



Asociación Mexicana  
de Energía Eólica

# Renewable Energy in México

February, 2019



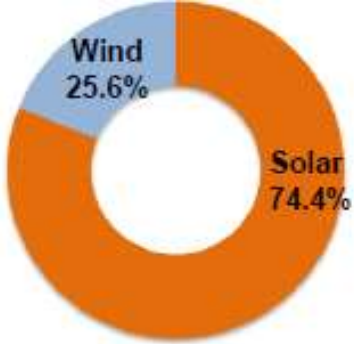
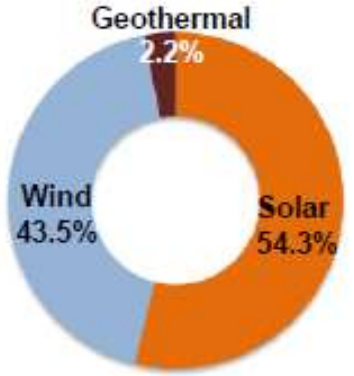
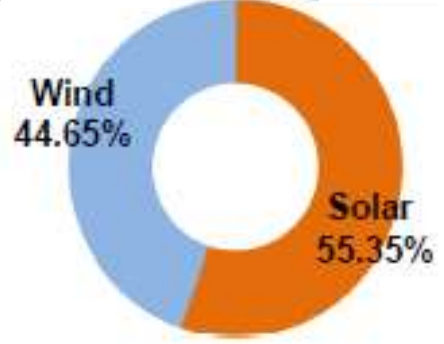
## Mexico's major Energy Sector transformation undertaken in 2014 has proven to be successful. Particularly, in the Power Sector



### Key achievements for the Electricity Sector:

- US\$9 billion for brand new investment projects to date from open auctions.
- So far, three successful auctions attracting 65 new projects (7.5 GW), most of them awarded to both solar PV and wind technologies.
- More than 20% is already operative and 23% under construction.
- Extremely competitive Levelized Cost of Electricity (LCOE) establishing low world records.
- Almost 50% of the country's states will have a new generation project as a result of this auctions.
- A new wholesale market already in operation.
- Long term visibility that begins to attract local manufacturing and sound O&M capabilities.

# Awarded auctions summary

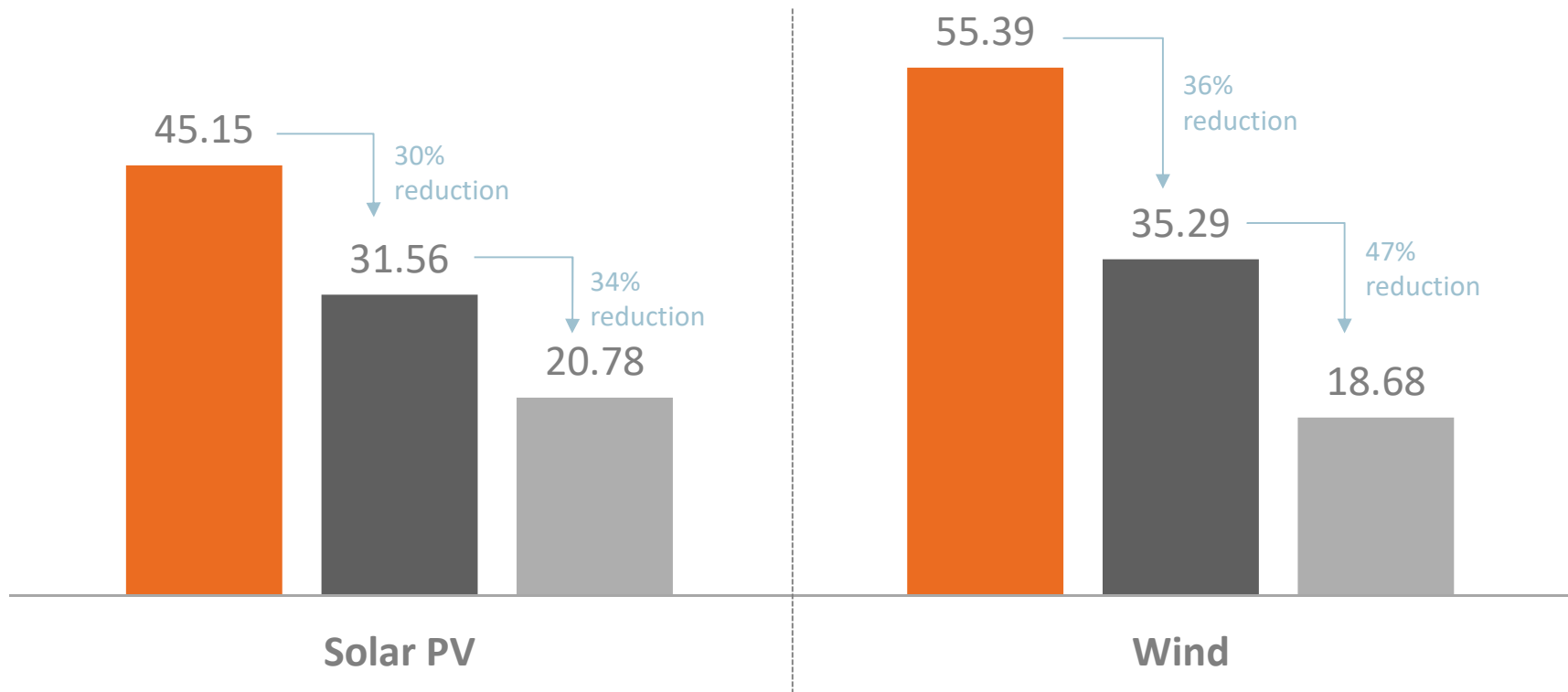
	First Auction 2016	Second Auction 2016	Third Auction 2017
Awarded Energy by Technology			
Highlights	<ul style="list-style-type: none"> <li>• 18 winners from <b>11 different companies</b> (México, Spain, Italy, U.S.A. &amp; China)</li> <li>• Investment: <b>US\$2.6 billion</b></li> <li>• <b>2,085 MW</b> of new installed capacity</li> <li>• <b>394 MW awarded to wind</b></li> </ul>	<ul style="list-style-type: none"> <li>• 56 winners from <b>23 different companies</b> (México, France, Portugal, Spain, Italy, Germany, Netherlands, United Kingdom, U.S.A., China &amp; Korea)</li> <li>• Investment: <b>US\$4 billion</b></li> <li>• <b>2,871 MW</b> of new installed capacity</li> <li>• <b>1,238 MW awarded to wind</b></li> </ul>	<ul style="list-style-type: none"> <li>• 16 winners from <b>9 different companies</b> (México, Italy, France, Japan, U.S.A., Spain &amp; Canada)</li> <li>• Investment: <b>US\$2.4 billion</b></li> <li>• <b>2,562 MW</b> of new installed capacity</li> <li>• <b>689 MW from wind</b></li> </ul>

**A 4th auction is on-hold. A decisión is expected in the coming weeks**

Levelized Cost Of Energy (LCOE) achieved by both solar PV and wind established low world records, even when they competed against conventional technologies under the same rules without any kind of subsidy.

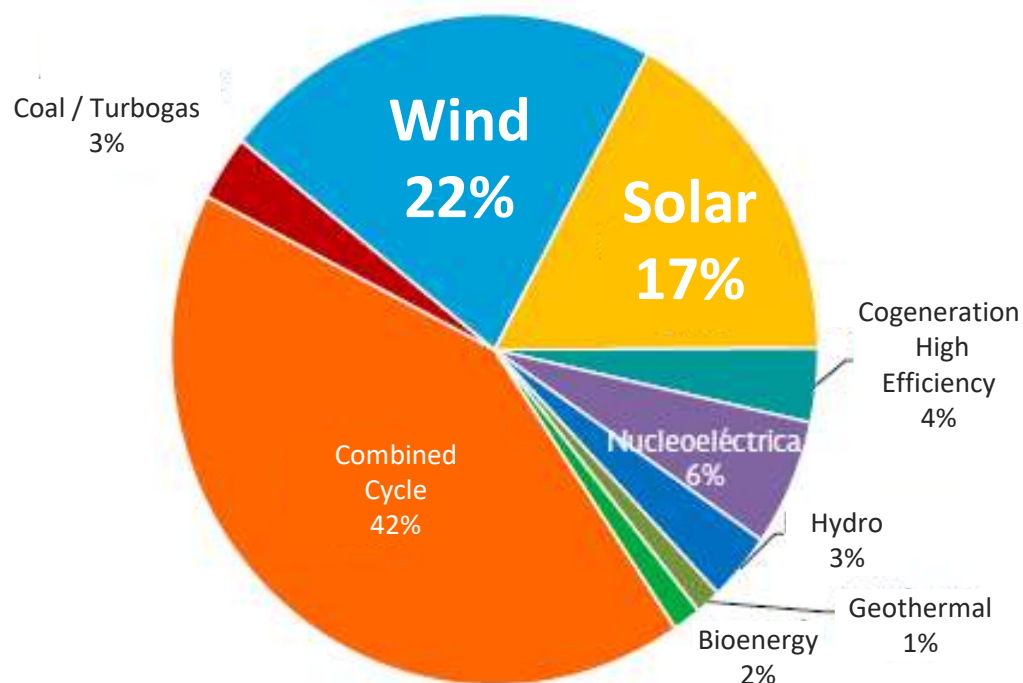
### Average awarded LCOE for Solar PV and Wind 2016 & 2017 Long Term Auctions\* (US\$/MWh)

■ 1st Auction - 2016   ■ 2nd Auction - 2016   ■ 3rd Auction - 2017



The Mexican Energy Ministry estimates that complying with both the planned demand growth and the replacement of obsolete generation centrals, will require new installed capacity above 67 GW\* from for the 2018-2032 period.

**67 GW\* - new capacity requirement**  
**Contribution by Technology**  
2018-2032



Source: Energy Ministry's PRODESEN (National Electrical Sector Development Plan)

\*Includes 16 MW of obsolete capacity to be replaced

**Implicaciones positivas**

**Generation**

- Investment: >US\$90 Billion

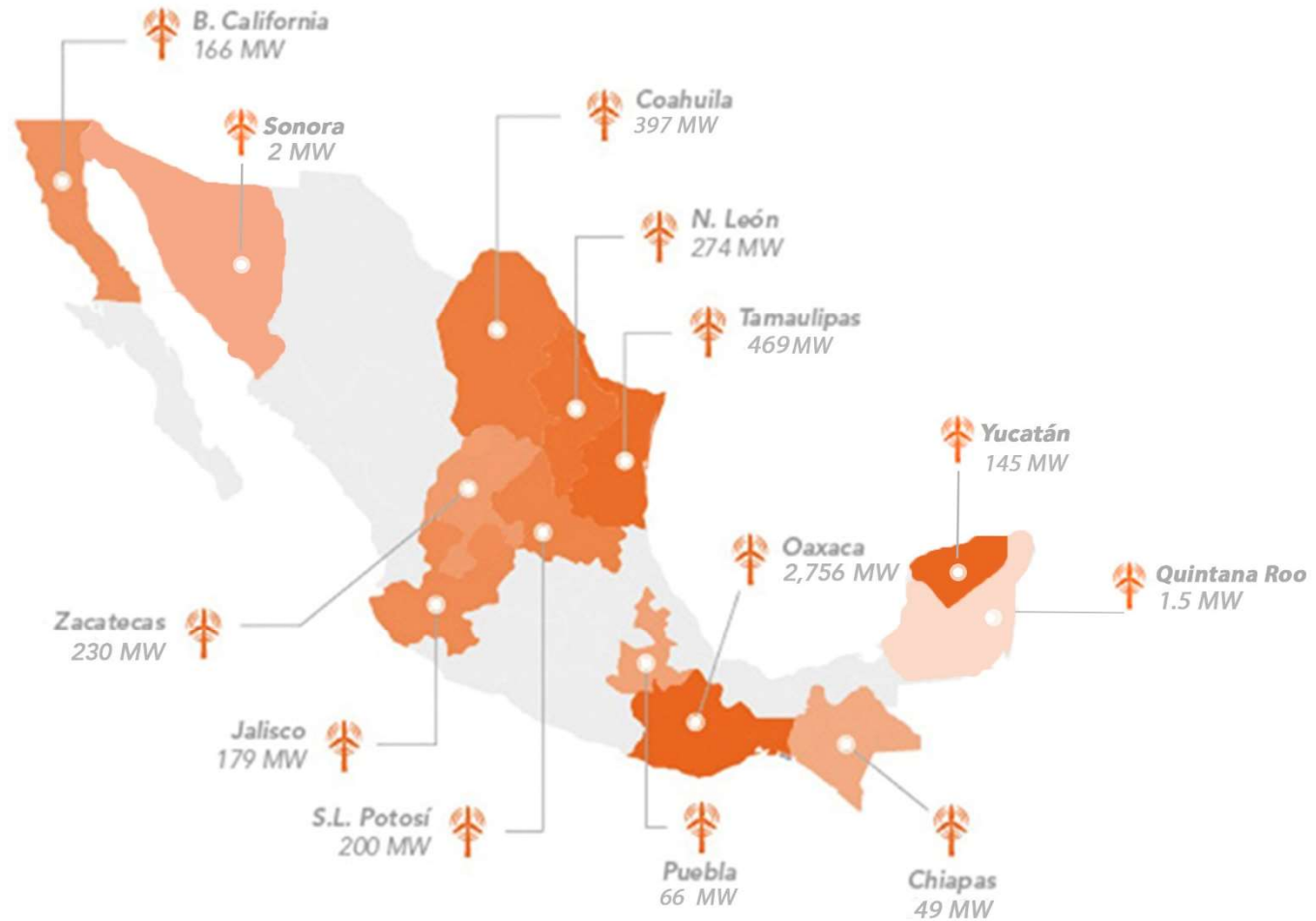
**Transmission**

- >1,900 km of new transmission lines
- Investment: US\$9.2 Billion

**Distribution**

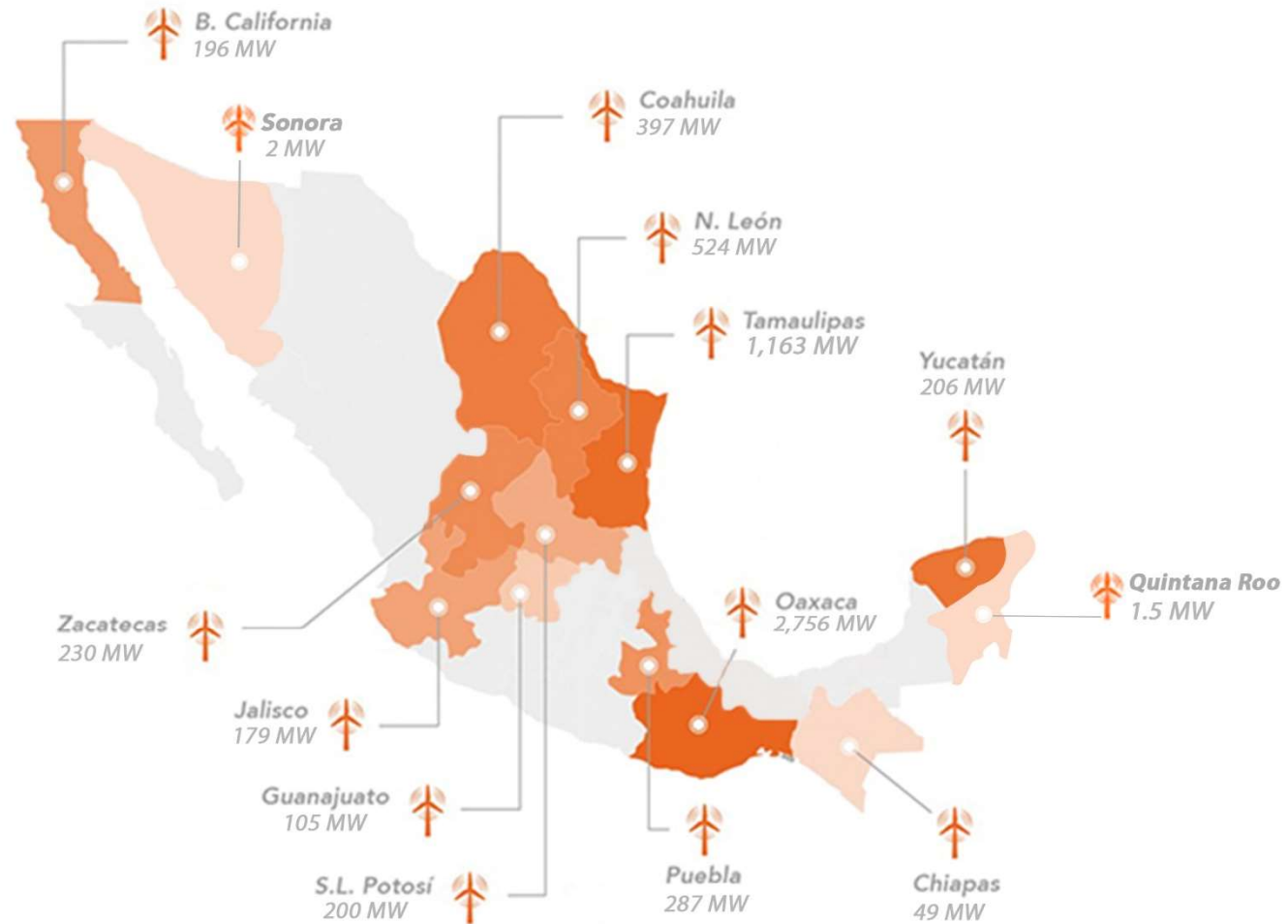
- Investment: US\$7.3 Billion

Mexico's installed wind capacity reached 7% of the national total by the end of 2018 with operative projects in 13 states.



TOTAL INSTALLED WIND CAPACITY IN 2018: 4,935 MW

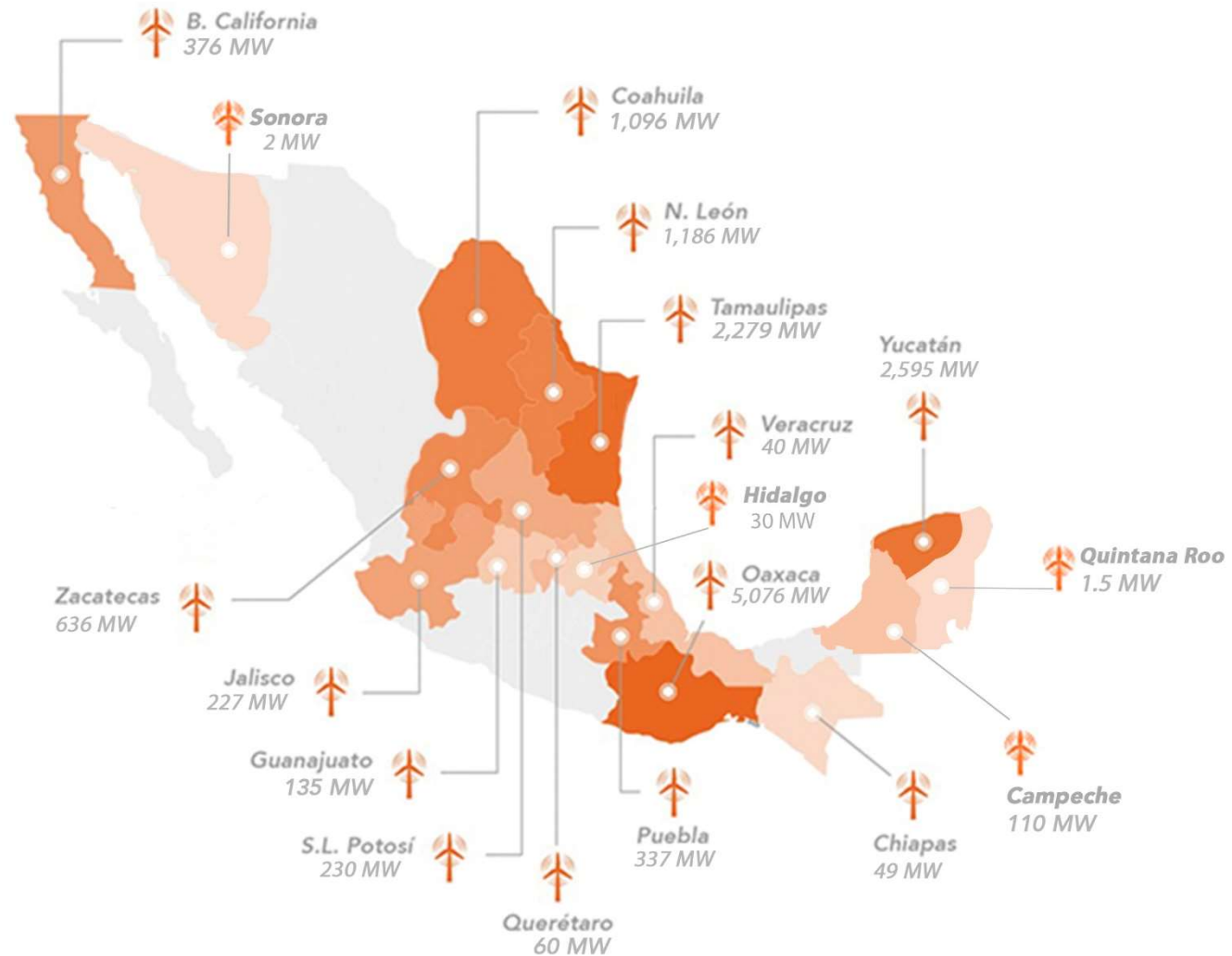
For 2019, 1,359 MW of new wind capacity will come on-stream, meaning a 27.5% increase above 2018 with presence in 14 states.



**FORECASTED INSTALLED WIND CAPACITY IN 2019: 6,294 MW**

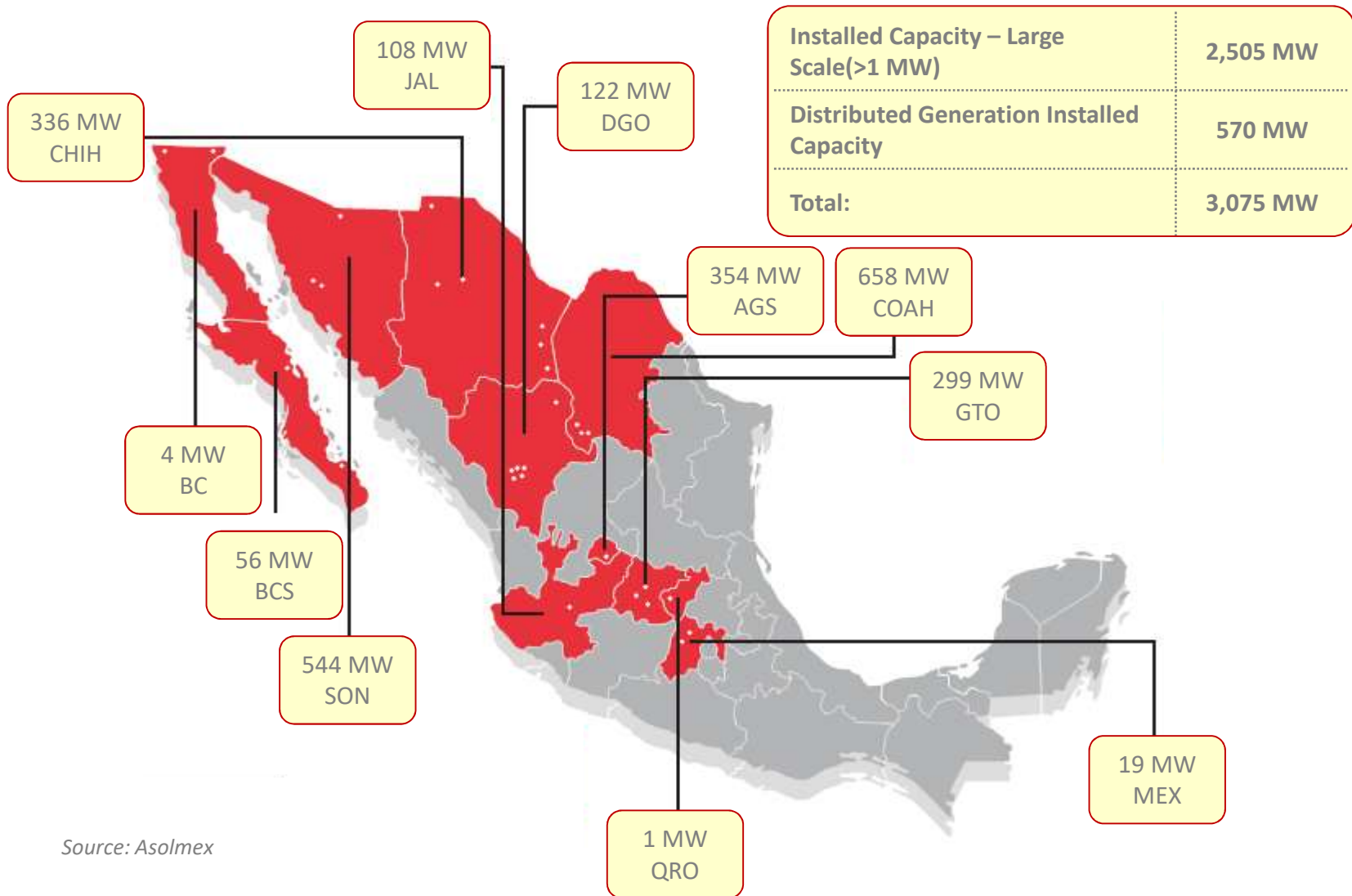


There are enough real projects in the pipeline for threefolding the 2018 installed capacity throughout the current Federal Administration (2018-2024).



**FORECASTED INSTALLED WIND CAPACITY IN 2024: 14.465 MW**

Solar PV installed capacity has also experienced an impressive growth, closing 2018 with 3 GW of operative projects and potential for fourfold this within the next five years.



Source: Asolmex

## Key Business Opportunities in the Mexican Wind Energy sector



- Regulatory framework that provides a long term certainty and volume visibility.
- Big potential for new projects and ability to offer competitive prices thanks to the long-term availability of technologies with a high degree of maturity.
- Long - term auctions that give certainty which eventually, and bilateral contracts in the private sector.
- Growing industry that necessarily will increase the demand of advanced services and specialties in engineering, consulting, financing, mounting, construction, O&M among others.
- Capabilities for manufacturing of high quality demanding components leveraging on well established related industries such as automotive, aerospace, metal-mechanical, electronics, among others.

# Mexico WindPower



EXHIBITION & CONGRESS

MARCH  
20 - 21, 2019

Centro Citibanamex, CDMX

*The leading event specializing  
in Wind energy*

*- With The Wind On Our Side -*