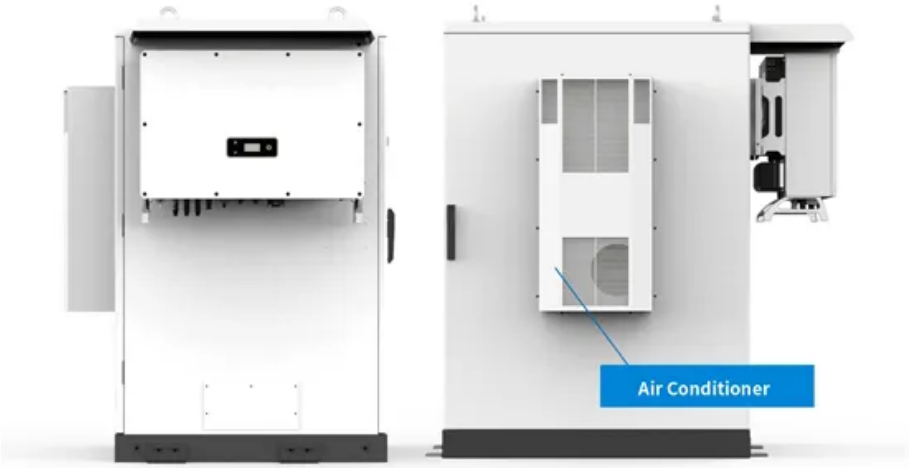
PDEOZE PowerContainer

Italian solar cycle system



Overview

What is a life cycle assessment of photovoltaic electricity production in Italy?

This study presents a Life Cycle Assessment (LCA) of photovoltaic (PV) electricity production in Italy based on the composition of the current and future Italian PV scenario. Using detailed and site-specific data, the actual composition of the Italian mix of PV technologies at the end of 2022 and those expected for 2030 were defined.

Does photovoltaic electricity production in Italy have environmental performance?

Conclusions The environmental performances of the photovoltaic electricity production in Italy by current and future Italian PV scenario were assessed applying Life Cycle Assessment methodology.

How much power will Italy produce in 2023?

Based on the forecast data published on the NECP 2.0 report (NECP, 2023), the cumulative installed capacity will reach 78.7 GW and the PV electricity produced will be 106.6 TWh at the end of 2030 in Italy.

How many tons of photovoltaic waste will be produced by 2050?

It is estimated that the rapid growth of photovoltaic systems will lead to the production of 60–78 million tons of PV waste by 2050, considering a lifetime of 30 years for the photovoltaic modules (Cucchiella et al., 2023; Trivedi et al., 2023).

Are crystalline silicon (c-Si) modules a dominant photovoltaic technology?

Globally, crystalline silicon (c-Si) modules are the dominant photovoltaic technology (Ludin et al., 2018; Lunardi et al., 2019), just as in Italy (Bastos et al., 2023); but thin film and amorphous silicon modules constitute a non-negligible share of the installed capacity (GSE, 2021).

Italian solar cycle system

This study presents a Life Cycle Assessment (LCA) of photovoltaic (PV) electricity production in Italy based on the composition of the current and future Italian PV scenario. Using detailed and site-specific data, the actual composition of the Italian mix of PV technologies at the end of 2022 and those expected for 2030 were defined.

Conclusions The environmental performances of the photovoltaic electricity production in Italy by current and future Italian PV scenario were assessed applying Life Cycle Assessment methodology.

Based on the forecast data published on the NECP 2.0 report (NECP, 2023), the cumulative installed capacity will reach 78.7 GW and the PV electricity produced will be 106.6 TWh at the end of 2030 in Italy.

It is estimated that the rapid growth of photovoltaic systems will lead to the production of 60-78 million tons of PV waste by 2050, considering a lifetime of 30 years for the photovoltaic modules (Cucchiella et al., 2023; Trivedi et al., 2023).

Globally, crystalline silicon (c-Si) modules are the dominant photovoltaic technology (Ludin et al., 2018; Lunardi et al., 2019), just as in Italy (Bastos et al., 2023); but thin film and amorphous silicon modules constitute a non-negligible share of the installed capacity (GSE, 2021).

Jun 24, 2025 · This paper presents an environmental sustainability assessment of residential user-scale energy systems, named solar home systems, encompassing their construction, ...

Jun 26, 2020 · The study presents a Life Cycle Assessment (LCA) of Italian electricity

scenarios, devised in the Integrated National Energy and Climate Plan (INECP). A fully representative ...

May 1, 2021 · The strategy incorporates the Italian governmental solar penetration targets for 2025 and 2030 and leads to a 90%+ renewable energy mix for the year 2060. It constitutes an ...

Oct 20, 2024 · This study presents a Life Cycle Assessment (LCA) of photovoltaic (PV) electricity production in Italy based on the composition of the current and future Italian PV scenario. ...

This book deals with the application of life cycle assessment methodology to sustainable energy technologies and surveys the energy system in Italy. A particular focus is placed on bio ...

Dec 15, 2018 · In the present study the main environmental impacts of different solutions for photovoltaic electricity production in the Italian context are discussed. For solution we mean ...

Mar 25, 2023 · Policymakers are increasingly moving towards greater investments in research in the renewable energy sector, in order to reduce costs, making private investment affordable, ...

Sep 11, 2025 · A. Zaharim and K. Sopian, Prospects of life cycle assessment of renewable energy from solar photovoltaic technologies: A review, Renewable and Sustainable Energy Reviews, ...

Jun 26, 2020 · The study presents a Life Cycle Assessment (LCA) of Italian electricity scenarios, devised in the Integrated National Energy and Climate Plan (INECP). A fully representative LCA of the national electricity system ...

Apr 8, 2025 · Abstract. The development of an Italian Life Cycle Assessment (LCA) database is a strategic initiative aimed at addressing key sustainability challenges outlined in the Green Deal ...

This book deals with the application of life cycle assessment methodology to sustainable energy technologies and surveys the energy system in Italy. A particular focus is placed on bio-energies and bio-energy systems, to ...

Contact Us

For catalog requests, pricing, or partnerships, please visit: https://www.pdeozepv.pl