Press Release

Holaluz published the first report on Distributed Generation in Spain, confirming the country's potential and assesses the current state of affairs.

Spain has 10 million rooftops with the potential to supply 100% of households' electricity demand

- **The report *"The Rooftop Revolution: An Alternative Path Towards Decarbonization"* by Holaluz positions residential distributed generation as a key element for the energy transition, with a special focus on the positive impact on families through their active participation.**
- **A solar self-consumption installation, which is the most common distributed generation system, allows a family to save an average of 4220€ annually, which can potentially cover 100% of their energy bill while ensuring a lesser impact from the market price fluctuations.**
- **Despite its potential and positive impact, distributed generation in Spain (7 GW) is far from the targets set in the PNIEC (19 GW by 2030), with a penetration of 5% in the country, significantly lower than countries like Germany (20%) and the Netherlands (35%), despite a much lower performance in installations (-50%).**
- **In 2023, the residential distributed generation market experienced a 54% decline compared to 2022, primarily due to the increase in interest rates from 0% to 4%. Without incentives for new installations and a persistent decline, the PNIEC's target of 19 GW of distributed generation is at risk.**
- **Holaluz proposes the removal of obstacles to the development of distributed energy by simplifying shared energy schemes such as collective self-consumption, improving the regulatory framework for distributed storage, deploying fiscal incentives, financing schemes, or public assistance, and aligning distribution companies' incentives with their investment plans.**

Barcelona, March 5, 2024 – Today, Holaluz has presented the report ***"The Rooftop Revolution: an alternative path towards Decarbonisation"***, providing an **overview of the potential and current state of the deployment of distributed generation in Spain.** The report also considers the **active role of consumers** in this transition and outlines an action plan to help accelerate the deployment of distributed generation in the residential segment.

DISTRIBUTED GENERATION, AN ENERGY MODEL WITH POTENTIAL TO MEET 100% OF THE ELECTRICITY DEMAND OF THE RESIDENTIAL SECTOR

The report outlines that Spain has over **10 million residential rooftops that can easily be transformed into small producers of green and affordable electricity.** These 10 million rooftops represent over **50 GW of new distributed and 100% green generation capacity.** These rooftops can supply **26% of Spain's total electricity demand, covering 100% of the consumption of all Spanish households.**

The installation of this volume of distributed generation systems would have a special impact on the decarbonization of the economy, with a reduction of 15 million tons of CO_2, a third of the sector's current emissions and a relevant impact on the economy of Spanish families. ***"The potential of the distributed energy model and demand electrification is backed by the abundance of sunlight, existing grids and the environmental impact of non distributed alternatives. Thanks to the distributed generation model and demand electrification, we estimate that Spanish families could save over 75 billion euros per year."*** has declared **Carlota Pi, President and Co-Founder of Holaluz.**

Distributed generation currently accounts for less than **500,000 installations** in Spain, or **less than a 5% penetration rate**. Despite being one of the sunniest countries in Europe, Spain lags behind countries such as Germany, with a 20% penetration rate, and the Netherlands, with a 35% rate. This fact is surprising given that our country's 2,500 hours of sunlight result in a performance of solar installations in Spain that is over 50% higher than what is expected for example, in Germany.

THE CHALLENGES OF DECARBONISING THE ECONOMY AND THE SOLUTIONS OFFERED BY DISTRIBUTED GENERATION

The energy transition involves decarbonising the economy. Holaluz is committed to using technology as a lever to accelerate this transition. This report highlights and identifies the five key challenges on the path to decarbonization and demonstrates how distributed generation provides effective solutions to these challenges.

1- Replacing fossil fuels with renewable energy production sources.

In 2023, global coal consumption reached its highest point, one ton per person. To amend this situation, within the next five years, we must install 2,500 GW of renewable energy, which is equivalent to China's total electricity output.

The Spanish government has recently released a new **PNIEC with a goal of achieving 19 GW of self-consumption by 2030**. According to UNEF data, Spain currently has an installed base of ~7 GW. **Holaluz advocates for a significant portion of these 19 GW to come from domestic installations that can generate local energy, and involving families in the energy system.**

Distributed generation plays a crucial role in this race against time, as it represents the renewable energy with the simplest installation process, quickest and with the smallest environmental impact. Additionally, society is highly interested: **8 out of 10 Spaniards want solar panels integrated into all new constructions**. Furthermore, the evolution towards shared energy schemes that allow the access to this type of energy resource to everyone, even if they don't have a feasible roof to install solar.

2- Electrifying the growing energy needs.

Electrification replaces the use of fossil fuels for thermal purposes with clean energy sources. Its implementation is vital to decarbonize the environment. **Spain aims to electrify a third of its energy demand by 2030, which means an increase in consumption of 34%.** In other words: the planned deployment of self-consumption up to 2030 will cover a significant part of the increase in electricity consumption resulting from electrification.

Within households, the energy transition involves replacing fossil fuels with renewable energy sources. For families, this means shifting their fuel consumption for heating and transportation to electricity generated on their own rooftop. To accomplish this, they rely on technologies like photovoltaic panels, batteries, electric cars and heat pumps.

An average Spanish household spends **4.220€ per year on electricity, gas, and gasoline**

bills. Distributed generation presents a chance to **convert these variable expenses into investments, leading to stable and long-term energy bills reduction**.

Implementing these technologies in the 10 million homes with solar potential could result in savings of 75 billion euros for prosumer families

3- Increasing flexibility in order to operate a 100% renewable energy system

The energy model shift towards a carbon-neutral system requires more resources to ensure flexibility. It's the only way to guarantee that the production of green energy is integrated into the system.

In a system with 19 GW of self-consumption and 160 GW of renewable energy (81% of renewable penetration), as envisioned by the PNIEC for 2030, it will be crucial to invest in **flexible resources that ensure electricity supply during low renewable generation periods and prevent curtailment during high renewable energy generation ones.**

Storage is a vital ally, enabling the system to store energy when it generates more renewable energy than needed and consume it when there is not enough. It balances the system to enable it to adjust to any given situation. This is the reason why it is flexible.

In this line, Holaluz highlights the need to develop Virtual Power Plants to achieve maximum impact in terms of flexibility, noting that these are yet to be regulated in Spain.

4- Designing the power grid to accommodate the new energy model

The report emphasizes that without a commitment to distributed energy, an investment of over 7 billion euros will be needed to transport all the renewable energy set to be integrated into the system by 2030, according to government planning. These billion-euro investments, as acknowledged by companies in the sector, will continue to rise in the coming years, resulting in an additional cost of more than 100 euros on the annual bills of the citizens.

Carlota Pi has pointed out that ***"an energy mix with a high percentage of distributed generation is much more efficient than the current mix. It's important to consider that 10% of the energy produced is lost during transportation. In the Spanish energy system, this translates to a loss of 26,000 GWh, or in other words, the equivalent to the total***

annual energy consumption of the Valencian Community. We're talking about costs in 2023 of more than 2,180 billion euros"

Faced with this situation that jeopardises the energy transition, Holaluz proposes to promote local green energy. Distributed resources, such as solar rooftops, would allow energy to be consumed where it is produced, and their installation can be completed in a matter of hours, as opposed to the 10 years it can take for the processing and installation of electrical grids. In Australia, for example, it has been estimated that **40% of the cost of a distributed solar installation is directly recouped by the system in savings on transmission and distribution networks.**

To achieve this, Holaluz calls for the alignment of network planning with decarbonization goals to recognize the value that distributed generation brings to the system.

5- An energy transition respectful with the environment and beneficial to society

In Spain, the **increase in renewable contributions in 2023 has led to a reduction of more than 25% in the CO_2 equivalent emissions of the electrical system compared to 2022.** It's crucial that we continue with this trend.

At the same time, society demands that this transition to renewables be respectful of the natural environment and its ecosystems. Holaluz is committed to working to ensure that the environmental **impact of renewable deployment is minimal,** making use of existing infrastructure such as rooftops and avoiding irreversible transformations that significantly affect the land.

NEXT STEPS FOR THE DEPLOYMENT OF DISTRIBUTED GENERATION

To realize the potential of distributed generation, **regulation must continue to evolve** to match society, technology, and other countries. Holaluz calls on public authorities to double their ambition. Holaluz also suggests a roadmap that simplifies **shared energy schemes**, like collective self-consumption, encourages and incentivises distributed storage, and **aligns the goals of distribution companies with those of a democratized energy system**.

A radical transformation in how energy is understood throughout households and one that requires, according to Holaluz, incentives for all families to afford the initial investment. It also proposes developing roles such as the self-consumption manager and **removing obstacles from distributors to collective self-consumption**, to extend the benefits of this

system to all Spanish households, whether they are producers or consumers of local green electricity.

About Holaluz

Holaluz is an energy transition company created to be a tool for global change and to achieve a world that moves 100% with green energy. Holaluz proposes a structural change: transforming the current energy generation model -centralized and non-renewable- towards a new model with more weight of distributed generation and 100% green.

Based on a unique strategy of two businesses - the installation of solar panels and energy management - and with the vision of creating the largest green energy community in Europe, Holaluz is building a green ecosystem in homes by transforming m2 of rooftops into 100% renewable electricity producers and optimizing the efficiency of its installations through flexible assets such as EV chargers and batteries. A sustainable, cheaper way for everyone to meet the growing electrification of demand.

Holaluz's purpose is centered on the planet and people. The people in the team can develop holistically, with flexibility, autonomy, and parity at all levels of decision-making. All this, together with a business model of genuine impact and an ESG DNA, have made Holaluz the first European electricity company to receive B Corp certification (a seal that gives visibility to companies that innovate to maximize their positive impact on employees, the communities they serve and the environment). It is also the founder of the Conscious Capitalism movement in Spain, a philosophy that recognises the innate potential of business to impact the world positively.

In January 2023, the world's leading ESG and corporate governance research and ratings agency Sustainalytics ranked Holaluz number 1 in Sustainalytics' global ESG risk ranking in the Independent Power Production and Traders category, and in July 2023 it was awarded the Ecovadis gold medal for its sustainability performance.

More information:

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