

SPANISH PAVILION

ENERGY FOR THE PLANET



ABOUT EXPO ASTANA 2017



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- On 22nd November 2012 the Bureau International des Expositions (BIE) named Astana (Kazakhstan) as the venue for organising the International Exhibition that will open to the public from 10th June to 10th September 2017.
The Kazakh candidature won 103 votes compared to the 44 votes for the Belgian city of Lieja, which was hoping to organise its third International Exhibition in its history (1905/1930). Web: <http://www.bie-paris.org/site/en>
- International Exhibitions are held between 2 Universal ones, with a maximum duration of 3 months and a facility limited to 25 hectares. In this exhibition category, the national pavilions are set up in shared buildings, built by the organiser.
- Under the slogan "Future Energy", Expo Astana expects to see 3 million visitors, and to become a privileged platform for reflection, debate and exchange of experiences and solutions to the challenges of this new millennium regarding the international agenda on subjects such as reducing greenhouse gases, rational use of scarce resources, renewable energies and energy efficiency. Website: <https://expo2017astana.com>



- The subject chosen for Expo Astana ties in with the new environmental initiative by the Kazakh government towards a green economy that promotes transformation of the current energy model for a more sustainable, efficient and diversified one, and also to bring in foreign investment and cutting edge technology.
- After the Expo, the site will be home to the biggest Finance Centre in Central Asia, and the International Centre for Research and Development of Green Technologies, under the sponsorship of the UN.

- Several international organisations engaged in field of energy will have relevant participation, including the International Renewable Energy Agency (IRENA), the International Energy Agency (IEA), the UN Industrial Development Organisation (UNIDO) and the World Bank (WB) among others.
- The Expo will commemorate the twentieth anniversary of Astana (whose name means "Capital" in Kazakh) as the capital of the country at the expense of Almaty. Located in the centre of the country, the city has grown from 200,000 inhabitants in 1997 to over 850,000 today.
- Right from the start Expo Astana was conceived as a State project in which the Kazakh authorities channelled their efforts in the framework of the interest in converting Kazakhstan in a centre for international events and organisations.
- The Expo aims to become a forum for reflection and establishing the bases for an alternative energy model that is able to respond to the following challenges:
 - Global warming.
 - Energy security.
 - Access to water.
 - Protection of biodiversity.
- Proposed sub-themes:
 - Reduction of CO2 emissions. Use of renewable energy.
 - Energy efficiency. Efficient industry.
 - Energy for all. Access to sustainable energy.
- Expo Objectives:
 - Exhibit best practices.
 - Exchange knowledge about future energy.
 - Promote research and development of clean energies.
 - Create a platform for exchanging experiences.
 - Increase awareness in visitors.
 - Promote and consolidate political and economic links.
- The 2 Thematic Pavilions will house 4 spaces:
 - The World of Energy.
 - Energy for Life.
 - Energy for All.
 - Future Energy.
- 130 Official Participants (January 2017):
 - 115 States (including: Germany, United Kingdom, France, Italy, Finland, Romania, Hungary, Lithuania, Russia, Serbia, Switzerland, Monaco, Turkey, UAE, China, Japan, South Korea, Indonesia, Iran, Austria, Holy See, Algeria, Egypt, Costa Rica, Brazil...).
 - 22 International Organisations (including: OECD, UNESCO, UNIDO, World Bank, IAEA, IEA, European Commission, International Energy Charter, IRENA...).

- Master Plan Design for the Expo Astana venue:
Chicago Studio (USA), *Adrian Smith/Gordon Gill (AS+GG)*.



- Expo Venue (25 Ha):
 - 14 International Pavilions:
 - 2 Business Pavilions.
 - 2 Thematic Pavilions.
 - Best Practices Pavilion Area - EPBA.
 - 3 Commercial Pavilions.
 - Kazakhstan Pavilion.
 - Auditorium.
 - Energy Pavilion - Energy Hall.
 - Art Centre.
- Expo Complex (173 Ha):
 - Expo Village.
 - 2 Hotels (3/5 stars).
 - Conference Centre.
 - Shopping Mall.
- The Expo is well communicated with the city centre, airport and railway station. The complex is located to the south of Astana (8km from the centre and 4 km from the Presidential District), direction towards the airport and next to Nazarbayev University.
- Forecast for visitors:
 - 3M visitors / 5M visitors.
 - 30/40,000 visitors expected every day.
 - The Expo is able to cater for a maximum of 110,000 visitors per day.

- Source of visitors:
 - 85% Kazakhstan.
 - 15% other countries (mainly Russia, China and Asian):
 - 45% (Independent States Community).
 - 19% China.
 - 13% EU.
 - 23% other countries.

- Main Expo Astana 2017 events:
 - Official presentation of the Spanish Pavilion (Madrid), 25th April.
 - Official inauguration of the Expo, 9th June.
 - Opening of the Expo and the Spanish Pavilion to the public, 10th June.
 - Energy Ministers Conference and 8th Energy Forum for Sustainable Development, 11th - 14th June.
 - Meeting of the EU Cooperation Platform on Education with Central Asia, 22nd - 23rd June.
 - Astana Day, 6th July.
 - Spain Day, 17th July (Monday).
 - EU Energy Day, 24th July.
 - Constitution Day, 31st August.
 - BIE Day, 9th September.
 - Official closure of the Expo, 10th September.

- Future Energy Forum (FEF):

Conferences and symposiums that will take place over the 6 thematic weeks of the Expo:

Thematic Weeks (Seminars):

 - Week 1: Energy Revolution (Opening Ceremony).
 - Week 2: Low Carbon Technologies.
 - Week 3: Renewable Energy.
 - Week 4: New Energy Model.
 - Week 5: Universal Access to Sustainable Energy.
 - Week 6: Energy Efficiency in the City (Closing Ceremony).

Conferences held to date:

 - Astana: October 2014 "Reducing Greenhouse Gases".
 - Paris: December 2015 "Energy Efficiency".
 - Astana: September 2016 "Energy for All".

The results and conclusions of these Conferences will be integrated in the Future Energy Forum over the Expo period.

Political representatives, members of International Organisations / Public Bodies, those in the world of Business, Science, Academic institutions / universities, public and private research centres and NGOs can take part in the Forum.

The Forum will give people the opportunity to share opinions and points of view about the search for sustainable development models and access to new, more efficient, safer energy sources.

The conclusions of the Future Energy Forum will be drafted in the Principles and Values Brief of Expo Astana towards a new, more sustainable energy model, and will comprise a true intellectual legacy from the Expo, with proposals and recommendations for the international community.



ABOUT ASTANA AND KAZAKHSTAN

- Over recent years Astana has undergone unprecedented urban development, and has managed to blend its Soviet past with the new avant-garde city in perfect harmony.
- Built practically from scratch within the bounds of the crude oil boom, Astana, as a new political and administration centre, has implemented some excellent infrastructures and a set of relevant buildings from an architectural point of view, such as the Opera House, Palace of Peace and Reconciliation and the Khan Shatyr Entertainment Centre, all of which were designed by the Foster and Associates Studio.



- Some data about Kazakhstan:
 - **Government**
Unitary Dominant Party Presidential Republic
President, Nursultan Nazarbayev.
 - **Area:**
2,724,900 km² (9th largest country in the world).
 - **Population**
Kazakhstan: 17 million inhabitants
Astana: Capital of the Republic with 868,000 inhabitants.
Direct flight connections with 35 major cities.
Named City of Peace by UNESCO in 1999.
Almaty: 1,226,000 inhabitants (most populated city in Kazakhstan).
 - **International Relevance**
Kazakhstan joined the WTO on 30th November 2015 (member 167).
Presidency of OSCE in January 2010.
Kazakhstan is a non-permanent member of the UN Security Council from 2017 to 2018.

On an initiative by Kazakhstan, UNESCO declared the period from 2013 to 2022 as the International Decade for Rapprochement of Cultures.

Kazakhstan aspires to become the epicentre of Central Asia in the coming years, and has also stated its wishes to play a significant role in the international community.

Kazakhstan is a member of the following regional International Organisations:

- Islamic Cooperation Organisation (ICO), 1969.
- Commonwealth of Independent States (CIS), 1991.
- Collective Security Treaty Organisation (CSTO), 1992.
- Shanghai Cooperation Organisation (SCO), 1996.
- Eurasian Economic Union (EAEU) whose treaty came into force on 1st January 2015.
- Conference on Interaction and Confidence-Building Measures in Central Asia (CICA), 1999.



SPANISH PAVILION *ENERGY FOR THE PLANET*



SPANISH PAVILION. ENERGY FOR THE PLANET

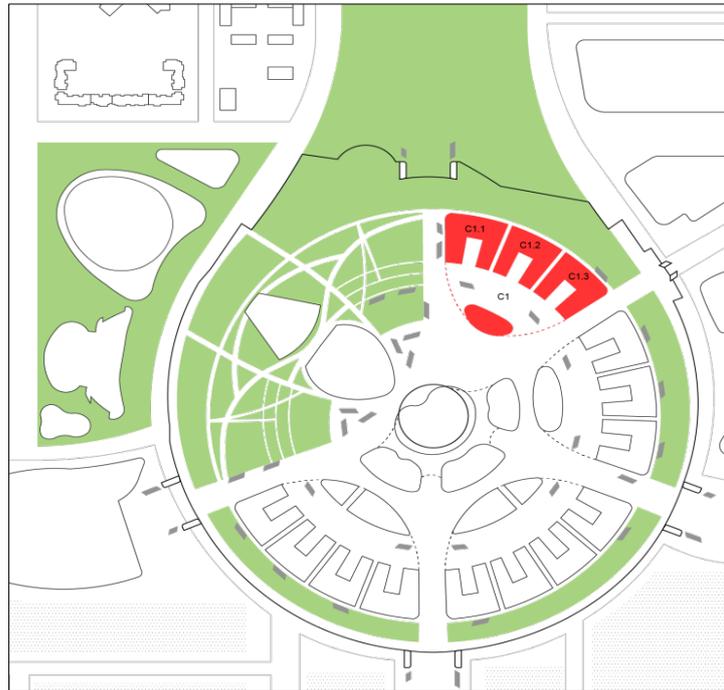
Under the slogan "Future Energy" the proposal by ACCIONA PRODUCCIONES Y DISEÑO for the Spanish pavilion at the Astana 2017 International Exhibition seeks to develop the following aspects related to the relevant position of Spain in relation to the proposed theme:

- To contribute to the Expo theme "Future Energy" from a Spanish perspective, taking advantage of the opportunity to present our singularities, contributions and strengths to the world in this field.
- To share and disseminate Spain's experiences in relation to renewable energy, particularly wind power, photovoltaic solar power and hydro-electric power, in addition to thermal exploitation (thermal solar, biomass, bio-gas, bio-fuel and recovery of energy from solid urban waste), with emphasis on the best practices for sustainable energy currently being developed in our country.
- To promote and disseminate the benefits of renewable energy that permit sustainable growth and development as a result of innovative Spanish creative technology in this field.
- To present singular experiences organised around the relationship between sources of renewable energy, energy efficiency, universal access to energy and a reduction in greenhouse gas emissions.
- To show Spain's contribution to the objectives of the Sustainable Development Agenda adopted by the United Nations at the Sustainable Development Summit in September 2015, particularly the objectives concerning universal access to sustainable energy and the measures to fight against climate change.

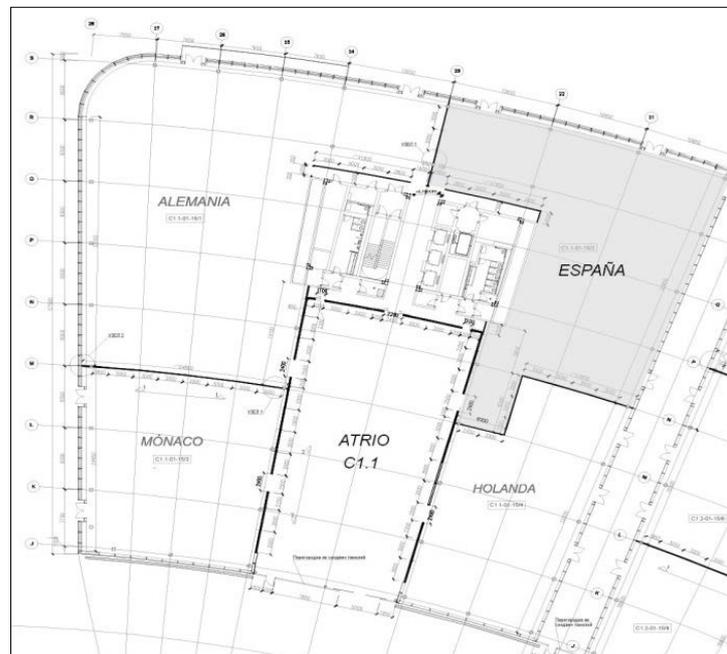
Under these premises the Spanish Pavilion aims to showcase the Spanish exterior commitment in terms of renewable energies and climate change, Spanish T&D&I for the transition towards competitive, sustainable renewable energies in the fight against climate change, international presence of Spanish companies in the energy sector and Spanish energy management.



The Spanish Pavilion is located in Cluster C1 to the north of the Expo facility. It shares Pavilion C1.1 of the cluster with Germany, Monaco and Holland.



Cluster 1



Spanish Pavilion Plot C1.1-3

The area assigned to Spain covers 868 m² distributed on one single floor, and headroom of 8m. In addition to the inside space, the pavilion has three very different façades in terms of structure, materials and design conditioning factors.

SPAIN: ENERGY FOR THE PLANET

The Spanish Pavilion at Astana 2017 provides a reflection on the importance of making progress towards a world energy system that is increasingly based on renewable energy, that will help to reduce CO2 emissions, the dependence on crude oil and to increase energy autonomy in different regions and communities around the world.

The exhibition in the Pavilion shows how Spain is making progress in this direction, with a national energy system which is being increasingly fed from renewable energy. Moreover, Spain is leading the development of renewable energy all over the planet, thanks to the contributions by our engineers and companies working on implementation of renewable energy production and management systems all over the planet.

THEME: SPAIN AND RENEWABLE ENERGIES

Our country has been a pioneer in research, development and implementation of the most relevant clean energy capturing systems; because of our climate and orography, Spain is a very rich country in renewable energy sources: solar, wind, hydraulic. Renewable energy, a sector in constant development, today accounts for 40% of electricity demands and annually avoids 80 million tonnes of CO2 emissions.

Renewable energy is integrated in the Spanish electricity grid thanks to a sophisticated system of energy management, which is serving as an example for many other electricity systems in other countries. Three million Spanish homes are supplied with clean, renewable electricity today. Moreover, we are leaders in R&D&I in energy efficiency: insulation, paving, asset and liability management systems in homes.

Furthermore, Spanish institutions and companies spend a lot of effort on research and development of technological components, integrated mixed energy systems and implementation of integrated projects and innovative production plants that are serving as test benches and models for new developments on the five continents. And reducing reducing renewable energy costs: since 2008 the cost of producing solar and wind power has been reduced by between 5 and 6 times.

Wind Power

Spain leads production in wind power with 1077 wind farms having been installed. We are the fifth country in the world in terms of installed electrical power produced by wind, and the second in Europe.



But additionally, we are world leaders in manufacturing of wind turbines which are distributed all over the world, and we are at the forefront in R&D&I. The first laboratory in the world for testing the strength and quality of wind turbines was in Spain (CENER).

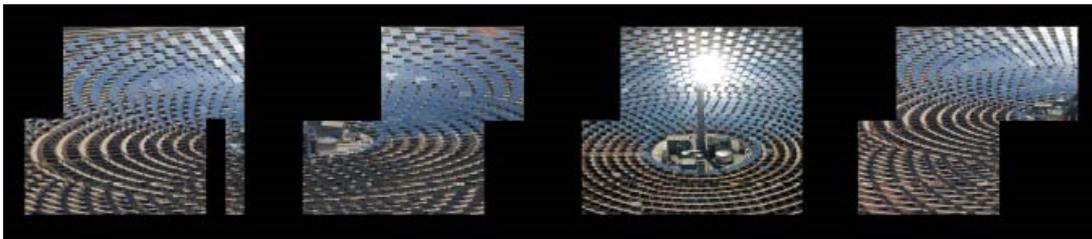
Spain exports equipment and services related to wind power for the value of over 2,500 million euros per year.

Solar Energy (photovoltaic and thermal solar)

Spain is also a world reference in the production of power exploiting the endless source of the sun's energy.

There are over 60,000 photovoltaic production plants installed in Spain. Our companies are leaders in the construction of turnkey photovoltaic plants all over the world. Moreover, we are the leaders in research and manufacture of photovoltaic capture technologies integrated in building construction. And we are at the forefront of recycling photovoltaic panels.

We are pioneers and world leaders in development of thermal solar energy production, one of the renewable energy sources with most future potential. The first thermal solar plants in the world were developed in Spain: 45% of the world's thermal solar production is produced at plants in Spain.



The Almeria Solar Plant (PSA) is the world centre of reference in research in these innovative systems of capturing energy, and today 73% of the world's thermal solar projects are carried out by Spanish companies.

Energy Cooperation

Spain is also driving renewable energy through international cooperation, particularly within the framework of the Sustainable Energy for All initiative: we are cooperating in driving renewable energy and energy efficiency in Latin America and the Caribbean, Western Africa, Asia and small developing island states. Spanish cooperation pays special attention to providing access to quality energy sources by isolated communities, and support for de-carbonising energy processes. Spanish cooperation is channelled through state subsidies, multi-lateral organisations, financing entities, DNGO and public / private alliances.

SUMMARY OF THE EXHIBITION ROUTE

Façades

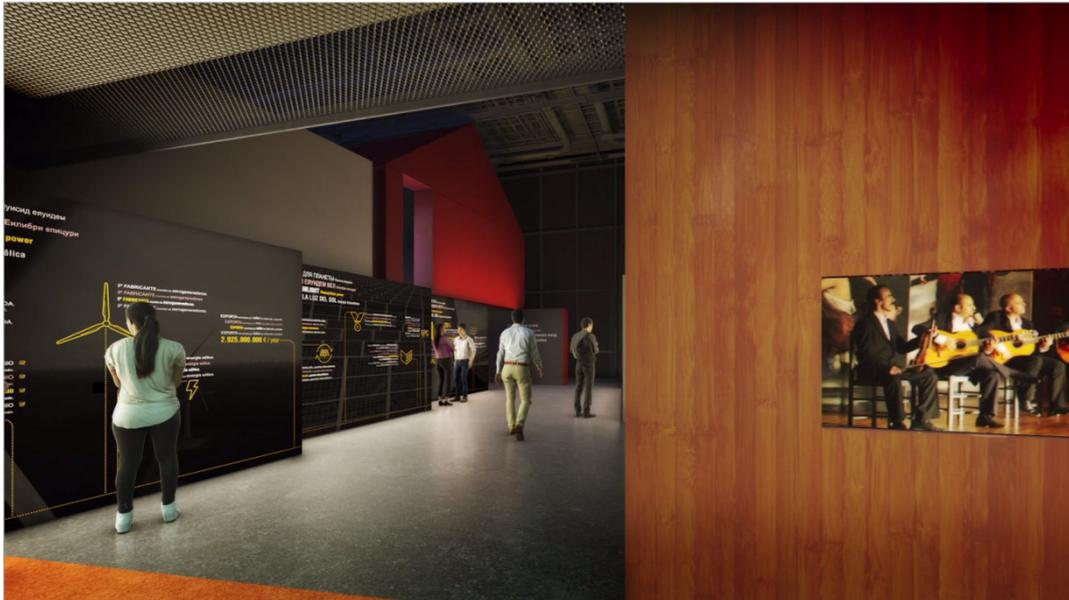
The painting "*Como Pavesas Encendidas*" by the Spanish artist Alberto Corazón, was the inspiration for the façades of the Pavilion, and symbolises the role of energy on the road towards civilisation through fire.

Alberto Corazón is the only Spanish designer who has been awarded the highest international prize, the North American AIGA Gold Medal. A National Design Award winner, when he joined the Royal Academy of Fine Arts he managed to achieve Painting, Music, Sculpture and Architecture being included in Design as an academic discipline of the 21st century. As a painter his work is displayed in the main international museums and collections



Spain, energy for the world

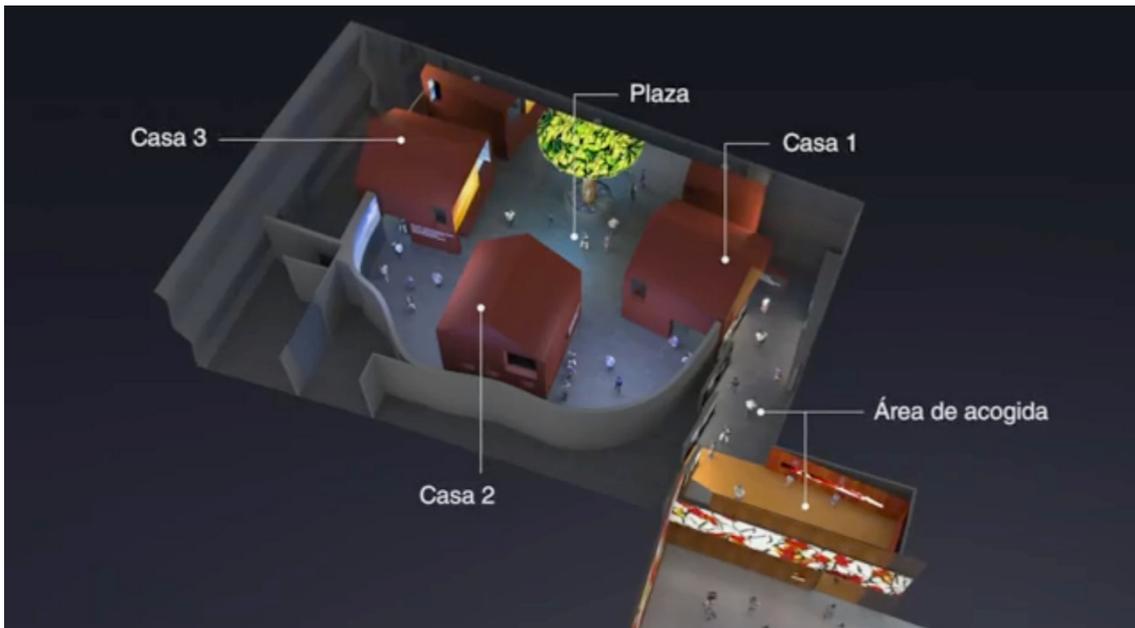
On the inside, an audiovisual mural welcomes visitors, offering a brief presentation to our country through a montage of very dynamic, moving images. Our historical and natural heritage, our cuisine, our festivities and traditions, such as Flamenco, that characterise our country, and our capacity for technology and innovation, will leave visitors with a visual print of our identity as a country. Visitors to the Expo will also recognise the faces of some of our most popular sports people, including Alberto Contador wearing the Astana cycling team jersey, giving an idea of the enormous amount of energy in our society.



The specific theme of the Pavilion "Spain. Energy for the Planet" is reflected more synthetically on a world map, around which Spanish presence in cutting edge renewable energy projects is shown, currently being implemented in over 70 countries. This contribution, which is taking place through activity by our companies, research centres and cooperation projects, is concordant with the strong development in the use of renewable energies in our own country.

The "Plaza"

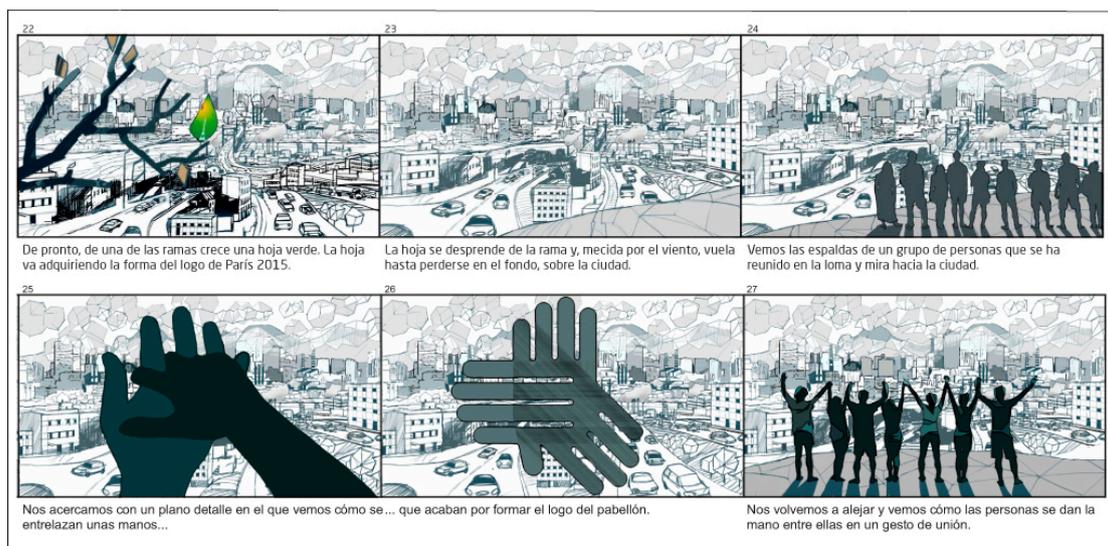
A "Plaza", the essential area for life in Spanish towns and villages, defines the core of the exhibition and symbolises the idea that we are living in a global village, where everything is interconnected, between ourselves and with nature.



The Plaza is home to three "houses" and each one contains an audiovisual installation the goes into further detail about the thematic subjects of the Pavilion.

House 1: Time for Renewables

A short animation film tells the graphic history to show visitors how we have reached the present day and the time for renewable energy: the evolution of traditional energy models has taken us to a situation that only has one way out: towards a de-carbonised, sustainable energy model. This is an objective many countries have committed to within the framework of the *Paris Accord*, setting the objective for reducing CO2 emissions over the coming years as the only way to preserve our planet's environment.



Fragmento del storyboard *La Hora de las Renovables*

House 2: Visionaries, Pioneers, Innovators

The second audiovisual space shows specific examples of renewable and novel energy projects and solutions that have been conceived and implemented in Spain in the last few decades, and which are paving the way for many projects aimed at de-carbonising energy production. The montage, which is shown in two projection zones, each of which integrates a giant screen and a holograph effect projection, reflects a dozen highly varied examples of innovation and development of renewable energy in Spain. Some examples: the Hierro Island energy model in the Canary Islands, a Biosphere Reserve, where over 10,000 people live, now well on the road to self-sufficiency in energy thanks to an ingenious combination of hydraulic and wind power; or an explanation of how the system works to integrate renewable energy in the Spanish Electricity grid, a world model for energy management.



House 3: Spain, Energy for the Planet

The third house offers an immersion projection in which spectacular images are shown form a compendium of the scope and diversity of solutions and equipment for producing clean, renewable energy, that are already operating in our country and which have been displayed on the route around the exhibition. This production aims to give an idea of the creative and technological capacity of our companies, and the solid experience we are able to offer the world in this field.



The tree: The "living" tree located in the centre of the Plaza, that global village where we all live together, synthesises the need for us all to search for balanced, sustainable solutions, that allow us to develop in harmony with our planet. It is a sculpted tree that comes to life through digital projection effects and reproduces the placid seasonable cycle of nature, reminding us of the importance of keeping the balance between our own needs for development and consumption, and nature, the final message from the pavilion.



NATIONAL DAY

On 17th July the Spain National Day will be held at Astana Expo. The ceremony and the cultural programme that will take place throughout the day will be on the National Day Stage.

NATIONAL DAY STANDARD PROGRAMME

10:00 Arrival by the Official Committee Manager at the gate to the Expo facility authorities.

Transfer on foot to the National Day Stage.



10:15 Welcoming words by the official representative of Kazakhstan's Government.

10:20 Speech by the Official Committee Manager.

10:30 End of the institutional ceremony.

Brief musical performance.

11:00 Transfer on foot to the Pavilion and guided tour by the Curator.

11:30 Transfer of the Committee to the Kazakhstan Pavilion. Guided tour by the Kazakhstan Pavilion Curator.

12:15 Lunch.

13:45 End of visit to the Expo facility by the official committee.

Musical performance.

SPANISH PAVILION

ENERGY FOR THE PLANET

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ACCIÓN CULTURAL
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