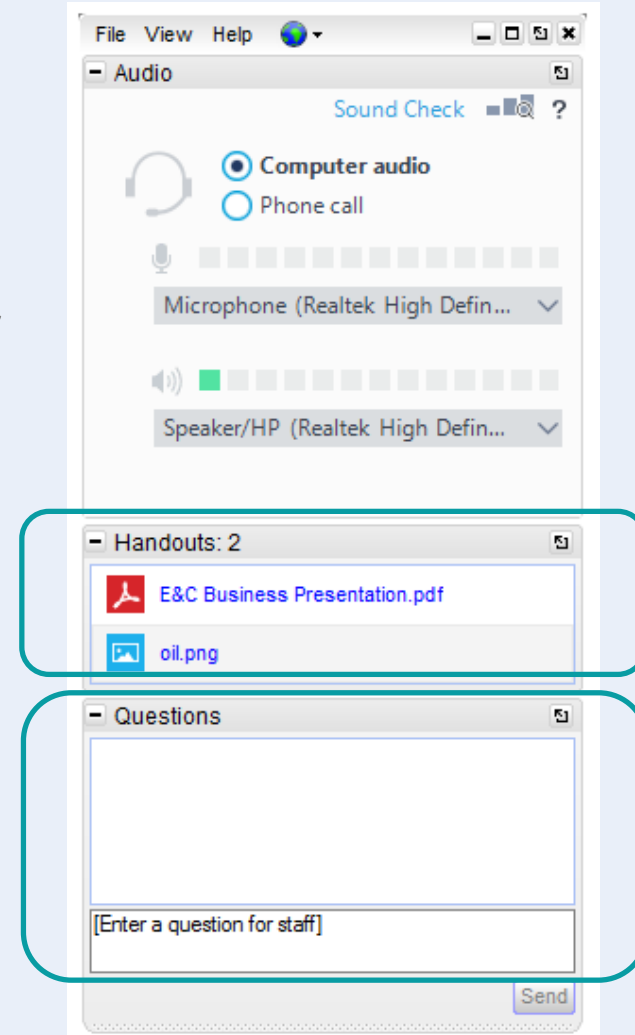


How to buy energy in Mexico, on the verge of liberalization?

Webinar Format

- Kobe Cannaerts
- Duration: 30 minutes
- **Handouts** viewable & downloadable during webinar + sent to all attendees afterwards
- Have a **question**? Type it in the Questions box and our consultant Carolina will reply to you. Feel free to send her your questions by email (Carolina@eccc.eu) in case they couldn't be threaded.



What do we do?

INDEPENDENT ENERGY PROCUREMENT CONSULTANCY

Gas &
electricity

Focus on procurement
strategy, not on consumption
reduction

We are not a supplier,
trading house, or
brokerage.

CONSULTANT

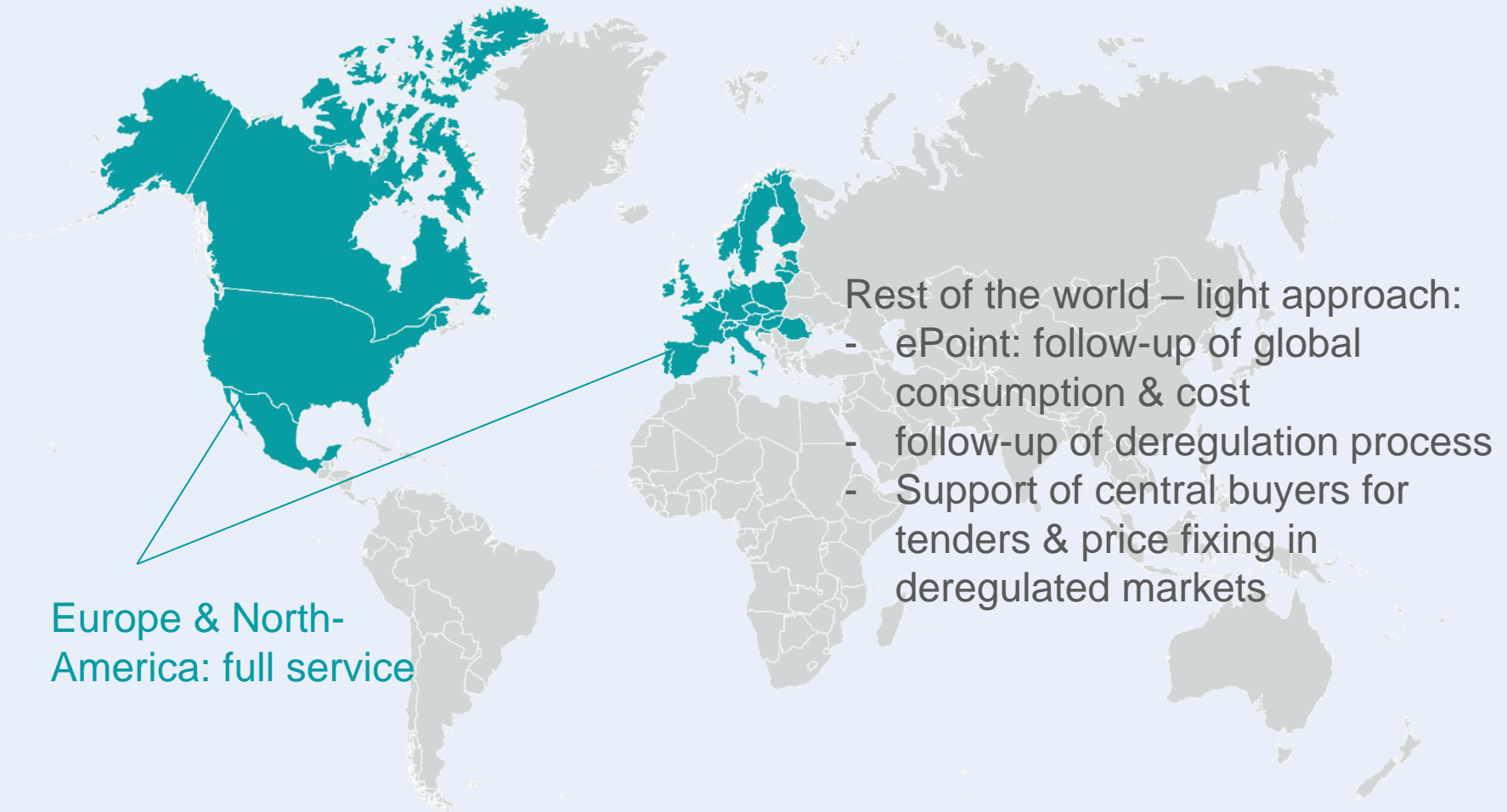


CLIENT

SUPPLIER

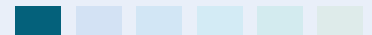


E&C's global approach

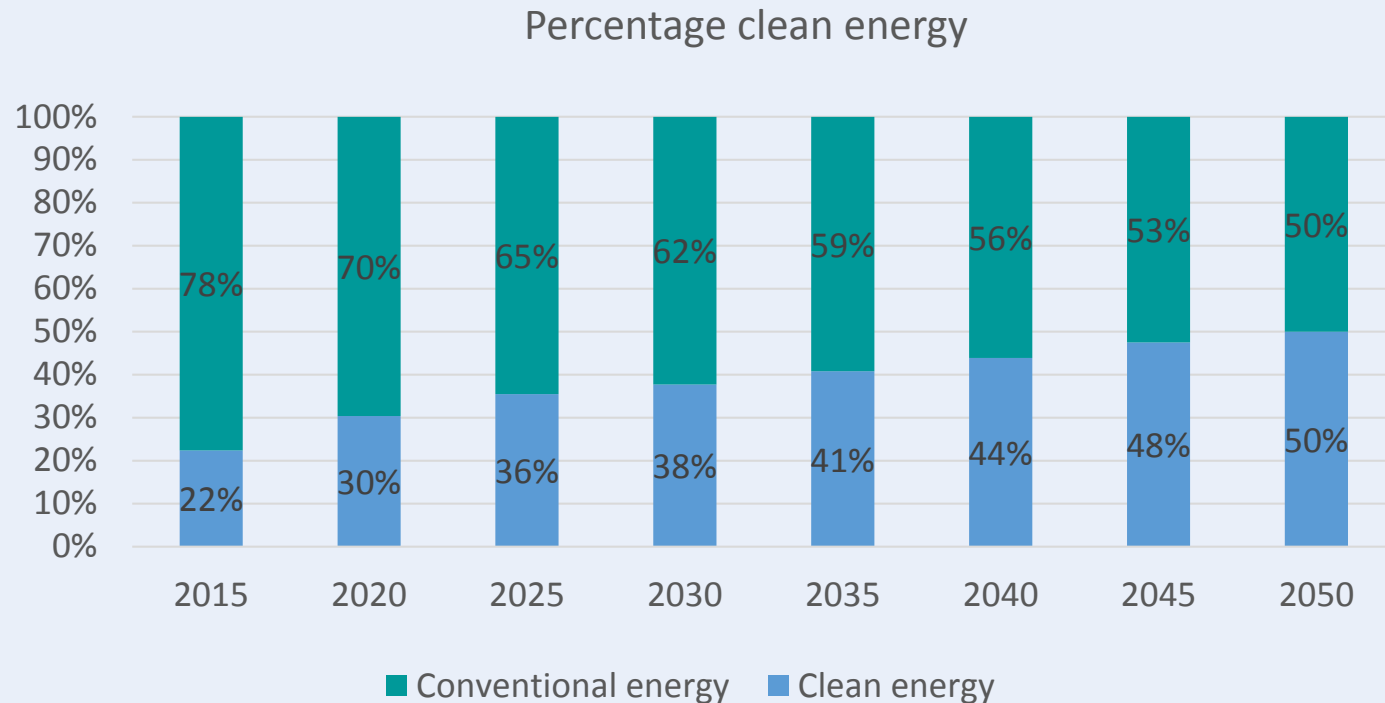


Why energy sector liberalization is needed in Mexico?

- Deficit due to the difference between the costs of producing electricity and the rates customers pay. CFE tariffs are more than 50% subsidized.
- To incentivize the investment in renewable energy and lighter fuels that could take marginal cost down.
- Attract investment in infrastructure:
 - Reduce losses: technical and non-technical
 - Improve the reliability of the grid
 - Ensure the continuity of the service
- Attend to the demand of the Mexicans. In the last year PEMEX was not able to satisfy the gas and oil demand.
- Eliminate VPM prices for gas.



Renewable energy generation goals



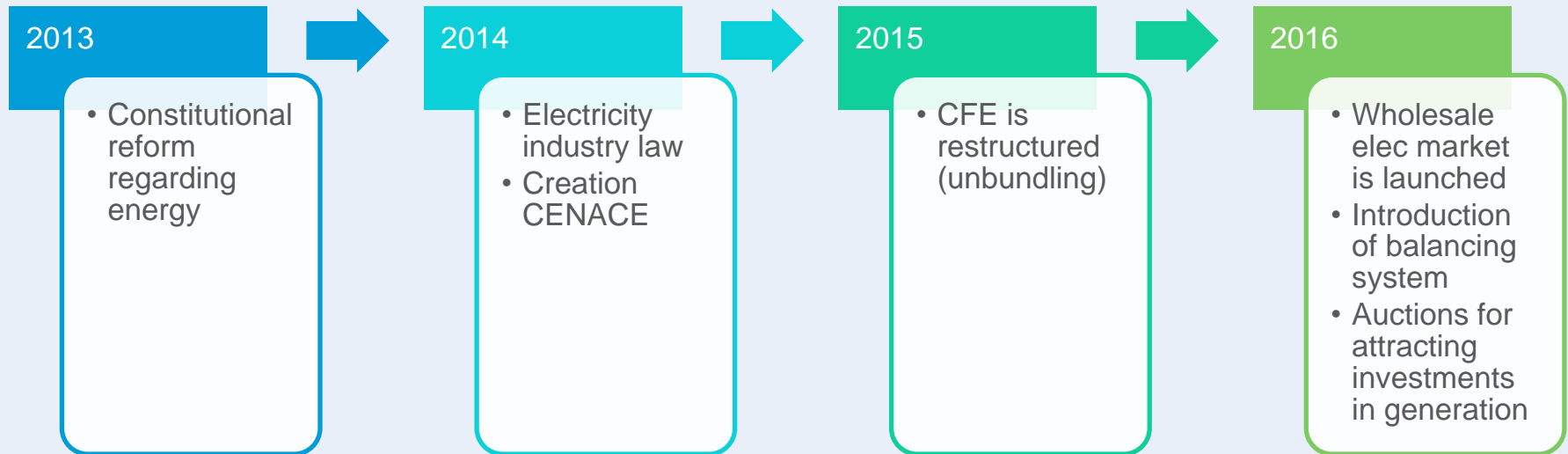
Source: SENER

Key factors to make energy market deregulation work

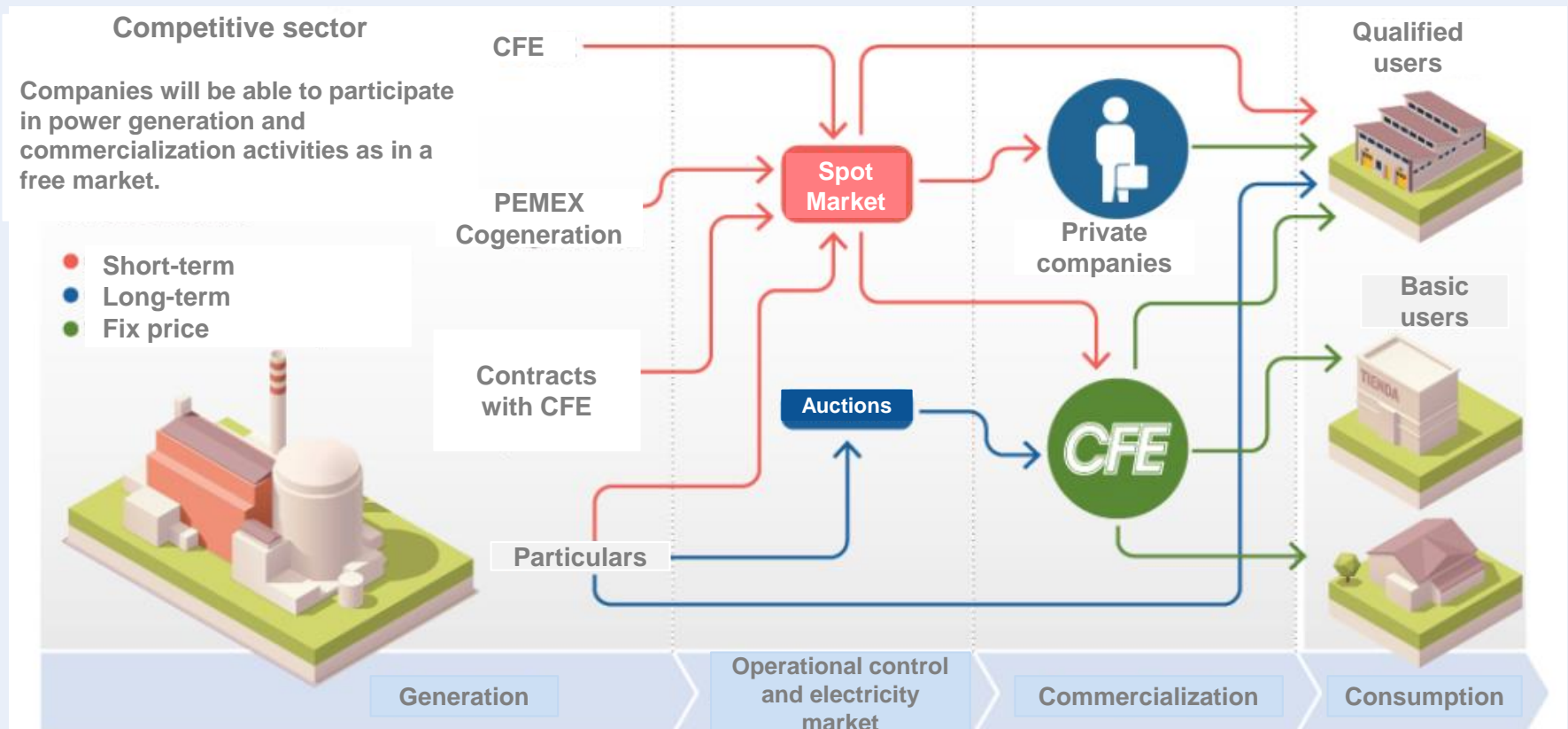
- Third Party Access
 - Unbundling
 - Capacity allocation process
 - Creation of a secondary capacity market / application of use-it-or-lose-it
 - Creation of large entry-exit zones (virtual Hubs)
- An effective and efficient balancing system
- A liquid wholesale market
 - Day-ahead and within-day markets that are well integrated with the balancing system
 - Forward / futures markets for securing fix price offers

Electricity Sector

Electricity market liberalization



Electricity Market after liberalization



Mexican power grid

Transmission Capacity by region



Transmission Capacity by region			
Control Region	Capacity (Megawatt)		Annual growth (%)
	2014	2015	
Central	10 100	11 100	9,9
Oriental	15 210	15 460	1,6
Occidental	12 250	12 450	1,6
Noroeste	5 520	5 520	0
Norte	4 060	4 060	0
Noreste	18 150	18 150	0
Peninsular	2 900	2 954	1,9
Baja California	1 443	1 433	-0,7
Baja California Sur	270	270	0
Total	69 903	71 397	2,1

However ...

- Clients are being approached with bilateral agreements for long-term supply with a discount-on-tariff price
- In principle, you have four options at this moment:
 - Self-supply or abasto aislado
 - Bilateral agreement
 - Open market offer (spot prices only)
 - Stick with the tariff

Bilateral agreements

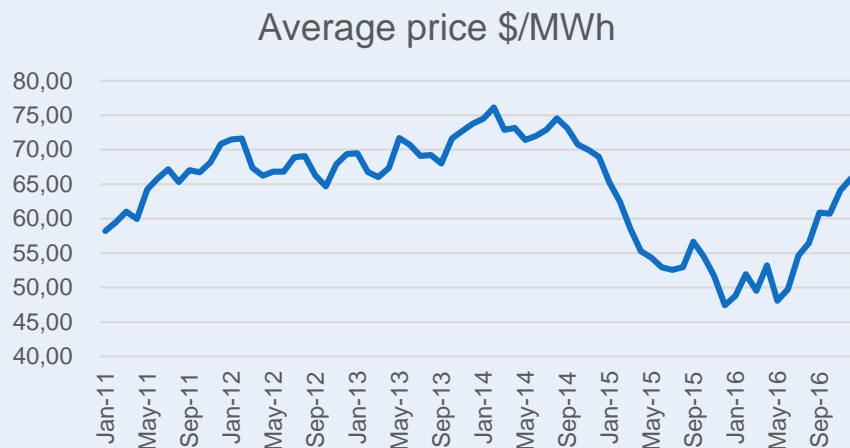
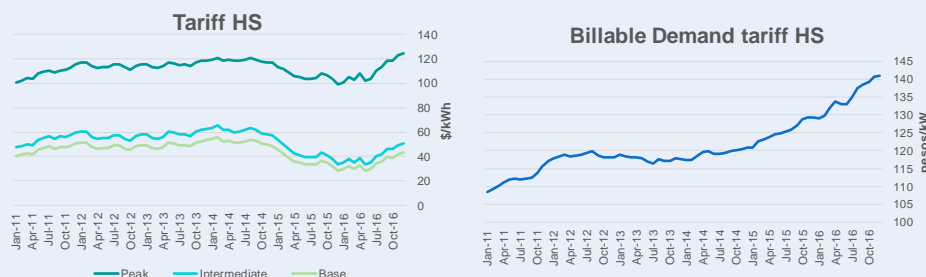
- Is it a good idea to sign into a long-term agreement right before liberalization?
- Whether such contracts will be in the money or not will depend on the evolution of the tariff vs open market price spread.
- It's not the purpose of the liberalization process to keep the tariff below open market pricing.

Price drivers

- A second energy auction held in September resulted in a price for clean energy of 33.47 \$/MWh and 2,871 MW of clean energy to be developed by 23 generators in the next 3 years.
- CFE will participate with two projects of 400 MW.
- Electricity tariffs in Mexico are to change and will be calculated in a different way that will represent the real cost of the system.
- It is expected tariffs will increase significantly in the following months. The Secretary of Finance will publish the tariffs month to month.
- In the last months tariffs increased as they depend a lot on **gas prices**: it is the most important and marginal power generation source. International gas markets are in a bullish trend since March 2016.
- **The gas pipeline network** is to increase to nearly 20,000 kilometers by 2018 and by 2020 it is expected that imports from Texas increase to 11-12 billion cubic feet per day.
- Besides, a higher **electricity demand** is affecting electricity prices.

Electricity tariffs evolution

High voltage tariff in Central, Northeast, Northwest, North, South and Peninsular regions



HSCentro tariffs	Deviation % 2015-2016			
month	Demand	Peak	Intermediate	Base
Jan-16	106,9%	88,9%	65,4%	65,4%
Feb-16	105,9%	93,7%	75,9%	75,9%
Mar-16	107,1%	94,8%	76,9%	76,9%
Apr-16	108,1%	102,1%	91,7%	91,8%
May-16	106,8%	97,0%	81,5%	81,5%
Jun-16	106,5%	100,2%	88,9%	88,9%
Jul-16	107,7%	106,7%	102,2%	102,2%
Aug-16	109,2%	108,8%	105,2%	105,2%
Sep-16	109,0%	109,3%	106,5%	106,5%
Oct-16	108,1%	111,0%	112,5%	112,5%
Nov-16	109,0%	118,1%	130,4%	130,3%
Dec-16	109,2%	125,5%	152,6%	152,6%

- During the last month, we have seen the tariff increase by 9% compared to the previous year for the demand term.
- For the peak period, the tariff has increased around 25% per month and for the intermediate and base periods more than 50% in December.

Source: CFE, CRE

Open electricity market price evolution



- Electricity prices in Mexico near the United States border have generally been lower. Although Mexico's electricity system is not extensively interconnected with the U.S. power system, border regions can import some power from California and Texas.
- Wholesale Electricity Market prices in the Tijuana and Ensenada zones averaged \$23 per Megawatts-hour during the first six months of 2016, similar to prices across the border in Southern California.
- The Yucatán and southern Baja peninsulas have experienced higher prices, about \$63 per Megawatts-hour and \$118 per Megawatts-hour, respectively because of fewer generation options and limited transmission connections to neighbouring regions.

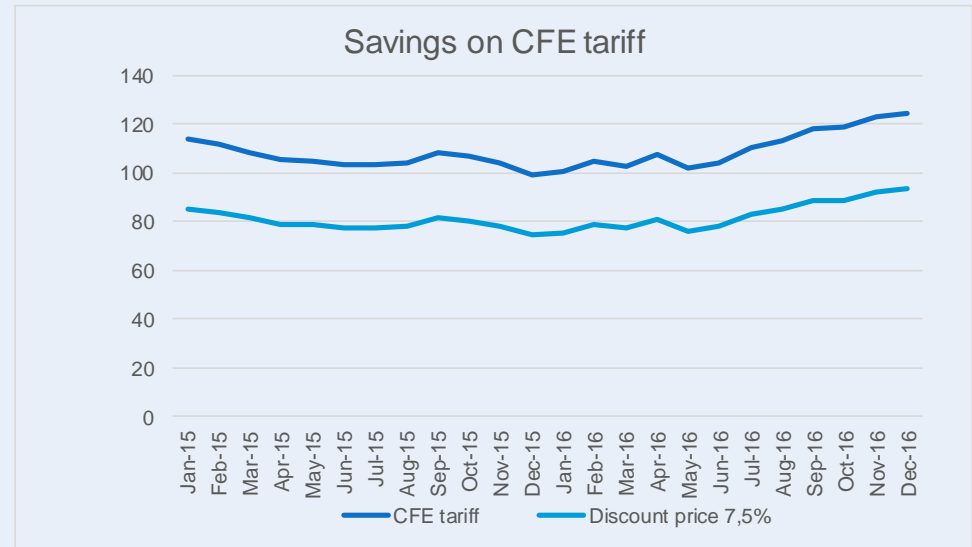
Source: EIA

Note: EIA calculations based on locational marginal Price data from CENACE

Electricity Supply Proposal example

Self-Supply Scheme in Mexico: Which is the real meaning of the proposals from which we can get a discount in the tariff?

- The client remains connected to CFE's grid.
- For example, CFE will supply 80% of your electricity consumption and Private supplier 20%.
- Offered discounts are around 5%-10% on the CFE tariff.



Risks:

- Price always depends on CFE tariff
- Long duration contract: private suppliers offer contracts between 5 and 15 years.

Self-Supply - abasto aislado

What it is Abasto Aislado? The new concept of self-supply

- It is defined as the generation or import of electricity to cover own needs without this electricity being transmitted through the National Transmission and/or Distribution Network.
 - Power plants may allocate all or part of their production to isolated supply.
 - Load centers may meet all or part of their electricity needs by the isolated supply.
 - CRE permission to import or export electricity in isolated mode is required.
 - Power plants under Abasto Aislado may be interconnected to the national transmission network or public distribution systems for the sale of surplus and purchase of missing electricity resulting from its operation.
 - CEL must be bought under this modality unless the electricity is generated from a clean source

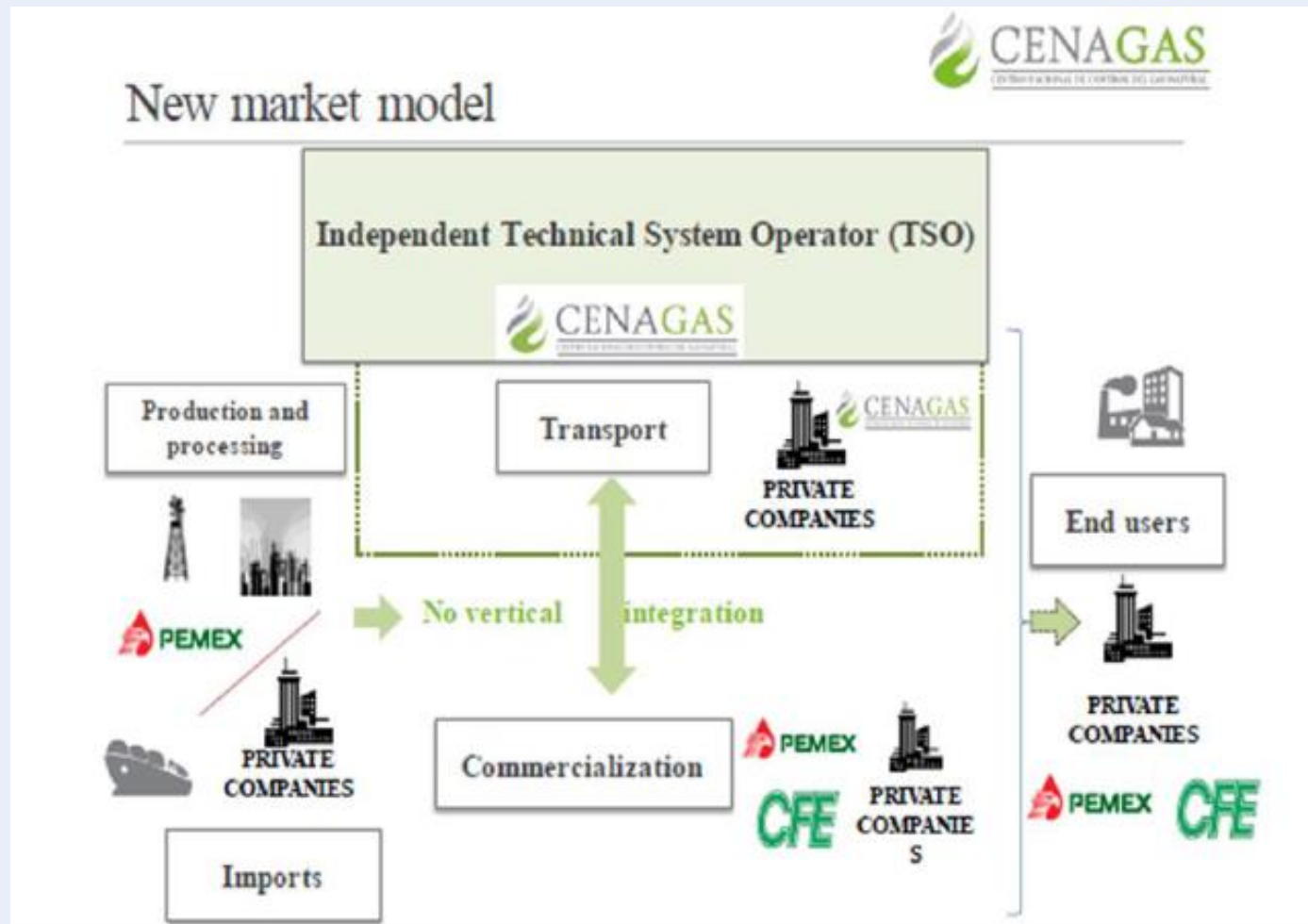
Gas Sector

What does the gas sector deregulation entails?

- Companies other than Pemex will be able to participate across all sectors of the gas industry for first time since 1938.
- Mexican national gas transmission system (Sistrangas) and private pipeline capacity will be available for third party access.
- New competition as wholesalers in the US are now able to take market share from Pemex, which must shed 70 percent of its current contracts by 2019.
- Creation of secondary market, in which unused capacity can be bought and sold from shippers. Electronic bulletin boards to be set up, providing operational information - e.g. tariffs, idle capacity - on a public accessible platform.
- Additional pipeline infrastructure investment and expansion sponsored by CENAGAS. Opportunity for private sector to propose their own pipelines and distribution networks.

Source: SENER

Gas sector deregulation



Natural Gas: deregulation steps

September 2016 - Round 0: allocation of capacity to CFE and Pemex



October/November 2016 - Round 1: allocation of capacity to baseload demand customers, acquired rights holders and open season.



March/April 2017 – Launch of new natural gas market



Late 2017 – Pricing deregulation: removal of VPM pricing formula for natural gas imports from the US

Natural Gas: deregulation steps



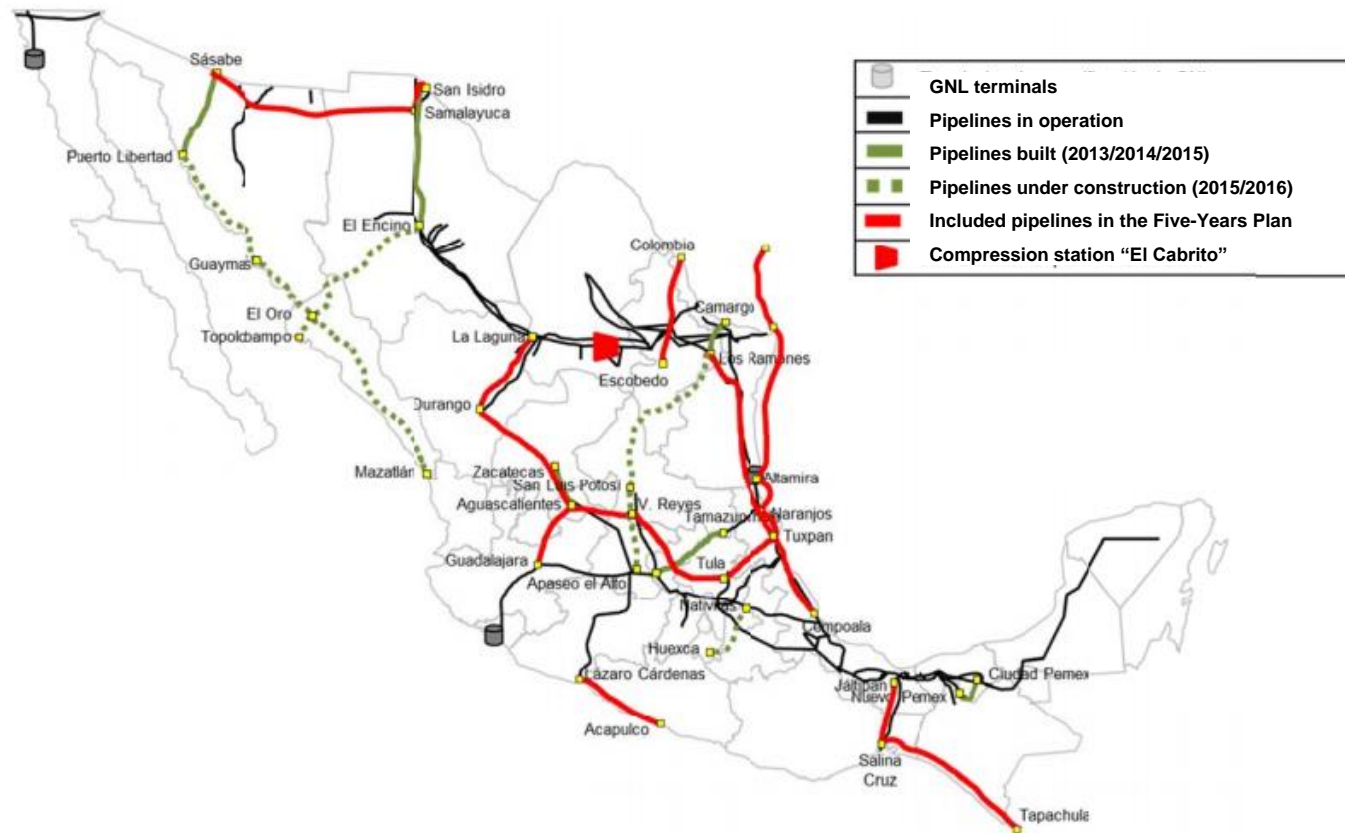
1. SENER issues public policy
2. SENER/CRE defines market information registration scheme
3. CENAGAS/CRE defines the scheme to reserve capacity in national and entrance ducts

1. CRE ends with VPM in Reinos
2. CENAGAS starts operation under reservation capacity
3. PEMEX continuous with the gradual contracts transfer program
4. Users access market information
5. Market with the new information available; the interest of new suppliers increases.

1. CRE ends with VPM in the country
2. Users make market transactions
3. Pemex completes the contracts transfer program
4. There are liquid market mechanisms to determine prices
5. New market opportunities: financial markets, related products...

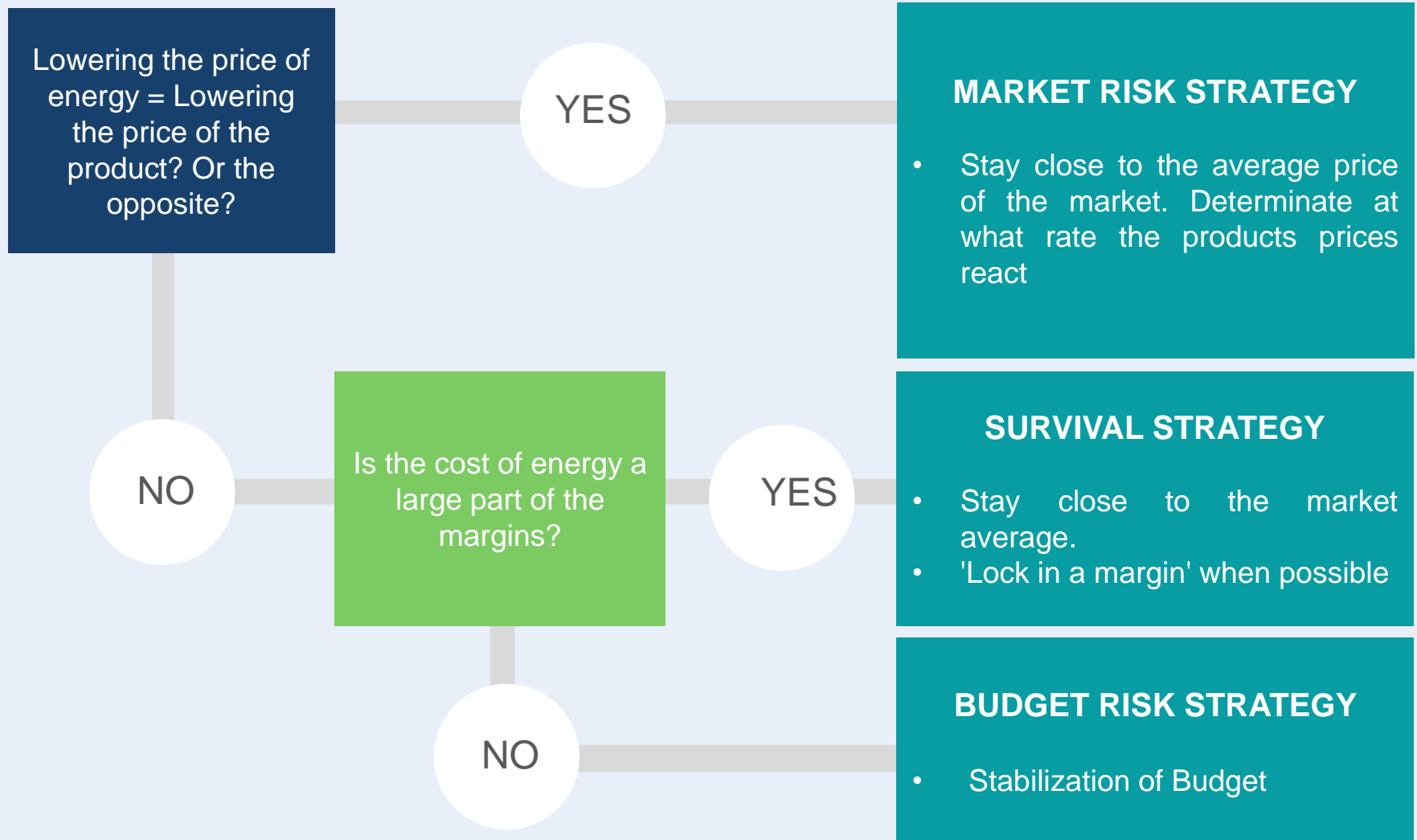
Natural Gas: Development plans for Natural Gas Infrastructure

Map of the Five-Year National Transportation System and Natural Gas Storage Expansion Plan 2015 – 2019



E&C Recommendation

Identify your business



E&C Recommendation

Due to the uncertainty at this moment in the energy sector in Mexico, our recommendation is to **diversify the risk by spreading your decisions**.

For **electricity**, according to your needs we propose you different options to combine and diversify the risk depending on your interests:

- Generation project under Abasto Aislado modality.
- Small % participating in the open market electricity prices. For the moment, there is just a Day Ahead Market.
- Billateral contract with Qualified suppliers
- Contract with Basic supplier (CFE at this moment) – regulated tariff

For **gas** these are our comments:

- Be aware of the publications in January regarding the capacity allocation process.
- Start an RFQ process in 2017 to see which supplier is the most competitive (Pemex or new private companies)
- VPM's are expected to be valid until the end of 2018 depending on the region.

Electricity: what to do with a discount-on-tariff offer?

- Strategic considerations – spread your risks
- Build in a clause with a good arrangement regarding the price if the tariff is no longer published
- Build in a hardship or even better reprice clause for when the open market would be much lower than the discounted tariff

More information?

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