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Release

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ENEL BRASIL INTRODUCES FIRST EVER CROWDSOURCED HOME OF THE FUTURE

- *The house, built as part of the NO.V.A. project, will also be the world's first home of the future to serve as a "living lab", with people living there and testing its innovative solutions on a daily basis*
- *Construction of the home of the future will begin before the end of 2015 and scheduled to finish before the start of the 2016 Olympics in Rio*
- *The house can make decisions by itself thanks to a set of sensors and remote-controlled equipment*
- *Construction work will generate up to 85% less waste and 80% less carbon emissions than construction of a house of comparable size*
- *The house will be energy and water self-sufficient and feature real-time measurement and display of water, electricity and gas consumption through smart metering equipment. It will also feature smart electricity appliances and an organic garden for food production covering an area of up to 1,000 m²*

Milan, September 10th, 2015 – Enel has today presented at Expo Milano 2015 the architectural design of the house of the future that, as part of the NO.V.A. project (*Nós Vivemos o Amanhã* or We Are Living Tomorrow), the company will start building in Brazil before the end of 2015. This is the first time that a crowdsourcing initiative has been used to help build a home of the future, with ideas collected through the website www.nosvivemosoamanha.com.br.

The house is due to be finished before the Rio Olympics in 2016, and once completed the NO.V.A. project will be the first home of the future worldwide to serve as a "living lab", where people will cooperate with the project by living there and testing daily the house's innovative solutions. The technologies and their impact on both its residents' everyday lives and consumption habits will be constantly monitored, with a view to improving the solutions offered by the project.

"We need to understand our customers' relationship with energy in the future. We are therefore taking a very open-minded approach to understanding intelligent consumption", said Head of Enel Brasil Marcelo Llêvenes. "This living lab is testament to Enel's commitment to customer-centric innovation and ongoing dialogue with stakeholders. We will use feedback from the people living in the house to enable us to learn more about how the most innovative solutions available can be made to work for people, and we'll even have the opportunity to test solutions that are still in the pre-market stage. This is a very exciting project."



Since November people from around the world have used the NO.V.A. website to discuss what housing of the future ought to be like. The platform registered as many as 200,000 page views from 106 countries, 23,000 single visitors interacted with the platform by sharing ideas and information, and 4,000 ideas were assessed by a technical committee, the best of which were incorporated into the design following the committee's evaluation.

The house's architectural design was developed in Brazil by architecture firm Studio Arthur Casas, which has produced acclaimed projects across the world, including the Brazilian Pavilion at Expo Milano 2015.

"This project gave us the exciting opportunity to design a house that generates more energy than it consumes, said architect Arthur Casas. "It also made us reassess household space in line with the needs of modern society."

A key feature of the house is that it can make decisions by itself. For instance, a set of sensors and remote-controlled equipment enable it to close the windows when rain approaches, or detect fire in the house and alert the fire brigade. The house will also have intelligent, remote-controlled appliances, which can also decide at what time of the day it is best to operate, leading to a more efficient use of energy.

The house will be energy self-sufficient and work as a micro-power grid, producing around 105% of its required electricity demand thanks to solar energy generated by panels installed on its roof. Surplus electricity can be stored in high-capacity batteries or transferred to the local distribution grid, increasing the generation and consumption of clean energy.

Construction will generate 85% less waste and 80% less carbon emissions compared with ordinary houses of the same size (around 375m²). The project will also use innovative materials, such as wood that has high capacity for thermal insulation, and flame-retardant paints with soundproofing qualities. The house will be built using prefabricated modules in a way that respects the surrounding environment, reducing construction time and the use of both water and conventional materials like mortar.

The planned technologies the house will be equipped with reflect the project's pioneering nature:

- The house will be self-sufficient in water use. Rainwater collection will reduce the risk of flooding. All water and effluents, including sewage, will be treated and reused;
- Smart metering equipment will measure water, electricity and gas consumption in real time;
- The house will be integrated with health monitoring technology;
- Windows made of self-cleaning glass will get lighter or darker in line with the amount of available sunlight;
- Flooring will use footsteps to generate electricity;
- Intelligent cooling system will remove the need for air-conditioning;
- Interactive countertops will be equipped with internet access;
- See-through TVs will be installed;
- A bio-digester will produce gas from organic waste that will be used in the kitchen.

The house will also feature an organic garden for food production covering an area of up to 1,000 m², and has been designed in such a way so that it does not need electric lighting during the day.



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The NO.V.A project is also opened to other possible partners, who will be able to test new products and services. Prátil, the Enel Brasil company operating in distributed generation, will test innovative in-home solutions for distributed generation and storage systems, as well as energy efficiency solutions.

This second stage of the project, following the launch of the NO.V.A. platform in November 2014, will be coordinated by electricity distribution company Ampla, an Enel Group subsidiary in Brazil that is in charge of the NO.V.A. project, and two partner teaching institutions: the Pontifical Catholic University (PUC-Rio) and the Getúlio Vargas Foundation (FGV).

Enel Brasil's house of the future will also be the first building in South America in the running for the International Living Future Institute's Living Building Challenge (LBC) certificate, a rigorous performance standard that calls for the creation of building projects at all scales that operate as cleanly, beautifully and efficiently as the natural environment (<http://living-future.org/lbc>).

Enel Brasil is an Enel Group subsidiary based in Niterói, in the state of Rio de Janeiro, and operates in four Brazilian states: Rio de Janeiro, Ceará, Rio Grande do Sul and Goiás. The group is active in power distribution through distributors Ampla (Rio de Janeiro) and Coelce (Ceará), generation via the Endesa Fortaleza (Ceará) and Endesa Cachoeira (Goiás) plants, transmission through Endesa Cien (Rio Grande do Sul), and services through Prátil.

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