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## Are there prospects in Chicontepec?

### Summary

PEMEX insists on rescuing the controversial case of Chicontepec, according to the *Sustainable Development Strategy* (MEDS) document. Under the facade of supporting the rural population of northern Veracruz and part of Puebla, the state-owned company persists in continuing to refurbish the region.

The MEDS document does not include the oil geological support to justify the drilling of 17,000 wells, with an average annual investment of 20MMMS (!), to be applied in that region where there is scarce oil production. Nor does it indicate the methodologies used to support the population of the Chicontepec region, by means of this assumption.

Instead, it shows graphically and inaccurately, the result of the drilling carried out in the last four years. It also points out the disproportionate production gap between Chicontepec, with 200 barrels per well per day (**bpd**), and Cantarell with 20,000 bpd.

NOTE The amount of the requested millionaire budget is transcribed from MEDS: 20MMMS.

### Background

PEMEX persists in drilling wells in Chicon tepec, without the geological support required for this oil activity, related to the exploration and exploitation of possible oil deposits, which would be confined in the subsoil of that region.

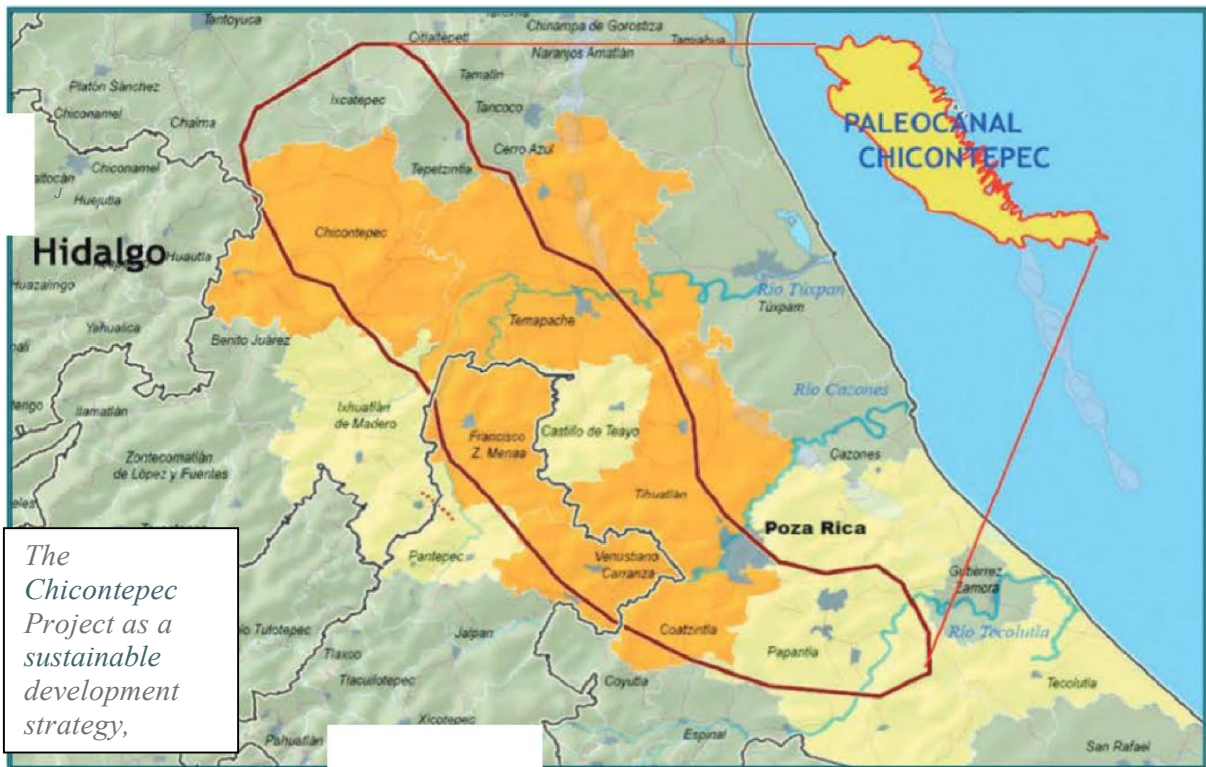
According to the MEDS document, issued by PEMEX, it is intended to justify the enormous budget tendered to the Congress of the Union, with the proposal to create respectful and protectionist activities to the ecological and social environment that affects the population of the Chicontepec region.

PEMEX's mission is to locate and exploit oilfields; however, this is distorted in the MEDS document by proposing to continue the irrational drilling of wells, with the lure of locating mythical foundations.

With this, PEMEX hides the failure that occurred in the last four years in Chiconte pec, pretending to correct its lack of expertise by means of alleged studies of the rural environment, where that oil activity takes place.

Simultaneously to the populist approach expressed in MEDS, PEMEX continues to award powerful contracts to foreign companies to drill wells, without being able to recover the supposed hydrocarbons that the Chicontepec region would hold.

In addition, the state-owned company is determined to delineate the alleged Chicontepec palaeocanyon of 3,785 km<sup>2</sup>, located in the subsoil of the states of Veracruz and Puebla, whose surface area is divided into nine and three areas, respectively, where it will continue to drill wells, according to the document.



This paleocanyon would represent a geological structure of marine origin, without communication with the ancestral Gulf of Mexico, and would correspond to a utopian marine channel of Paleocene geological age, which was configured on a drawing board and without geological support. It is an irrational proposal, with no possibility of being amended, due to the lack of geological studies; it represents the paleogeographic delimitation of the region where powerful deposits, still undiscovered, would be located.

PEMEX proposes to recover an idealized reserve of 6,300 MMB of crude oil and 14,500 MMMPC of associated gas, supported by imprecise documentation from executives of that institution. According to the MEDS document, it also intends to increase the production of 600 MBD of crude oil and 1,076 MMPCD of gas until 2016 and, in addition, to obtain the recovery factor (RF) from 7 to 12 % (?). This last proposal represents in itself a technical subterfuge to justify the incongruent exploratory activity carried out in Chicontepec.

PEMEX also does not explain the relationship between the proposal to improve the rural environment and the oil exploration in Chicontepec.

Petróleos Mexicanos states that it began exploration in that region in 1952, where it has drilled 1,368 wells; there it shows that it only operates a third of them, 485. The aforementioned document omits to indicate whether these wells produce oil and in which fields of that region. Neither does it indicate the amount obtained daily per field, nor in which strata the oil is located; it avoids indicating the depths where the possible deposits are located and does not refer to the producing strata, in the MEDS document, according to the wells drilled.

These are fundamental geological information data, which should be included in programming documents, relating them to Mexico's oil reserves. This corresponds to essential geological information that allows



<p>The aforementioned document does not indicate which geological methodologies with oil implications will be used in this exploration work.</p>	<p>us to discern, among other activities, the exploratory geological risk that....</p>
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<p>...implicitly entails any oil company. This type of clarification is not included in the MEDS document, which promotes greater drilling of wells in Chicontepec. The absence of geological information in the aforementioned document makes it an unsafe and unfeasible proposal, to the disgrace of the Nation, which invests huge budgets in an oil activity that should be rentable (Fig. 1).</p> <p>After 60 years of drilling wells in the Chicontepec region, it is necessary to ask PEMEX if it already has the catalogued geological detail corresponding to the lithological material extracted from its wells; these data should be referred to metric scales to locate them in the geophysical logs.</p> <p>Also, it is not known if there are structural and lithofacies plans of the horizons of petroleum interest, which should graphically characterize the layers cut in those wells.</p> <p>In the triumphalist MEDS proposal, PEMEX accounts for 41% of Mexico's 3P reserves. These are distributed equally as follows: 15 Proven, 15 Probable and 15 Possible. The last two fall into the field of speculation, it is information that will require several years to certify (Fig. 2).</p>	<p>PEMEX requests the approval of a budget from those who grant these amounts, the Congress of the Union, to be allocated for a period from 2009 to 2023, as follows:</p> <p>Take of 4,600 km<sup>2</sup> of seismic; in this respect it is recalled that this region has 3,785 km<sup>2</sup>. This is requested to cover a larger area than the same, in round terms.</p> <p>In connection with this request, the following questions should be asked about PEMEX's exploration activity in Chicontepec:</p> <ul style="list-style-type: none"> <li>- How have you worked in this region over the last 30 years?</li> <li>- What geophysical tools did you use in that time to document the drilling of oil wells?</li> <li>- Why is it requested to carry out as many seismic lines similar to those already obtained in recent years?</li> <li>- Does it mean that the previous geophysical material was not useful to locate reservoirs in the strata buried there?</li> <li>- What is the technical difference with the new requested seismic lines?</li> <li>- Will these new seismic lines have higher resolution?</li> <li>- Which oil companies will perform this contract in the Chicontepec region?</li> <li>- How will it be verified that this operation was</li> </ul>
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Let us remember that oil production in Chicontepec oscillated around 40 thousand barrels per day, a couple of years ago; this production doubled unexpectedly towards June of this year, in the order of 70 thousand barrels per day. This spectacular figure has been repeatedly pointed out in the Chamber of Deputies (14-VI-2012) and in the press; it is representative of an unprecedented oil production at world level, in a region that has been characterized by maintaining a poor commitment to this exploratory activity.

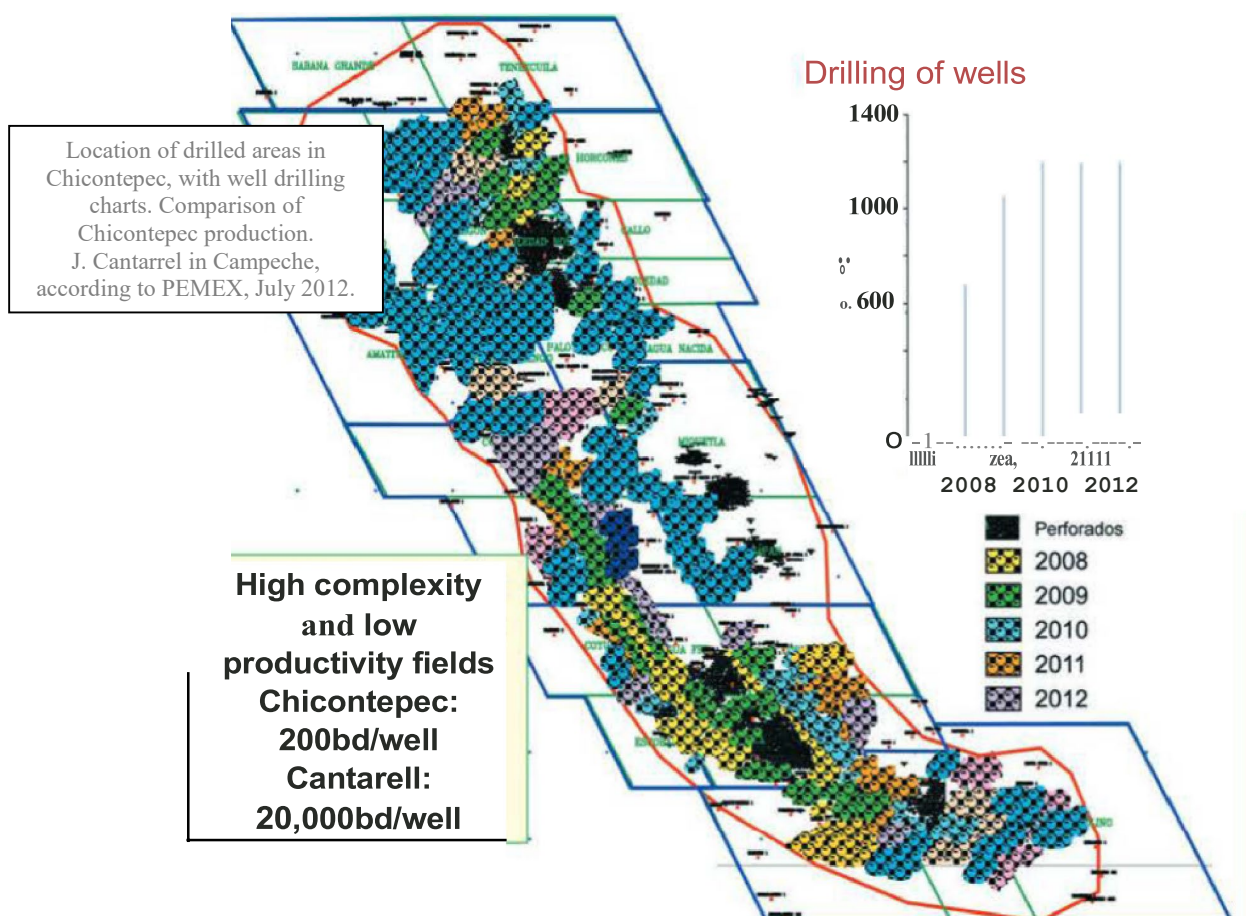
### Data

In the MEDS document, it is possible to assume that oil exploration is not aimed at increasing production in Chicontepec; rather, it is aimed at continuing to justify the uncertain exploration in that region by increasing the number of wells to be drilled.

carried out?

Likewise, PEMEX is asking to drill 190 wells, it is pertinent to ask you:

- What is the difference between a normal and a strategic well?
- Which strata do you intend to penetrate according to geological ages and depths?
- At what sites and in what type of geological structures will these wells be programmed in the Chicontepec region?
- By means of seismic lines they will treat to recognize lateral lithofacies changes in the subsurface in order to schedule further drilling?
- What stratigraphic methodology will you use for these purposes?
- With what geological documentation will support the location of supplementary wells?...





<p>... - What are the chances of verifying such geological and geophysical documentation?</p> <p>In addition, PEMEX announces the drilling of 17,000 development wells.</p> <p>This is an impressive number of wells in the Chicontepec region, where it is already known that it has not obtained the desired production.</p> <p>Why does PEMEX insist on continuing to indiscriminately drill wells in that region? Will Mexico benefit from this impressive number of wells to be drilled?</p> <p>The MEDS document adds the following requests: Four process centers, 1,100 drilling rigs (macro rigs) of up to 19 wells e/u, 150 separation batteries, compression (or multiphase separation), 500 km of ducts of different diameters.</p>	<p>Finally, PEMEX states in MEDS that it requires an average annual investment of 20 <b>MMMS</b> (?) for 2009 to 2012. It should be clarified that this activity is about to end, according to this document.</p> <p>Therefore, it is convenient to report whether these activities have already been carried out and what were their results, including the following data:</p> <ul style="list-style-type: none"> <li>- Square kilometers of seismic lines performed and analyzed,</li> <li>- drilled wells,</li> <li>- results of the four types of constructions requested therein.</li> </ul> <p>PEMEX graphically shows that Chicontepec's reservoirs are of high completeness and low production, in the order of 200 barrels per day (bpd) <b>per</b> well, compared to 20,000 bpd at Cantarell in Campeche.</p>
<p>While Antonio Narvaez Ramirez, PEMEX engineer in Poza Rica, points out the record figure of 1,362 wells in operation, out of 19,079 wells that have been drilled in Chicontepec, with a production of 70 thousand barrels per day (La Opinión, Poza Rica (17-09-2012). An anonymous reader infers an average production per well in operation of 9.5 barrels per day; when prorated among the 19,070 wells drilled, the surprising oil production in Chicontepec is reduced to 3.67 barrels per day.</p> <p>In the MEDS document, PEMEX reports a production of 200 million cubic meters of barrels per year.</p> <p>This is evident that the numbers don't add up.</p> <p>An external technical audit is urgently needed to audit what is happening in Chicontepec.</p> <p>PEMEX must explain what it means by highly</p>	<p>However, the activity of drilling companies is reduced to the mechanical part of drilling wells, which does not justify the waste that occurs in Chicontepec. So, who solves these geological-petroleum cases, and who integrates them in stratigraphic and structural sections and plans, even if they correspond to failed cases?</p> <p><b>Demand and verification of information</b></p> <p>Before the Congress of the Union writes blank checks to PEMEX, in the form of budgets, that legislative body should demand that the state-owned company show the professional and academic records of the technicians of the drilling companies, where they will refer to their verifiable scientific productivity in the disciplines of geology and petroleum geophysics.</p> <p>The above will be governed by the only quality criterion recognized worldwide, such as the</p>



complex reservoirs with low productivity, when it is known that the rocks drilled in Cantarell present structural and stratigraphic challenges superior to those of Chicontepec.

In the Chicon tepec sedimentary sequences there are only lateral lithofacies changes, which imply stratigraphic traps, such as hydrocarbon storage rock; those stratigraphic cases are not pointed out.

### Proposals

Considering that the MEDS document should focus on the successful drilling of wells with oil targets, it is pertinent to know if the two oil companies, which have drilled wells in the Chicontepec region, have experts in petroleum geology and geophysics, and professional experience to solve these problems.

Therefore, in order to carry out this exploratory activity, they must be specialists in geological studies of rhythmic sedimentary sequences of shales and sandstones of Paleocene-Eocene age, deposited in a bathyal environment, as in the case of the Chicontepec Formation in the region of Poza Rica.

presentation of articles published by them in international journals corresponding to these two specialties.

These dossiers presented by PEMEX to the corresponding body that will release the requested budget must be evaluated by Mexican specialists who have a proven track record in scientific research applied to oil exploration at the international level.

This will be the correct way to regulate the activity carried out by PEMEX in the Chicontepec project. The lack of expertise shown by the exploration operators of the oil companies must be technically evaluated, as there is too much invested and what will come in case of failure.

For this purpose, competent personnel should participate in this evaluation, outside the National Hydrocarbons Commission, since the negative results shown by Chicontepec should have been endorsed by this Commission, which has become PEMEX's spokesperson.