CELL MARKET, BY
END-USER INDUSTRY, 2023–2028 (USD MILLION)

9.5.2 MIDDLE EAST & AFRICA

9.5.2.1 Increasing adoption of PV technology to support market growth

TABLE 113 MIDDLE EAST & AFRICA: NEXT-GENERATION SOLAR CELL MARKET,
BY END-USER INDUSTRY, 2019–2022 (USD MILLION)

TABLE 114 MIDDLE EAST & AFRICA: NEXT-GENERATION SOLAR CELL MARKET,
BY END-USER INDUSTRY, 2023–2028 (USD MILLION)

9.5.3 IMPACT OF RECESSION ON NEXT-GENERATION SOLAR CELL MARKET IN
ROW

10 COMPETITIVE LANDSCAPE

10.1 INTRODUCTION

10.2 OVERVIEW

10.3 KEY PLAYER STRATEGIES/RIGHT TO WIN

TABLE 115 OVERVIEW OF STRATEGIES DEPLOYED BY KEY NEXT-GENERATION
SOLAR CELL MANUFACTURERS

10.4 NEXT-GENERATION SOLAR CELL MARKET SHARE ANALYSIS, 2022

FIGURE 40 NEXT-GENERATION SOLAR CELL MARKET SHARE ANALYSIS, 2022

TABLE 116 DEGREE OF COMPETITION, 2022

TABLE 117 NEXT-GENERATION SOLAR CELL MARKET: RANKING ANALYSIS

10.5 THREE-YEAR COMPANY REVENUE ANALYSIS

FIGURE 41 THREE-YEAR REVENUE ANALYSIS OF TOP PLAYERS IN NEXT-
GENERATION SOLAR CELL MARKET

10.6 COMPANY EVALUATION QUADRANT

10.6.1 STARS

10.6.2 EMERGING LEADERS

10.6.3 PERVASIVE PLAYERS

10.6.4 PARTICIPANTS

FIGURE 42 NEXT-GENERATION SOLAR CELL MARKET: COMPANY EVALUATION
QUADRANT, 2022

10.6.5 COMPETITIVE BENCHMARKING

TABLE 118 OVERALL COMPANY FOOTPRINT

TABLE 119 COMPANY MATERIAL TYPE FOOTPRINT

TABLE 120 COMPANY END-USER INDUSTRY FOOTPRINT

TABLE 121 COMPANY REGION FOOTPRINT

10.7 NEXT-GENERATION SOLAR CELL STARTUPS/SMES QUADRANT

10.7.1 PROGRESSIVE COMPANIES

10.7.2 RESPONSIVE COMPANIES

10.7.3 DYNAMIC COMPANIES

10.7.4 STARTING BLOCKS

FIGURE 43 NEXT-GENERATION SOLAR CELL MARKET: STARTUPS/SMES
EVALUATION MATRIX, 2022

10.8 COMPETITIVE SCENARIOS AND TRENDS

10.8.1 PRODUCT LAUNCHES

TABLE 122 NEXT-GENERATION SOLAR CELL MARKET: PRODUCT LAUNCHES,
JANUARY 2019–MARCH 2023

10.8.2 DEALS

TABLE 123 NEXT-GENERATION SOLAR CELL MARKET: DEALS, JANUARY
2019–MARCH 2023

11 COMPANY PROFILES

(Business Overview, Products/Solutions/Services Offered, Recent Developments, MnM view (Key strengths/Right to win, Strategic choices made, Weakness/competitive threats)*

11.1 KEY COMPANIES

11.1.1 FIRST SOLAR

TABLE 124 FIRST SOLAR: BUSINESS OVERVIEW

FIGURE 44 FIRST SOLAR: COMPANY SNAPSHOT

TABLE 125 FIRST SOLAR: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 126 FIRST SOLAR: DEALS

11.1.2 HANWHA Q CELLS

TABLE 127 HANWHA Q CELLS: BUSINESS OVERVIEW

TABLE 128 HANWHA Q CELLS: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 129 HANWHA Q CELLS: PRODUCT LAUNCHES

TABLE 130 HANWHA Q CELLS: DEALS

11.1.3 ASCENT SOLAR TECHNOLOGIES

TABLE 131 ASCENT SOLAR TECHNOLOGIES: BUSINESS OVERVIEW

FIGURE 45 ASCENT SOLAR TECHNOLOGIES: COMPANY SNAPSHOT

TABLE 132 ASCENT SOLAR TECHNOLOGIES: PRODUCTS/SOLUTIONS/SERVICES
OFFERED.

TABLE 133 ASCENT SOLAR TECHNOLOGIES: DEALS

11.1.4 OXFORD PHOTOVOLTAICS (PV)

TABLE 134 OXFORD PV: COMPANY OVERVIEW

TABLE 135 OXFORD PV: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 136 OXFORD PV: DEALS

TABLE 137 OXFORD PV: OTHERS

11.1.5 KANEKA SOLAR ENERGY

TABLE 138 KANEKA SOLAR ENERGY: COMPANY OVERVIEW

TABLE 139 KANEKA SOLAR ENERGY: PRODUCTS/SOLUTIONS/SERVICES
OFFERED

11.1.6 FLISOM

TABLE 140 FLISOM: BUSINESS OVERVIEW

TABLE 141 FLISOM: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 142 FLISOM: OTHERS

11.1.7 SOLACTRON

TABLE 143 SOLACTRON: BUSINESS OVERVIEW

TABLE 144 SOLACTRON: PRODUCTS/SOLUTIONS/SERVICES OFFERED.

11.1.8 MITSUBISHI CHEMICAL GROUP

TABLE 145 MITSUBISHI CHEMICAL GROUP: COMPANY OVERVIEW

FIGURE 46 MITSUBISHI CHEMICAL GROUP: COMPANY SNAPSHOT

TABLE 146 MITSUBISHI CHEMICAL GROUP: PRODUCTS/SOLUTIONS/SERVICES
OFFERED

11.1.9 MIASOLE

TABLE 147 MIASOLE: COMPANY OVERVIEW

TABLE 148 MIASOLE: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 149 MIASOLE: DEALS

TABLE 150 MIASOLE: OTHERS

11.1.10 HANERGY THIN FILM POWER GROUP

TABLE 151 HANERGY THIN FILM POWER GROUP: COMPANY OVERVIEW

TABLE 152 HANERGY THIN FILM POWER GROUP:
PRODUCTS/SOLUTIONS/SERVICES OFFERED

11.2 OTHER KEY PLAYERS

11.2.1 HELIATEK

11.2.2 POLYSOLAR TECHNOLOGY

11.2.3 NANOPV SOLAR

11.2.4 3D-MICROMAC AG

11.2.5 SUNTECH POWER HOLDINGS CO., LTD.

11.2.6 SHARP CORPORATION LIMITED

11.2.7 TRINA SOLAR

11.2.8 PANASONIC CORPORATION

11.2.9 SOL VOLTAICS

11.2.10 GEO GREEN POWER

11.2.11 JINKO SOLAR

11.2.12 CANADIAN SOLAR INC.

11.2.13 SUNPOWER CORPORATION

11.2.14 YINGLI SOLAR

11.2.15 REC GROUP

Details on Business Overview, Products/Solutions/Services Offered, Recent Developments, MnM view (Key strengths/Right to win, Strategic choices made, Weakness/competitive threats) might not be captured in case of unlisted companies.

12 APPENDIX

12.1 DISCUSSION GUIDE

12.2 KNOWLEDGESTORE: MARKETSANDMARKETS' SUBSCRIPTION PORTAL

12.3 CUSTOMIZATION OPTIONS

12.4 RELATED REPORTS

12.5 AUTHOR DETAILS

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