Clean Energy & Economic Prosperity

Rolando Pablos
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THE IMPORTANCE OF INVESTMENT ATTRACTION
GOVOR'S CUP WINNER
7TH STRAIGHT YEAR
SITES SELECTION
MAGAZINE 2018
BEST STATE FOR BUSINESS
CNBC 2018
BEST STATE FOR BUSINESS
16TH YEAR IN A ROW
CHIEF EXECUTIVE
MAGAZINE 2018
14 MILLION
PEOPLE IN TEXAS' CIVILIAN LABOR FORCE
BEST STATE FOR FEMALE ENTREPRENEURS
FITSMALLBUSINESS.COM 2019
#1 FOR FOREIGN
DIRECT INVESTMENT
ANNUAL STATE RANKINGS REPORT
BUSINESS FACILITIES 2018
TOP EXPORTING STATE
FOR 17 CONSECUTIVE YEARS
IF TEXAS WERE A NATION, IT WOULD BE
10TH LARGEST ECONOMY IN THE WORLD BASED ON GDP
GO BIG IN TEXAS
<table>
<thead>
<tr>
<th>No. 1</th>
<th>Key Texas Energy U.S. State Rankings</th>
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<tbody>
<tr>
<td>No. 1</td>
<td>total energy production</td>
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<tr>
<td>No. 1</td>
<td>crude oil production</td>
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<td>No. 1</td>
<td>natural gas production</td>
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<td>No. 1</td>
<td>electricity production</td>
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<td>No. 1</td>
<td>wind energy capacity</td>
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<tr>
<td>No. 1</td>
<td>biodiesel production</td>
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<td>No. 1</td>
<td>solar potential</td>
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<tr>
<td>No. 2</td>
<td>total renewable energy employment</td>
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<tr>
<td>No. 4</td>
<td>clean energy-related patents</td>
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</tbody>
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Office of the Governor
Economic Development & Tourism Division
Source: Fortune Magazine
Updated: June 2017

www.BusinessInTexas.com
POSITIONING
SAN ANTONIO FOR SUCCESS
THE 4-Q APPROACH

INVESTMENT DECISION CRITERIA:

• Quality of Life
• Quality of Place
• Quality of Workforce
• Quality of Industry
THE 4-Q APPROACH

INVESTMENT DECISION CRITERIA:

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HOW TO POSITION SAN ANTONIO AS A CLEAN ENERGY ECONOMY?
BINATIONAL CLEAN ENERGY COMPETITIVENESS CLUSTER
Focus on the Border

The Border Seems to be a **Most Promising** Place for Building a Globally-Recognized Clean Energy Economy from a Policy, Technology, RE Assets, Manufacturing and Economic Perspective.

- Policy – Friendly Renewable Energy Policy in Place in Both Jurisdictions
- Technology – Leading Research and Development Institutions
- RE Assets – Installed Capacity and Potential
- Manufacturing – Strong Manufacturing Clusters
- Economic – Strong Trade and Logistics; Wealthy states
TEXAS-MEXICO REGION
TEXAS-MEXICO REGION AUTO CLUSTER
A Competitiveness Cluster is:

A group of actors from the “triple helix” (government, academia, and businesses) gathered in a common territory, who collaborate on innovative projects geared towards certain markets.
A **COMPETITIVENESS CLUSTER** HAS THE FOLLOWING CHARACTERISTICS:

1. It is composed of **groups** or collectives representing triple helix actors, out of which at **least one** provides the cluster with a **certain degree of cohesion and identity**.

2. It is in a **defined geographical area** - be it a metropolitan area, region or a state.

3. It offers several **different forms of collaboration** in line with the needs of its members and their respective markets.
TX-MX Regional Analysis

I looked at issues such as:
1. Renewable energy policies of each jurisdiction;
2. Energy Systems. Installed capacity, transmission and energy potential of each jurisdiction;
3. Existing energy-related innovation efforts;
4. Existing political environment;
5. Manufacturing sector – RE Components, Automobile, Electronics, Consumption;
6. Private sector and government transnational collaboration efforts in general; and
7. Border environmental challenges and climate action efforts
The national clean energy goals are established in the Energy Transition Law.

- **2018**: Fossil Fuels 72.3%, Clean 27.7%
- **2024**: Fossil Fuels 65.0%, Clean 35.0%

Less polluting energy

More clean energy
Installed Capacity by Energy Source
CFE’s Transition Towards Cleaner Generation of Electricity

In 1Q2018, clean technologies reached 27.7% of total installed capacity.

- Hydroelectric
- Nuclear
- Wind
- Efficient cogeneration
- Geothermal
- Bioenergy
- Photovoltaic

*Independent Power Producers*
The Energy Reform promoted cleaner generation of electricity

- Finished auctions
- Capacity: 7 GW
- Generation plants: 65
- Billions of USD on investments: 8.6
- States with new clean energy plants: 17
R&D AND MANUFACTURING

- Wind Components
- Solar Components
- Batteries
- Automobile
- Aerospace
- Electronics
GOOD EXAMPLE

MASSACHUSETTS CLEAN ENERGY CENTER
Findings

- The right conditions exist for the development of a **Clean Energy Competitiveness Cluster**.
- A need exists for a **concerted effort** to ensure the rapid pace of clean energy transition along the Texas-Mexico border.
- San Antonio would benefit from regional integration of clean energy transition efforts.
- The Texas-Mexico region contains many clean energy assets and has what it takes to become a clean energy economy.
- Government and private sector efforts on both sides of the border are not fully focused on creating a binational **clean energy** economy.
- Many efforts toward binational economic development collaboration lack cohesion.
- The local governments and the private sector that pursue cross-border engagement, lack authority and funding; whereas the federal governments have authority and funding, but lack focus.