

North America Pyranometer Market Forecast to 2030 - Regional Analysis - by Type (Photovoltaic Pyranometers and Thermopile Pyranometers) and Application (Photovoltaic Systems, Meteorology, and Climate Stations)

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Abstracts

The North America pyranometer market was valued at US\$ 36.56 million in 2022 and is expected to reach US\$ 61.81 million by 2030; it is estimated to grow at a CAGR of 6.8% from 2022 to 2030.

Rising Awareness About Benefits of Using Pyranometer Fuels the North America Pyranometer Market

A pyranometer is a solar irradiance sensor that measures global irradiance. A global irradiance comprises direct sunlight and diffused sunlight, which can vary depending on the Sun's distance and meteorological and environmental factors such as clouds, aerosols, smog, fog, precipitation, etc. Typically, the value for the global horizontal irradiance is range from 0 to 1,400 W/m². In a few cases, it can be larger due to reflections from buildings, snow, or if the device is placed at the center of a solar concentrator. Solar irradiation is one of the main factors affecting Earth's weather patterns, making it a significant aspect of weather and climate research. Pyranometers are mostly used in such research to measure the Global Horizontal Irradiance (GHI) and determine the irradiance incident on the Earth's surface. Pyranometers are used in the solar energy industry to monitor the operation of photovoltaic (PV) generating plants. The efficiency of a PV power plant can be assessed by comparing the actual power production from the PV power plant to the projected output based on a pyranometer reading. Therefore, all these benefits of pyranometers for renewable energy usage increase the demand for pyranometers, which fuels the market growth.

North America Pyranometer Market Overview

The pyranometer market in North America is witnessing an upward trend due to high government investment in the photovoltaic power plant. As the pyranometer is used to monitor the performance and effectiveness of a photovoltaic power plant, its adoption across this plant is huge. Many initiatives have been taken by governments of various countries in North America to shift from traditional power supply to solar power supply due to the continuous depletion of fossil fuels. These photovoltaic power plants can fulfil the growing need for power supply for solar distillation, water heating, indoor as well as outdoor lighting, etc.

For instance, in January 2022, OTT HydroMet, a brand of Kipp & Zonen in the US, launched an innovation to solar monitoring, i.e., SMP12. SMP12 is an ISO- and IEC-compliant product that provides integrated heating with surge protection and has zero moving parts. This innovation provides enhanced surge protection, helping the plant operators harness the impact of poor grounding and unstable power sources on the monitoring system. The new advancement of the pyranometer helps customers reduce the failure risk and maintain performance.

Further, pyranometers play a pivotal role in monitoring the performance and efficiency of these photovoltaic power plants, making their adoption widespread. In November 2022, Enel North America announced its plan to build one of the largest solar power plant manufacturing facilities in the US. Establishing this solar power plant manufacturing facility further highlights the region's aim to capture solar energy. This plan indicates the growing market for photovoltaic power plants, with the pyranometer being the crucial element of the solar plates. Enel is expected to produce more than 3–6 GW of cells and high-performance bifacial PV modules. All these developments are boosting the pyranometer market for solar power plant applications.

North America Pyranometer Market Revenue and Forecast to 2030 (US\$ Million)

North America Pyranometer Market Segmentation

The North America pyranometer market is segmented into type, application, and country.

Based on type, the North America pyranometer market is bifurcated into photovoltaic pyranometers and thermopile pyranometers. The thermopile pyranometers segment

held a larger share in 2022.

In terms of application, the North America pyranometer market is categorized into photovoltaic systems, meteorology, and climate stations. The photovoltaic systems segment held the largest share in 2022.

Based on country, the North America pyranometer market is segmented the US, Canada, and Mexico. The US dominated the North America pyranometer market in 2022.

Apogee Instruments Inc, Campbell Scientific Inc, Delta OHM SRL, Delta-T Devices Ltd, EKO Instruments Co Ltd, Eppley Laboratory Inc, Hoskin Scientific Ltd, Hukseflux Thermal Sensors BV, LI-COR Inc, and OTT HydroMet Corp are some of the leading companies operating in the North America pyranometer market.

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