# ENERGY WORKING WITH LIMITLESS ENERGY



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# ACCIONA, profitability, development and sustainability

ACCIONA is a leader in providing sustainable solutions for infrastructure and renewable energy projects across the world. Its offer covers the whole value chain, from design and construction to operation and maintenance. With a presence in more than 30 countries, the Group develops its business activities based on the desire to contribute to economic and social development in the communities in which it operates.

ACCIONA executes its sustainability strategy through a Sustainability Master Plan, a road map containing all the initiatives of the Company in this field. The aim of ACCIONA is to lead the transition towards a low-carbon economy, bringing quality criteria and innovation processes to all projects in order to optimize the efficient use of resources and respect the environment, with the ambition and determination to become a carbon-neutral company from 2016 onwards.

This commitment has been ratified by the inclusion of ACCIONA in the world's top sustainability indexes, such as the Dow Jones Sustainability World Index, FTSE4Good, the 2015 MSCI Global Climate Index, 2015 CDP Climate A List, 2015 CDP 125 Iberia Climate Disclosure Leadership Index and The Supplier Climate A List, among others.

# ACCIONA Energía, a unique global renewable energies operator

ACCIONA Energía is a global operator in renewable energies, and the biggest one exclusively dedicated to clean energies in the world.

With more than 20 years' experience in the sector, we are present in the main renewables technologies. We currently give priority to our developments in wind and photovoltaic power, as they are the technologies that offer the most

competitive costs and better growth opportunities.

ACCIONA Energía is a global company, with activities in more than 20 countries and with operational assets in 14, and a strategy particularly oriented to emerging markets that need sustainable solutions to drive their development.

The company develops a large number of projects for itself, which makes it

one of the world leaders in the sector. It also carries out projects for customers, some of them major references on a global scale.

ACCIONA Energía is an innovative, sustainable company with a long-term vision, and committed to the change of energy model that our planet will undergo in the 21st century.

| ///// THE BIG FIGURES                               |        |
|---|--------|
| FIGURES AT 30.06.2016                               |        |
| Company-owned total capacity (MW)                   | 8,676  |
| Capacity installed for customers (MW)               | 1,974  |
| Cumulative investment in renewables (million euros) | 13,347 |
| Employees*  | 1,806  |
| ANNUAL FIGURES 2015                                 |        |
| Total electricity production (GWh)                  | 20,875 |
| CO <sub>2</sub> emissions avoided (million tons)    | 15.7   |
| Turnover (million euros)                            | 2,719  |
| EBITDA (million euros)                              | 897    |
| Annual capital expenditure (million euros)          | 130    |

<sup>\*</sup> Not including ACCIONA Windpower.



#### Positioning factors

1 RENEWABLES ONLY

In the main technologies

2 A GLOBAL COMPANY

On the five continents

THE GREATEST EXPERTISE

Throughout the value chain

4
ALSO FOR
CUSTOMERS

With made-tomeasure solutions

5 AN INNOVATIVE COMPANY

A strategic focus

6 RESPONSIBLE

Socially involved

7 WITH A LONG-TERM VISION

A sustainable company





## Almost 9 GW owned by the company

|           | 政     |              | W. Carlotte |       |         |        |
|-----------|-------|--------------|-------------|-------|---------|--------|
|           | Wind  | Photovoltaic | CSP         | Hydro | Biomass | Total  |
| Owned     | 7,167 | 246          | 314         | 888   | 61      | 8,676  |
| Customers | 1,875 | 98           | 1           |       |         | 1,974  |
| Total     | 9,042 | 344          | 315         | 888   | 61      | 10,650 |
|           | L     |              |             |       |         |        |

Overall figures at 30.06.2016 in MW (in photovoltaic, MWp). At the end of the year we will have more than 8,900 MW under ownership.

#### **ONLY IN RENEWABLES**

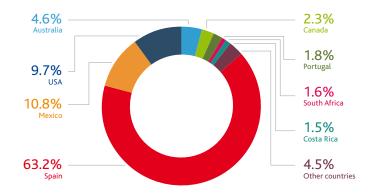
In the main technologies

# 21 TWh produced

#### Electricity generation 2015 (in GWh)

| //// INSTALLATIONS UNDER OWNERSHIP |                     |                         |  |
|------------------------------------|---------------------|-------------------------|--|
|                                    | TOTAL<br>PRODUCTION | CONSOLIDATED PRODUCTION |  |
| Wind                               | 17,421              | 13,841                  |  |
| Hydro                              | 2,197               | 2,197                   |  |
| Concentrating solar                | 542                 | 542                     |  |
| Photovoltaic                       | 307                 | 214                     |  |
| Biomass                            | 408                 | 408                     |  |
| TOTAL                              | 20,875              | 17,202                  |  |

#### Electricity generation 2015 by country





# A GLOBAL COMPANY On the five continents







## **TECNOLOGIES. WIND POWER**

#### 219 wind farms in 14 countries

ACCIONA Energy is a global leader in wind farm development, construction, production and operation and maintenance.

With 7,167 owned megawatts at 30.06.2016, the company is among the world's leading wind farm developers and operators. It has 219 wind farms in operation in 14 countries and its annual production is over 17 GWh.

ACCIONA put its first wind farm in South Africa into service in 2015, with a capacity of 138 MW, and its third in Poland (30 MW).

In 2016 it is building a new 93 MW wind farm in the US, and another 78 MW installation in India.

In 2017 it will install a 168 MW wind power complex in Mexico and another of 66 MW in Australia. Both will come on stream in 2018. In the same year it will start construction work on a new 183 MW wind farm in Chile.

The company has installed 1,875 MW of wind power capacity for customers. In 2015 and 2016 it put 302 MW into service in Mexico and 102 MW in Canada.

#### **TECHNOLOGIES.** Wind

#### Wind power capacity implemented by ACCIONA Energía

Accumulated owned capacity at 30.06.2016, in MW\*

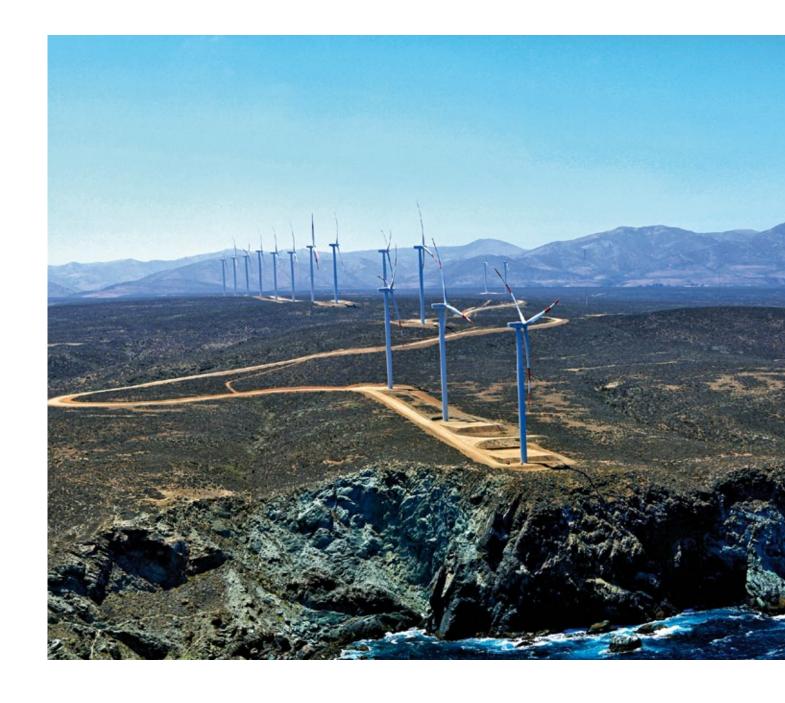


#### TOTAL CAPACITY UNDER OWNERSHIP: 7,167 MW

() Total in construction or awarded: 588 MW

<sup>\*</sup>ACCIONA has also installed 1,875 MW of wind power capacity for customers.























# TECHNOLOGIES. PHOTOVOLTAIC

#### The biggest plant in Latin America

ACCIONA is building the 'El Romero Solar' photovoltaic plant in the Atacama Desert. Owned and operated by the company, it is the biggest of its type in Latin America, with a nominal capacity of 196 MW (264 MWp). The start-up will begin at the end of 2016 and it will be fully in service some time in 2017.

The plant, with a solar collection surface area equivalent to 213 soccer pitches, will generate around 500 GWh per year, equivalent to the consumption of 250,000 Chilean homes.

El Romero Solar is the company's most outstanding milestone in the photovoltaic field, a technology in which it started to work at the end of the 1990s.

Previously to 'El Romero', ACCIONA put the 94.3 MW Sishen photovoltaic plan in South Africa into service, making it the facility with the highest production capacity (216 GWh) on the African continent at the time it entered service. The company holds a 51% stake in it.

ACCIONA Energía is also the owner of the 45.8 MWp PV plant at Amareleja (Moura) in Portugal, one of the biggest in the world that incorporates azimuthal tracking. Mitsubishi Corp. holds a 34% stake in the plant.

The total production of the photovoltaic installations owned by ACCIONA was 307 GWh in 2015.

ACCIONA is developing major photovoltaic projects that it will own in a number of countries.





Partial view of the 'El Romero Solar' photovoltaic plant under construction in Atacama, Chile.

Panels in the Amareleja (Moura, Portugal) photovoltaic plant.



ACCIONA has extensive experience in the construction of large photovoltaic plants



//// PHOTOVOLTAIC CAPACIY IMPLEMENTED (MWp) \*

#### **TECHNOLOGIES.** Photovoltaic

# Photovoltaic capacity implemented by ACCIONA Energía

Overall figures at 30.06.2016, in MWp.









# TECHNOLOGIES. CONCENTRATING SOLAR

#### Plants in Spain and the USA

Ever since ACCIONA Energía's first plant connected to the grid in 2007, the company has been among the world's leading developers of concentrating solar power technology, with six operational plants totalling 314 MW.

ACCIONA pioneered the revival of CSP worldwide by commissioning the Nevada Solar One plant in the Nevada Desert (USA), followed by five plants in Spain (50 MW each) between 2009 and 2012: Alvarado and Orellana (both in Badajoz), Majadas (Cáceres) and Palma del Río I-II (Córdoba).

These six plants produced a total of 542 GWh in 2015.

The company has its own parabolic trough technology and is actively focused on increasing efficiency and reducing costs.

| ///// ACCIONA ENERGIA'S CSP PLANTS |               |               |
|------------------------------------|---------------|---------------|
| COUNTRY                            | NO. OF PLANTS | CAPACITY (MW) |
| Spain                              | 5             | 250           |
| USA                                | 1             | 64            |
| TOTAL                              | 6             | 314           |







## TECHNOLOGIES. HYDROELECTRIC

#### 79 plants in operation

ACCIONA has 79 hydroelectric power stations in Spain totaling 888 MW. It is, therefore, the company's second biggest renewable technology in terms of operational capacity.

The plants are distributed over seven regions of Spain.
Aragon (704 MW), Navarra (76 MW), Cantabria (45 MW),
Catalonia (41 MW),
Castilla y León (4 MW) and
La Rioja and Valencia (both with 1 MW).

ACCIONA's hydroelectric generation reached 2,195 GWh in 2015, i.e. 10.5% of the total electricity production of the company in that year.

ACCIONA's hydroelectric power stations are controlled from the CECOER (its own Renewable Energy Control Center) located in Navarra (northern Spain), in a coordinated manner with area centers. This helps to achieve more efficient management of the plants.

| ///// HYDROELECTRIC IMPLEMENTATION OF ACCIONA ENERGÍA |                  |                               |
|---|------------------|-------------------------------|
| COUNTRY   | NUMBER OF PLANTS | CONSOLIDATED<br>CAPACITY (MW) |
| Spain   | 79               | 888                           |
| TOTAL   | 79               | 888                           |

#### Location and number of hydroelectric power stations







An operator checking the humidity of straw entering an ACCIONA biomass plant



## **TECHNOLOGIES. BIOMASS**

#### Three plants in service

ACCIONA is a benchmark company in the design, construction and operation of biomass plants to produce electricity.

The company was a pioneer in the field with the opening of a straw combustion plant at Sangüesa (Navarra) in 2002.

Later, it opened two other plants, at Briviesca (Burgos) and Miajadas (Cáceres).

The Miajadas plant was the first installed in Spain that could combine herbaceous and woody raw materials in the process, making the operation more flexible and enabling a greater diversification in the fuel.

Production from biomass totaled 408 GWh in 2015, a very similar figure to the electricity generated the previous year.

| ///// ACCIONA ENERGÍA'S BIOMASS PLANTS |                     |                               |
|--|---------------------|-------------------------------|
| COUNTRY                                | NUMBER<br>OF PLANTS | CONSOLIDATED<br>CAPACITY (MW) |
| Spain                                  | 3                   | 61                            |
| TOTAL                                  | 3                   | 61                            |



# 3 WITH THE LONGEST EXPERIENCE

#### More than 20 years in the sector



With a large workforce -1,800 - highly trained and with know-how that is difficult to find throughout the wind power value chain.



## Unique know-how throughout the value chain

Project development

Engineering & Construction

WTG manufacturing

Production

Management and sale of energy











TRANSVERSAL KNOWLEDGE AND PROVEN RELIABILITY







#### WITH THE LONGEST EXPERIENCE.

Throughout the value chain

#### DEVELOPMENT: In-depth knowledge of the markets

## Projects analyzed in 50 countries

More than 80,000 MW analyzed in the five continents in the main renewable technologies

# In all regulatory environments

In-depth knowledge of all the development phases of a renewables project in different regulatory environments

# With expert teams and local support

In site analysis, administrative proceedings and authorizations, and energy, financial and environmental studies.

# ENGINEERING AND CONSTRUCTION: Competitive solutions

# In all the phases of a project

Engineering for renewables projects, resource, cost and risk analysis and due diligence

# Know-how for series assembly

Construction based on in-depth knowledge of series assembly of wind and solar plants

# Advanced management systems

Based on the standardization of processes, planning and cost control and coordination of teams

#### WITH THE LONGEST EXPERIENCE.

Throughout the value chain

# WIND TURBINES:

#### Integration with Nordex to create a world leader

ACCIONA Windpower, the ACCIONA subsidiary dedicated to the design, manufacture and sale of wind turbines, was integrated into the company Nordex in 2016 to create a sector leader. This came about through a deal in which Nordex (Nx) acquired 100% of the stock capital of ACCIONA Windpower (AWP) and ACCIONA took over 29.9% of the German company's stock.

AWP has sold 7,170 MW in 3 MW and 1.5 MW wind turbines over the years.

The merger of Nordex and ACCIONA Windpower has created a world leader in the

wind power sector, with the capacity and potential to be among the five biggest onshore wind turbine manufacturers in the world. They complement each other very well in terms of international projection and the technologies applied by the two companies.

#### Leadership

AWP and Nx combined to become top 5 onshore WTG (2017).

#### Complementarity

Compelling fit with respect to scale, geography and product platforms (presence in ~30 countries).



#### Value creation

Synergies worth ~€95m p.a. from 2019E driving profitability.

#### Strategic shareholder

Nx backed by ACCIONA (29.9% stake), with a vision for sustainable, long-term value creation.





Nacelle of an ACCIONA Windpower 3 MW wind turbine

#### WITH THE LONGEST EXPERIENCE.

Throughout the value chain

# SALE OF ENERGY:

#### To wholesalers, distributors and customers

ACCIONA Energía manages the sale of 100% renewable electricity generated by its own assets – and those of other developers it represents – in wholesale markets with great reliability and at optimal cost.

It also offers solutions based on long-term contracts (PPAs) with electricity distributors and other corporate customers that are committed to energy sustainability. One of them is Google, to which ACCIONA will supply photovoltaic electricity to power the American multinational's data center In Chile.

Also, through its subsidiary ACCIONA Green Energy

Developments, it markets electricity with a 100% renewable guarantee to large customers in Spain and Portugal, and it participates in international carbon markets, actively contributing to reach the objective that ACCIONA should be carbon neutral by the end of 2016.







Bilbao Airport - AENA (top photo) Thyssen-Bornemisza Museum and Metro de Madrid (bottom photos).

# 4 ALSO FOR CUSTOMERS Made-to-measure solutions

## Almost 2,000 MW installed for third parties

ACCIONA Energía has a strong track record in carrying out renewables projects for customers: almost 2,000 MW of wind and photovoltaic capacity installed.

In wind power, the company has built and put into service 1,875 MW in 61 wind farms over the years.

In photovoltaic, the company has built 98 MWp for customers in large- and small-scale installations.

ACCIONA offers specifically designed solutions for each project.

And it does this with excellence in management, reducing internal

bureaucracy and making very competitive proposals.

In 2015 the company was awarded two Cemex Prizes for Innovation in Construction Processes and Techniques, and in Development of Industrial Projects, in relation to the construction work on the Ventika wind power complex.

| ///// THE LATEST EPC PROJECTS BY ACCIONA ENERGÍA |           |              |          |                  |
|--|-----------|--------------|----------|------------------|
| PROYECT  | COUNTRY   | TECHNOLOGY   | START-UP | CAPACITY<br>(MW) |
| South Canoe                                      | Canada    | Wind         | 2015     | 102              |
| Royalla  | Australia | Photovoltaic | 2015     | 24*              |
| Ventika  | Mexico    | Wind         | 2016     | 252              |
| Ingenio  | Mexico    | Wind         | 2016     | 49.5             |
| TOTAL  |           |              |          | 427.5            |

<sup>\*</sup>Data in MWp





MEXICO Turbines in the Ventika wind power complex (Nuevo León)









## **CECOER**

## The largest renewable energy control center in the world

ACCIONA Energía has a Renewable Energy Control Center (CECOER) in its head office in Navarra, allowing it to supervise the functioning of the Group's installations and those it operates for third parties in real time in 18 countries on the five continents.

The center, one of the world's largest in the renewables segment, manages data from

facilities totalling over 11,500 MW. This includes:

- 287 wind farms
- 80 hydroelectric power stations.
- 10 photovoltaic plants.
- 6 CSP plants.
- 10 biomass plants.

The CECOER, which operates 24/7/365, detects incidents in real time and resolves more

than 50% of them remotely, which allows for high availability rates.

The Center uses proprietary prediction models to provide REE, Spain's electricity system operator, with more than 3,000 production schedules each year with very low penalties for deviations. It is in constant contact with REE to maximise integration of renewable output.

#### INNOVATION

Strategic commitment

# Innovative asset management, and pioneers in grid integration

ACCIONA Energía aims to obtain the maximum operational efficiency from the productive assets it manages. To do this, it has a Cost of Energy (COE) reduction program, achieving 25% in 2015 and 2016.

The extension of the working life of the assets through better preventive maintenance, increased production as a result of higher availability of installations (98% in 2015) and cost efficiency are some of the elements of this asset optimization strategy.

AE also sets out to be an expert in the exploitation of large volumes of data (Big Data) and in the digitalization of its production processes.

The company is a pioneer on a global scale in the provision of adjustment services of the electric power system with renewable energies. On 28 February 2016 it become the first company to offer adjustment services exclusively based on wind power capacity after a request from the electric power system operator in

Spain (REE) to provide a service to solve technical restrictions by contributing additional generation capacity.

ACCIONA also works on storage systems with renewables for later grid integration. It had already done this previously in a photovoltaic plant under its ownership, and from 2016 onward it will do the same in a wind farm.





# A stable commitment to the community

ACCIONA is a company committed to the communities where it materializes its projects. We set out to create value wherever we work, and do it in a stable manner because we develop projects with long working lives.

Not only do we carry out energy projects that care for the environment and contribute to global sustainability, we do a whole range of initiatives around them aimed at improving basic services for the community in the fields of training, culture, sport, health and the environment Through the ACCIONA
Microenergía Foundation the
company has already
provided 12,000 sets of
photovoltaic equipment
for the equivalent number
of households distant from
power grids in Mexico and Peru.

In 2016, ACCIONA published the first results of a study evaluating the socioeconomic footprint related to its energy division in Mexico and South Africa. This highlights the company's major contribution to the creation of wealth and employment in both countries



















### WITH A LONG-TERM VISION . Sustainability as a business vector

Renewables are already the energy technologies that are growing fastest The world is engaged in a process of change of energy paradigm, towards another, more sustainable one.
Forecasts indicate that in 2040 – with electric power capacity that will double the existing level – renewable capacity will represent 60% of the total (Source: Bloomberg New Energy Finance).

Indeed, new renewable capacity has passed fossil-based fuels since 2013, a development that has to do with a lot of factors:

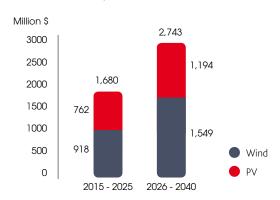
 The competitiveness achieved by these energy sources in open auctions, in which they have offered lower prices than fossil-fuel-based generation.



- Lower risk, because they are sources with stable prices against the volatility of fossil fuels (especially oil and gas).
- Worldwide commitment against climate change, a trend enhanced after the Paris Summit in December 2015
- The global movement for divestment in fossil-based generation.

#### Accumulated investment forecast in Wind and PV

Total 2015 - 2040: \$4,423MM



Source: WEO 2015. IEA





#### WITH A LONG-TERM VISION

Sustainability as a business vector

# ACCIONA will make an active contribution to the development of renewables

ACCIONA is fully committed to the development of renewable energies through controlled and profitable growth of the company in the long term, based (among other things) on the following guidelines:

- Top quality management of investments (more than 2 billion dollars between 2016 and 2020).
- Optimization in the operation and maintenance of its installations.

ACCIONA is very well placed to materialize the agreement reached in the COP 21 in Paris, is well situated in attractive markets that have potential for growth, develops new business models in the sector and will undoubtedly be an active player in the spectacular rise that renewables will have in the short, medium and long term.



## **ACCIONA Energía**

#### **ACCIONA Energía**

Avda. Ciudad de la Innovación, 5 31621 Sarriguren Navarra, Spain Tel.: +34 948 00 60 00 Fax: +34 948 00 60 01

#### **ACCIONA Energía**

Avda. de Europa, 10 Parque Empresarial La Moraleja 28108 Alcobendas, Madrid Tel.: +34 91 657 64 60 / 61 Fax: +34 91 663 0759

#### Other companies and delegations

## ACCIONA Green Energy Developments

Avda. Europa,10 Parque Empresarial La Moraleja 28108 Alcobendas, Madrid Tel.: +34 91 490 38 49 Fax: +34 91 490 38 55

#### **ACCIONA Solar**

Avda. Ciudad de la Innovación, 5 31621 Sarriguren Navarra, Spain Tel.: +34 948 16 68 00 Fax: +34 948 16 68 01

#### ACCIONA Energy North America

55.E.Monroe Suite 1925 Chicago, IL. 60603 USA Tel.: +1 312 673 30 00 Fax: +1 312 673 30 01

#### **ACCIONA Energía Mexico**

Juan Salvador Agraz, 61 Edificio Euro+Ten, piso 14 Col. Santa Fe Delegación Cuajimalpa 05370 Mexico D.F. Tel.: +52 55 4211 6700 Fax: +52 55 5291 9948

#### **ACCIONA Energy India**

C1-001, Tower C, Ground Floor The Millenia, No. 1&2 Murphy Road Ulsoor Bangalore - 560008 Karnataka, India Tel.: +91 80 4155 7103 Fax: +91 80 4155 7110

#### **ACCIONA Energy South Africa**

Westwing, Barinor's Vineyard North The Vineyards Office Estate 99 Jip de Jager Road. Belville 7530 (situated at Erf 39701 Belville) Tel.: +27 2 1912 5300 Fax: +27 2 1913 9648

#### **ACCIONA Energy Oceania**

Level 12, 2 Southbank Boulevard Southbank VIC 3006, Australia Tel.: +61 3 9027 1000 Fax: +61 3 9027 1001

#### ACCIONA Energía Chile

Apoquindo 4499, piso 4 75501104 Las Condes Santiago, Chile Tel.: +56 2275 15160

#### ACCIONA Energía Costa Rica

Centro Corporativo Plaza Roble Escazu, Edificio Las Terrazas, piso 5 Oficina 532 San José, Costa Rica Tel.: +506 2505 5678 Fax: +506 2505 5600

#### **ACCIONA Energía Portugal**

Av. do Forte, 3 Edifício Suecia IV 1º Piso A 2794-038 Carnaxide, Portugal Tel.: +351 214 24 18 10 Fax: +351 210 49 61 79

#### Amper Central Solar (Portugal)

Central Fotovoltaica de Amareleja, Apartado 1 7886-909 Amareleja, Moura, Portugal Tel.: +351 285 980 010 Fax: +351 285 980 019

#### **ACCIONA Energy Poland**

ul. Panska 96 lok.105 00-837 Warszawa, Poland Tel.: +48 22 5140 880 Fax: +48 22 6717 416

#### **ACCIONA Wind CESA Italia**

Via Achille Campanile, 73, II Piano 00144 Roma, Italia Tel.: +39 06 5051 4225 Fax: +39 06 5014 551

#### ACCIONA Energía Croacia

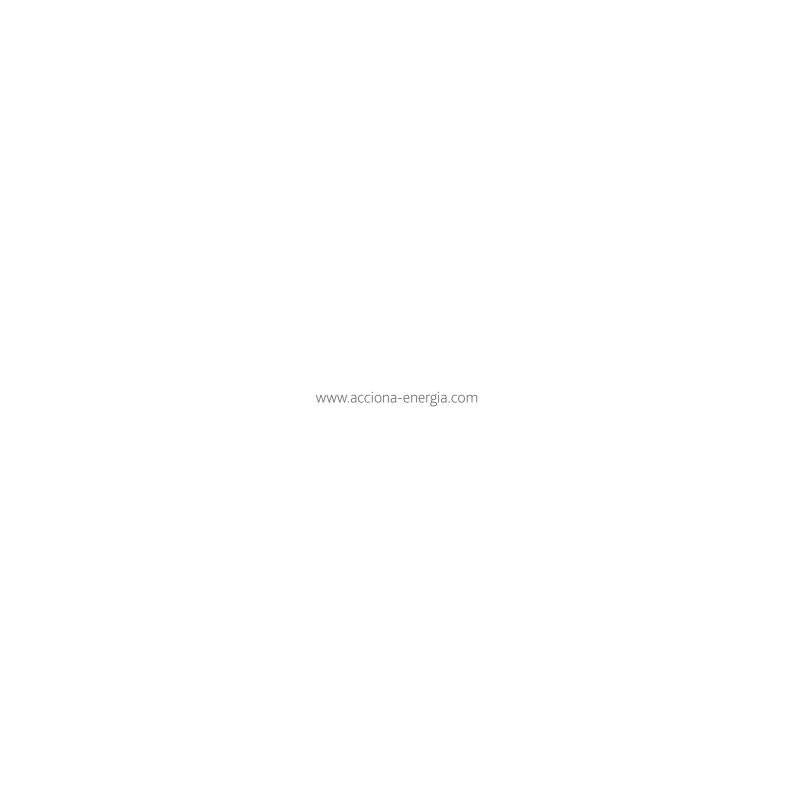
Zrinjsko-Franskopanska, 64/III 21000 Split, Croatia Tel.: +385 21 340 660 Fax: +385 21 340 661

#### ACCIONA Energía United Arab Emirates

Plot 373-1370, Units 1301/1302 API Trio Office Towers, Commercial Tower Sheikh Zayed Road. Al Barsha First. Dubai Tel.: +971 43 297 880

#### **ACCIONA Energía Philippines**

Office 1437, 14th Floor Net Cube Building 3rd Avenue corner 30th Street. E-Square Zone Bonifacio Global City. Taguig City Metro. Manila Tel.: +63 917 326 2692





Avda. de Europa, 18 Parque Empresarial La Moraleja 28108 Alcobendas (Madrid). Spain



www.acciona.com

# ENERGY WORKING WITH LIMITLESS ENERGY

