

ENERGY

September 2022

March 2023

Theme Six



01/11/2022

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ISSUES OF TOMORROW

Our world is changing fast, while ambitions and challenges match in importance. In this context design can play a huge role. How do we imagine the world to be? What range of possibilities we haven't discovered yet? What could architecture become for a world in crisis? What is not architecture yet? In 2020 we started a second phase of competitions to address the **issues of tomorrow**.

In line with our style we propose 9+2 themes – eleven critical topics to work on. They come with a framework to make sure that each theme is explored from different design angles. Rather than a program, a **research ecosystem** composed of various competitions running in parallel and exploring the same theme from multiple perspectives.

Our exploration journey continues now with theme six, a special step in our research program: **Energy**.

Theme Six:

ENERGY

Every day, we are surrounded by one of the most important innovations of all time: electricity. While today it's used all over the world, before discovering it, people have been living for centuries without it. Today we require electricity for a variety of reasons. By reading this on your computer or cellphone, you are using electricity right now.

Even though humans have survived without it, the chances of the human race thriving without it are highly unlikely. Humans have used candles, whale oil lamps to illuminate, cold ice boxes for food preservation, and wood-burning stoves for heating. Today, with the discovery of electricity, human life has become easier by using electricity to perform many functions every day, such as lighting, heating, cooling homes and operating various electrical appliances.

The discovery of electric energy led to the creation and the invention of devices that revolutionized its era and the inventions of scientists have contributed to the development and progress of the use of electricity.

The electricity we use in our daily lives is a secondary source of energy and we need it for just about everything! Electricity is produced by converting basic and natural energy sources such as coal, natural gas, nuclear energy, solar energy, and wind energy into electrical energy, which

has become of great importance in facilitating human lives and achieving the renaissance in the nation's economy. Almost all of our modern conveniences are electrically powered, from light bulbs to appliances to vehicles.

It is not only used to switch on the lights in your house and allow you to conveniently cook, clean and go about your day or work as you would normally today, but it also involves supporting a lot of different industries. If the idea of electricity and the process of creating it didn't occur, there wouldn't have been any technology and life would carry on very different than what it is now.

Accessing power from our power points is easy. Just plug something in! But electricity has a long way to travel from the power station to your power point. Electricity, which can be generated in all sorts of ways such as water, steam, gas and wind, is produced at power stations by electricity generators.

Starting with your house, electricity is important for operating all appliances, entertainment, lighting and of course, all technology. When it comes to travelling, electricity is important for the use of electric trains, aeroplanes and even some cars. If you think about facilities such as schools, farms, medical facilities such as hospitals and retail facilities, all need electricity to run efficiently. In the modern era, we are nothing without electricity.

Electricity use and access are strongly correlated with economic development. Taking everything into consideration regarding exactly why we need electricity to maintain our current lifestyle and advancements in life, it is something that can't be taken for granted. To this day, there are people who are living without electricity in underdeveloped

countries of poverty, but those who rely on it every day, most probably won't be able to get by without it.

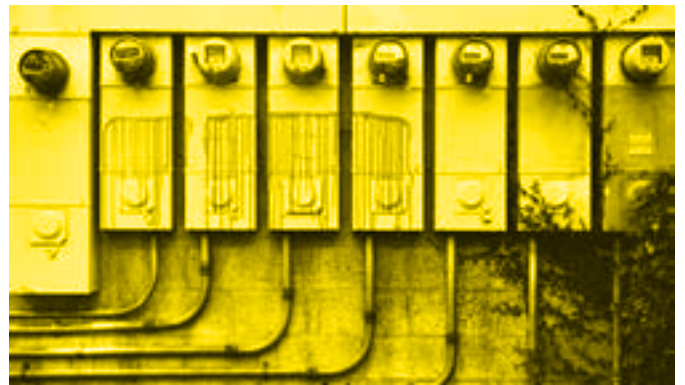
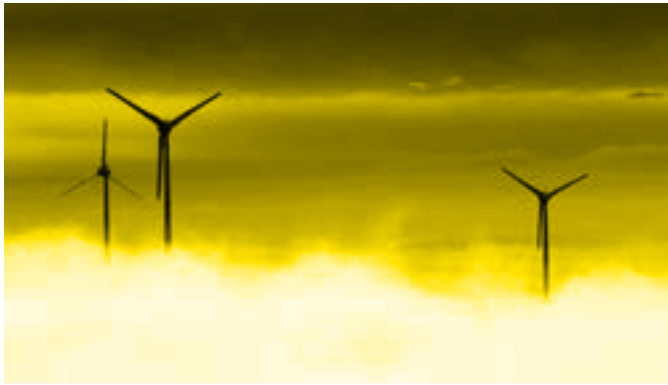
The problem that today dominates the public discussion on energy is climate change. A climate crisis endangers the natural environment around us, our well-being today and the well-being of those who come after us. Production of energy is responsible for 87% of global greenhouse gas emissions and as the chart below shows, people in the richest countries have the very highest emissions.

The world lacks safe, low-carbon, and cheap large-scale energy alternatives to fossil fuels. Until we scale up those alternatives the world will continue to face energy problems.

Energy series of competitions are in line with the United Nations Sustainable Development Goals (SDG) number 3,7,9 and 11. While most SDG might look distant from design, others are directly dependent from it.

How will architects cope with the increasing demand for electricity in their designs? What creative and alternative power generation technologies can we imagine? What kind of role will energy play in the future of urban living?

Energy is a compilation of design challenges that aim to approach the idea of electricity and power sources from different perspectives.



30 KEY WORDS

The question now is what are the possibilities of future architecture and space design with the energy crisis. In view of this, we are promptly questioning our lifestyle and the framework designed to support it. Non Architecture and its partners want to play their part by involving the design community in a series of explorative initiatives. By reflecting upon specific topics, we aim at generating dialogue and mutual inspiration for ideas.

In particular, Non Architecture and all the supporting organizations collaborated in identifying a range of 30 design issues related to the theme of Energy.

In relation to the **Energy Production and Management:**

1. Fossil fuels, Gas & Oil,
2. Geothermal,
3. Wind power,
4. Solar Power,
5. Hydropower,
6. Biomass and natural gas,
7. Kinetic energy harvesting,
8. Hydrogen,
9. Nuclear Energy,
10. Alternative energy sources,
11. Batteries and energy storage,
12. Energy infrastructure and distribution,
13. Smart Grids,
14. Energy efficiency.

In relation to **Society & Culture**:

15. Energy saving behaviours & Responsible Consumption,
16. Visual Impacts of energy infrastructure,
17. Space occupation of energy infrastructure,
18. Energy Commons.

In relation to **Architectural Design**:

19. Energy saving for building construction,
20. Energy saving for buildings operations,
21. Integrated energy production systems,
22. Upgrade and innovation of energy systems.

In relation to **Urban Development**:

23. Urban energy network (cables, switching stations, shafts),
24. High voltage network,
25. Heat networks and district heating,
26. Urban Mobility,
27. Public transport,
28. Recharging / Refuelling stations,
29. Street lighting,
30. Internet of things and Blockchain.

For more insights on these topics you can subscribe to our [newsletter](#) or visit our [online journal](#).

Designers can address one or more of the aforementioned topics through different competitions. Each competition frames a specific design approach. The Non Architecture Competitions for the theme of **Energy** are the following:

- Powerless City
- Post-Nuclear Power Plant

Powerless City

In this competition, we encourage participants to come up with a visionary concept for life in a scenario where cities, or even individuals, are energy independent - only 2 drawings, absolute freedom of scale, program or site.

Participants are asked to propose conceptual ideas for a scenario where there's no global energy grid and cities, buildings, units or single individuals, have to be fully energy independent, either through renewable energies or creative new ways of producing and storing it.

Powerless Cities is part of the "Cities of Tomorrow" competition series, developed to re-imagine life through a variety of creative design concepts and ideas. What kind of role can we play as designers in reimagining urban life? How can we produce new inspiring visions to trigger a discussion around alternative models of living?

Powerless City aims to answer those questions with a particular focus on Energy in the urban environment.

Deliverables: two images (presentation image + concept image)

Timeline:

Registration Period: 01 September - 31 December 2022

Submission Period: 15 - 31 December 2022

Winners Announcement: 01 - 15 February 2023

Post-Nuclear Power Plant

Participants of this competition are asked to come up with creative proposals for the decommissioned Fukushima Daini Nuclear Power Plant in Japan. The goal is to give a new purpose and reimagine this existing and underutilized nuclear power plant into a beautiful piece of architecture that positively impacts the community. Proposals can be pavilions, buildings, landscape design, urban plans, strategic visions or any other creative form of spatial design.

Many cities like Fukushima await this opportunity, where large-scale infrastructures lie empty, waiting for a visionary project. This is more than remodelling and swapping out paint colours, the aim is to transform this abandoned nuclear power plant from a liability into an asset, and give it a second chance at life through your design.

What does the future holds for this empty nuclear facilities? What kind of role can we play as designers in reimagining a new use for this places?

Post-Nuclear Power Plant aims to answer those questions with a particular focus on Energy in a post nuclear cycle.

Deliverables: one presentation board

Timeline:

Registration Period: 01 Nov 2022 - 28 Feb 2023

Submission Period: 15 – 28 February 2023

Winners Announcement: 01 – 15 April 2023

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