

Executive Summary

**Five Year Plan for Exploration and Production of Oil and
Gas Bids 2015-2019**



SENER

SECRETARÍA DE ENERGÍA

2017 Evaluation

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Executive summary

The implementation of the Energy Reform, since its approval at the end of 2013, has transformed the Mexican institutions and industry. For oil and gas, the four bidding processes for acreage with exploration and production rights carried out as part of Round One and three bidding processes for Round Two have shown a transparent and solid institutional framework, along with promising acreage and competitive contractual terms. As a result, 69 contracts for exploration and production have been awarded to 65 Mexican and international companies. In addition, the fourth bidding process of Round Two and the first of Round Three have been announced and the results will be announced in January and March of 2018, respectively.

In accordance with regulations, the Ministry of Energy (SENER) evaluated during the third quarter of 2017 the Five Year Plan for Exploration & Production of Oil & Gas Bids 2015-2019 (Five Year Plan) with technical assistance provided by the National Hydrocarbons Commission (CNH). The present document summarizes the findings and insights of the yearly evaluation. The information contained in this Evaluation is updated until September 30th, 2017.

The Five Year Plan evaluation considered, as key aspects, the areas nominated by the industry, the proposal of new areas as a result of the new data analyzed by the CNH and the analysis of the previous licensing rounds.

The Five Year Plan is organized as follows:

1. Priority is given to areas with mature or discovered fields, where the entire geologic column is kept in the same area.
2. The areas are classified as in the previous evaluation:
 - i. Deep water
 - ii. Shallow water
 - iii. Onshore unconventional (Chicontepec & shale)
 - iv. Onshore conventional
3. Every year at least one invitation to bid will be carried out for each type of area.
4. The opening of proposals will take place approximately six months after the invitation to bid announcement.
5. Prior to the announcement of an invitation to bid there is a three-month period during which companies can nominate areas they wish to be included in the subsequent invitation to bid. These areas must be accompanied by a technical study considering the information available at the National Center for Hydrocarbon Information (Centro Nacional de Información de Hidrocarburos), derived from an Authorization for Surface Exploration (Autorización de Reconocimiento y Exploración Superficial) or from an institutional source.

The size of areas is maintained according with its category, as it can be seen in the following table:

Table 1: Average surface area per block.

Category	Surface (km ²)
Deep water	1,000
Shallow water	400
Onshore unconventional	300
Onshore conventional	200

Note: Two or more blocks might be combined if the potential and hydrocarbon type suggest the resulting area will be attractive.

- Other aspects of the bidding rounds will continue to be simplified, such as the prequalification requirements.

The aforementioned strategy aims to increase oil and gas production, and increase reserves whilst encouraging investment and more employment opportunities.

This Evaluation of the Five Year Plan includes a total area of 262,407.9 km², containing 43.3 billion barrels of oil equivalent (BBOE) and a remaining original volume of 38.2 BBOE.

Table 2. Resources available in the Five Year Plan

	Five Year Plan before 2017 Evaluation	Five Year Plan after 2017 Evaluation	Variation (%)
Prospective Resources (MMBOE)	42,680.9	43,266.6	1.4
Remaining volume (MMBOE)	47,590.2	38,221.7	-19.7
Area (km ²)	239,007.3	262,407.9	9.8

As a result of the 2017 Evaluation, there are 536 blocks in total to be contemplated in the next licensing rounds, compared with the 579 blocks before. The total blocks include those with rights for Exploration and Production and the ones that only have rights to carry out production activities only.

Table 3. Available blocks in the Five Year Plan before and after the 2017 Evaluation

Category	Before 2017 Evaluation		After 2017 Evaluation	
	Average surface (km ²)	Total blocks	Average surface (km ²)	Total blocks
Deep water	954	123	1,280	112
Shallow water	323	152	385	112
Onshore conventional	192	152	180	127
Onshore unconventional	286	152	287	185
	Total blocks	579	Total blocks	536

As a result of the 2017 Evaluation, there are a total of 536 blocks contemplated for the next licensing rounds in comparison with the 579 blocks before. In terms of remaining volume, there is a reduction of 8,782.8 MMBOE. Finally, the total area increases in 23,400.7 km². There are five reasons that explain this variation:

- The awarded blocks in the last licensing rounds were excluded (Rounds 2.1, 2.2 and 2.3)
- The results from the annual reserves evaluation were updated to January 1st, 2017. This evaluation considers the resources inside PEMEX's entitlements and the resources to be considered in the next licensing rounds. From 2015 onwards, CNH is responsible for certifying the total reserves in the country.
- An updated analysis of the potential unconventional resources was considered. The new prospectivity analysis suggests new areas be included in the Five-Year Plan.
- The areas considered for the upcoming PEMEX farm-outs were updated.

Appendix A has detailed information regarding the areas considered for the Five Year Plan in each category.

1. Industry nominations

According with the regulations, any state-owned or private company may propose to SENER an area where there is interest to carry out oil and gas exploration and extraction activities. SENER will evaluate these proposals and, if applicable, include them in the Five-Year Plan.

SENER invited companies to nominate their areas of interest and companies sent their nominations, with subsurface information, and the motivations that supported their request. In order not to interfere with fair competition conditions, information regarding nominations will not be disclosed.

2. CNH technical analysis

CNH's technical analysis is a fundamental process in the evaluation in order to consider suitable areas to be included in the Five Year Plan. SENER requested the assistance of the CNH to validate the proposal of additions and modifications to the Five-Year Plan, considering the updated information available in the CNIH (National Hydrocarbons Information Center). The main purpose of the analysis was include areas that will help increase production and reserves.

3. Evaluation of previous licensing rounds

The analysis of the previous licensing rounds consisted in two parts. First, a multiple linear regression analysis was conducted in order to identify the key parameters that influenced the results. The second part of the analysis compared Mexico with other countries that have carried out licensing rounds for oil and gas exploration and extraction activities in recent years.

3.1. Multiple linear regression analysis

The linear regression analysis is a statistical tool which helps to define if two variables, one dependent and the other one independent, are related to each other. In this case, a multiple linear regression analysis has a set of independent variables and one dependent variable. If the result shows a positive coefficient, the variable has a positive influence in the dependent variable (they are proportional). If the coefficient is a negative value, an increase in the value of the variable will reduce the value of the dependent variable.

For this evaluation of the Five Year Licensing Plan, the question to address was: based on the licensing round block characteristics and fiscal regime, is there any variable that influences the additional royalty or government share offered by the companies? Therefore, the dependent variable was the percentage of additional royalty or government share in the operating income (depending on the fiscal regime), whereas the independent variables were as follows:

- Block size,
- Prospective resources;
- 3P reserves;

- Main hydrocarbon type;
- Seismic coverage;
- Number of neighbor awarded blocks;
- Minimum work (drilling) commitment;
- Built infrastructure in the block (pipes and installations);
- Built infrastructure in the surroundings (25 km around);
- Total expected investment
- Geological success probability
- Minimum and maximum acceptable bids;
- Population density (Rounds 2.2 and 2.3), y
- Human Development Index (Rounds 2.2 y 2.3).

For the main hydrocarbon type, each hydrocarbon was given a number based on its economic value, considering three facts: first, that oil is approximately three times more expensive than gas in terms of BOE; second, wet gas is more valuable than dry gas; and third, light oil has more value than heavy oil.

The geological success probability refers to the probability there is an accumulation of hydrocarbons based on the probability of existence of elements and characteristics that are typical in an oilfield, such as permeability, porosity, a geological structure with a reservoir rock, etc.

The confidence level for the coefficients of the variables was assumed to be 90%. The higher the confidence level is, the greater certainty that the coefficient is the result of the regression. The ranges of the variables with this confidence level will define whether they are relevant or not to the dependent variable.

Not all of the previous licensing rounds were considered in this analysis. The first three rounds (1.1, 1.2 and 1.3) were excluded because the bidding conditions and type of areas have changed considerably since then. For the analysis, a multiple linear regression was carried out for each block category: Deep water (Round 1.4), Shallow water (Round 2.1), and Onshore conventional (Rounds 2.2 and 2.3).

The results are as follow:

- For deep water, the geological success probability has a direct positive influence on the additional royalty. This is the main outcome influencer since it has the highest coefficient. Additionally, the hydrocarbon type, the minimum work commitment and the total expected investment have positive influence but in a lower extent. The seismic coverage and the number of neighbor awarded blocks have a very low negative coefficient. The rest of the variables are not significant.
- For shallow water, the number of neighboring awarded areas is the most important variable resulting with the highest coefficient. This variable, together with the main hydrocarbon type and the seismic coverage have a positive influence in the additional royalty value. The minimum work commitment and the infrastructure built in the surroundings, by increasing their value, reduce the additional royalty amount, although only marginally.

- Finally, for onshore conventional areas, as the hydrocarbon type has more economic value and the seismic coverage increases, the additional royalty value also increases. On the other hand, the block size and the number of neighbor awarded blocks have a negative influence in the additional royalty value.

One result that may seem surprising is that the amount of prospective resources does not have an influence in the royalty offered to the government. However, this analysis requires to be repeated as the number of finished rounds increases in order to get more accurate data. In addition to that, as the fiscal conditions change, a variable may become more or less important.

3.2. Mexico's competitiveness in the international context

The total area tendered in Mexico during the licensing rounds is comparable to the total area in other countries such as Canada, the United States, and Brazil.

The average duration of the bidding processes around the world, from the opening to the closing date is about 10.5 months. The 1.4 and the 2.1 Rounds lasted 8 and 12 months respectively. Therefore, the times established in Mexico are close to the world average and allow competitive bids and international standards.

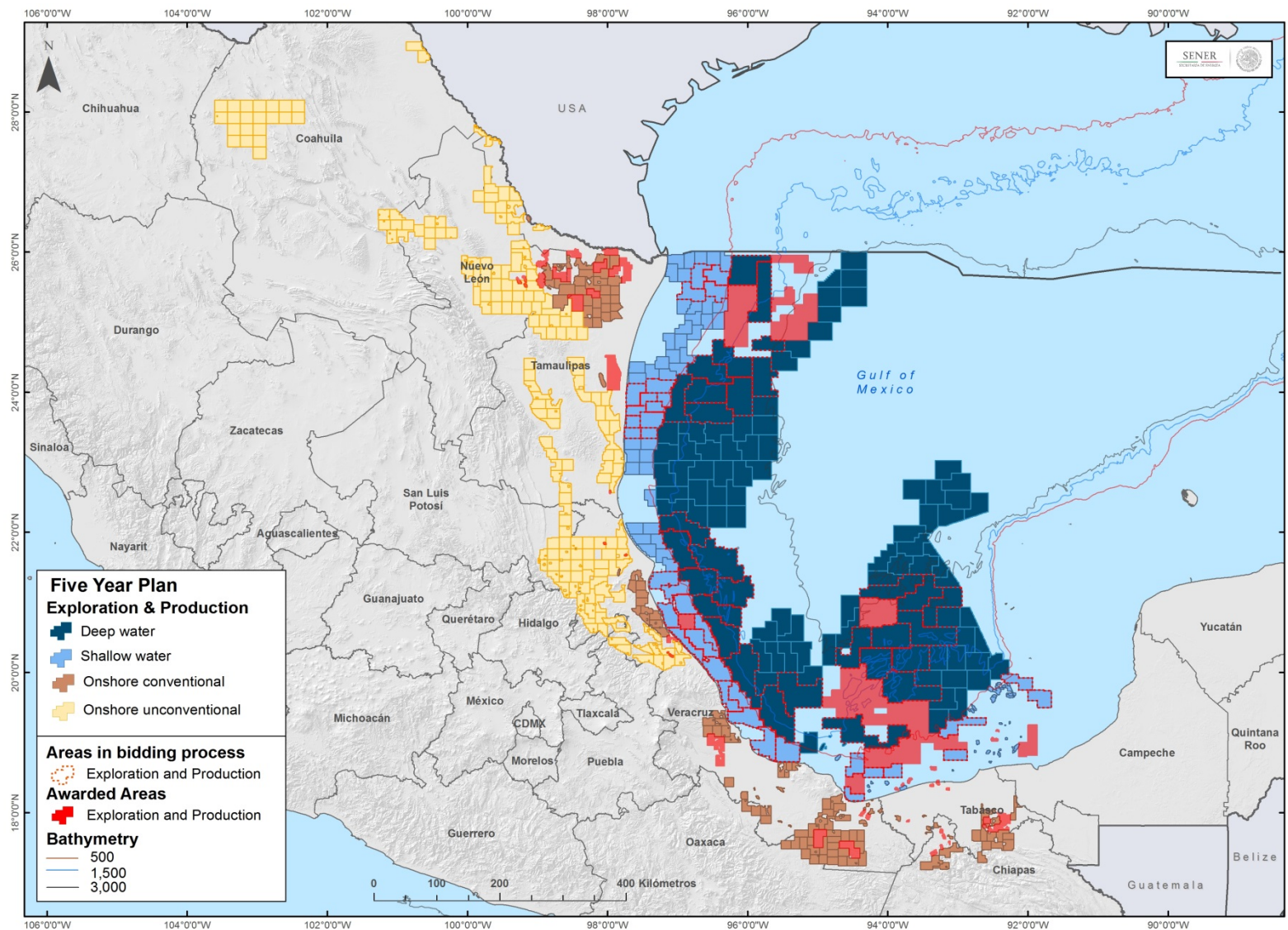
For detailed information regarding the licensing rounds results in Mexico, and also a benchmark analysis with other licensing rounds at different countries, refer to the Appendix B.

4. Notes

- For the official version of the Five Year Plan Evaluation, please refer to the Spanish version available in the SENER website.
- Appendix A contains maps and tables showing the location of areas considered along with the resources associated to them.
- To view Five Year Plan map and downloadable shape files, please access the following link: <http://sigeeh.energia.gob.mx/PLANQUINQUENAL/Inicio.htm>
- If you have any questions, please write to us at planquinquenal@energia.gob.mx

Appendix A: Five Year Plan Areas

Map 1. Five Year Plan for Exploration & Production of Oil and Gas 2015-2019



A1. Areas available for exploration and production of oil & gas

Table 4. Characteristics, prospective resources and remaining hydrocarbons volume of areas considered according to categories.

Category	Basin	# of Areas	Total surface area (km ²)	Prospective resources (MMBOE)			# of Fields	Remaining volume (MMBOE)
				Conventional	Unconventional	Total		
Deep water	Perdido	27	36,410.9	1,661.6	0.0	1,661.6	0	0.0
	Cordilleras Mexicanas	45	59,681.1	4,111.9	0.0	4,112	0	0.0
	Cuenca Salina	40	47,276.7	2,666.6	0.0	2,666.6	4	520.2
Shallow water	Burgos Somero	47	21,873.4	1,303.2	0.0	1,303.2	0	0.0
	Tampico-Misantla-Veracruz	21	15,700.4	1,350.4	0.0	1,350.4	5	193.8
	Cuenca Salina	2	34.5	0.0	0.0	0.0	2	3.0
	Cuencas del Sureste Somero	42	5,550.2	178.6	0.0	178.6	37	17,740.1
Onshore conventional	Sabinas-Burgos	32	7,054.8	207.2	0.0	207.2	25	101.2
	Tampico-Misantla	13	2,134.8	5.6	0.0	5.6	6	17.3
	Veracruz	30	5,145.3	157.4	0.0	157.4	7	47.1
	Cuencas del Sureste-Chiapas	52	8,463.5	327.3	0.0	327.3	22	760.3
Onshore unconventional	Sabinas	35	10,626.9	5.9	1,098.0	1,103.9	0	0.0
	Sabinas-Burgos	70	20,082.2	205.9	7,942.9	8,148.8	38	480.5
	Tampico-Misantla	80	22,373.2	179.5	21,864.5	22,043.9	27	18,358.2
Total		536	262,407.9	12,361.2	30,905.4	43,266.6	173	38,221.7

Table 4 shows the number of areas available per category and basin and their respective surface in square kilometers.

The design of each area has been determined based upon prospective resources, remaining volume, distribution of the fields, identified structures and availability of seismic data. The areas have also been evaluated according to the availability of infrastructure for production and transportation, geologic risk, volume and expected hydrocarbon.

Table 5. Average size of areas for each category

Category	Basin	Average size (km ²)	Category Average (km ²)	Total number of areas	Total surface area (km ²)
Deep water	Perdido	1,300	1,314	108	143,266
	Cordilleras Mexicanas	1,326			
	Cuenca Salina	1,310			
Shallow water	Burgos Somero	465	561	75	42,124
	Cuencas del Sureste Somero	650			
	Tampico-Misantla-Veracruz	748			
Onshore conventional	Cuencas del Sureste-Chiapas	218	213	104	22,152
	Sabinas-Burgos	224			
	Tampico-Misantla	191			
	Veracruz	202			
Onshore unconventional	Sabinas-Burgos	287	288	183	52,604
	Tampico-Misantla	281			
	Sabinas	304			

*66 areas were not considered because they only have rights to carry out production activities.

Table 6. Resources and surface area for exploration & production

Category	Prospective Resources (MMBOE)	Remaining Volume. (MMBOE)	Surface area (km ²)
Deep water	8,440.3	520.2	143,368.6
Shallow water	2,832.2	17,936.9	43,158.5
Onshore conventional	697.5	925.9	22,798.5
Onshore unconventional	31,296.6	18,838.7	53,082.4
Total	43,266.6	38,221.7	262,407.9

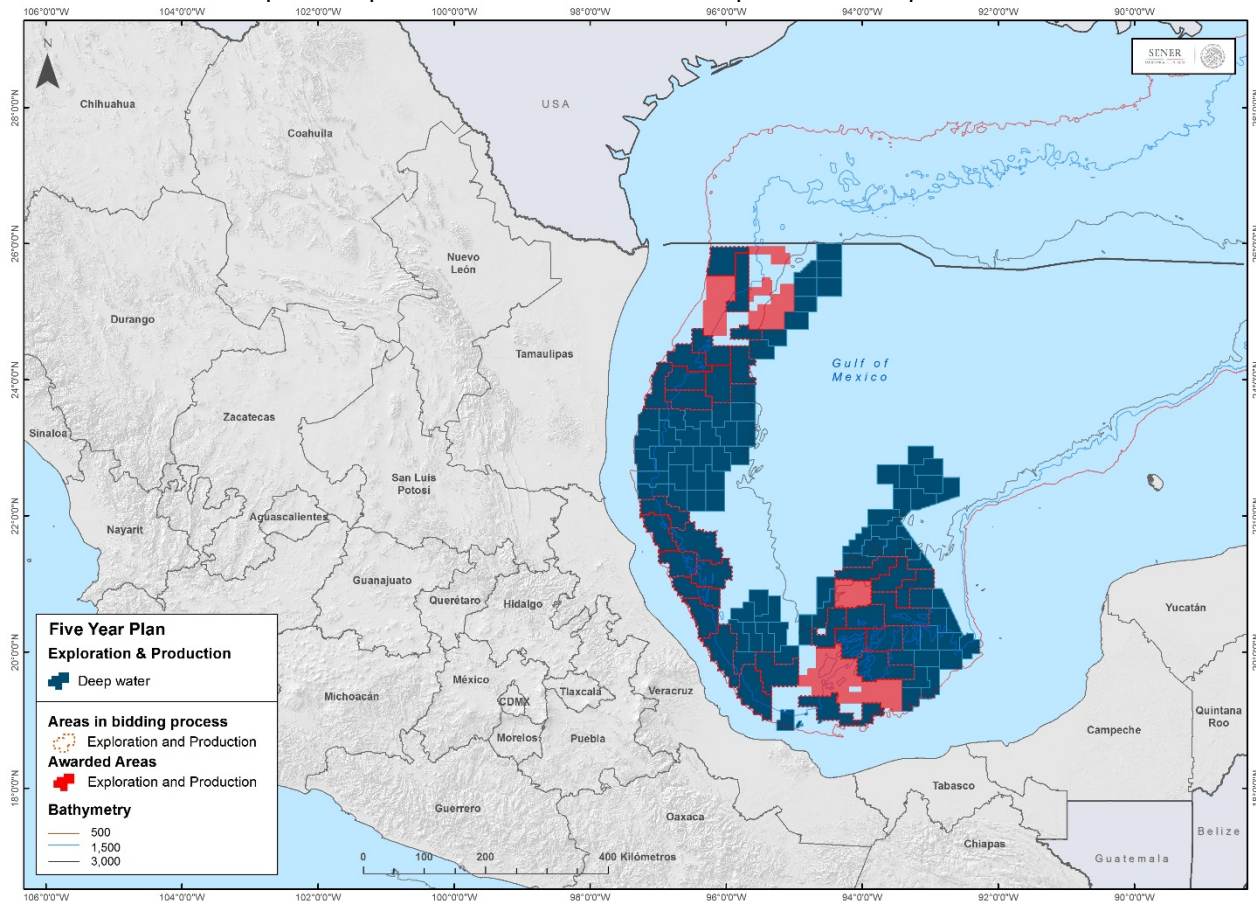
A1.1. Deep water

The areas available for exploration & production in deep water are located in front of the coastline of the states of Tamaulipas, Veracruz, Tabasco and Campeche [Map 2]. These areas have an estimated volume of prospective resources of approximately 8,440.3 MMBOE and a surface equivalent to 143,266.0 km². The areas are located in Área Perdido, Cordilleras Mexicanas and Cuenca Salina del Istmo [Table 7].

Table 7. Deep water areas available for exploration and production *

Basin	Prospective Resources (MMBOE)	Area (km ²)	Number of blocks
Perdido	1,661.6	36,410.9	27
Cordilleras Mexicanas	4,111.9	59,681.1	45
Salina del Istmo	2,666.6	47,174.3	36
Total	8,440.3	143,266.3	108

Map 2. Deep water areas available for exploration and production



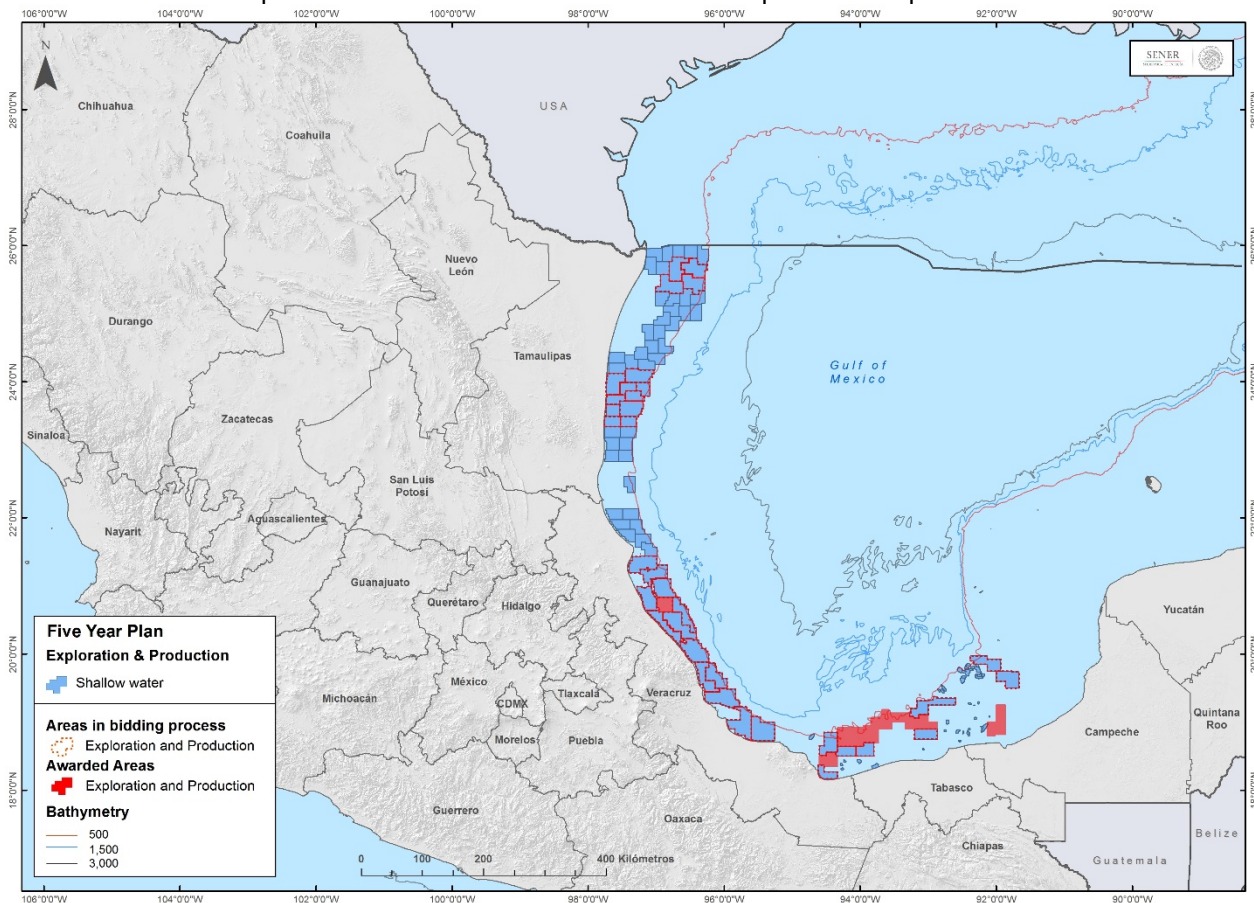
A1.2. Shallow water

The areas located in shallow water have an estimated volume of 2,832.2 MMBOE of prospective resources and a remaining volume of 290.0 MMBOE in a surface area of 42,123.7 km² [Table 8]. These areas are next to fields with commercial discoveries, thus more success is expected to follow in the proven plays and commercial viability in the hypothetical plays [Map 3].

Table 8. Shallow water areas available for exploration & production

Basin	Prospective Resources (MMBOE)	Remaining volume (MMBOE)	Area (km ²)	Number of blocks
Burgos Somero	1,303.2	-	21,873.4	47
Tampico-Misantla-Veracruz	1,350.4	193.8	15,700.4	21
Cuencas del Sureste Somero	178.6	96.2	4,549.9	7
Total	2,832.2	290.0	42,123.7	75

Map 3. Shallow water areas available for exploration & production



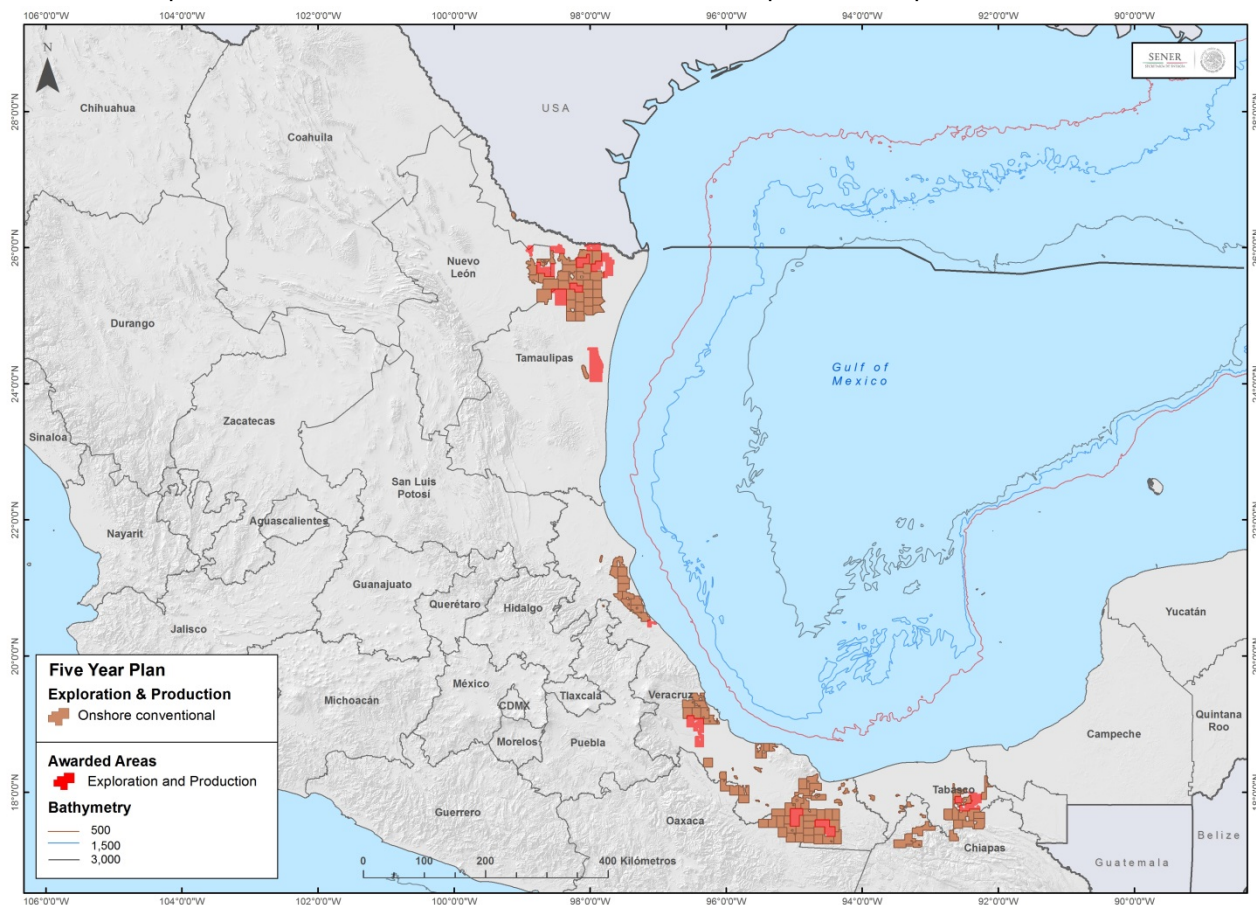
A1.3. Onshore conventional

The onshore conventional areas are shown in Map 4 and have prospective resources for 697.5 MMBOE, and a remaining volume of 90.5 MMBOE in a total of 128 blocks covering a surface area of 22,152.0 km² [Table 9].

Table 9. Onshore conventional areas available for exploration & production

Basin	Prospective Resources (MMBOE)	Remaining volume (MMBOE)	Area (km ²)	Number of blocks
Sabinas-Burgos	207.2	49.4	6934.2	31
Tampico-Misantla	5.6	8.6	2,100.1	11
Veracruz	157.4	32.3	5,055.3	25
Cuencas del Sureste-Chiapas	327.3	0.2	8,062.5	37
Total	697.5	90.5	22,152.0	104

Map 4. Onshore conventional areas available for exploration & production



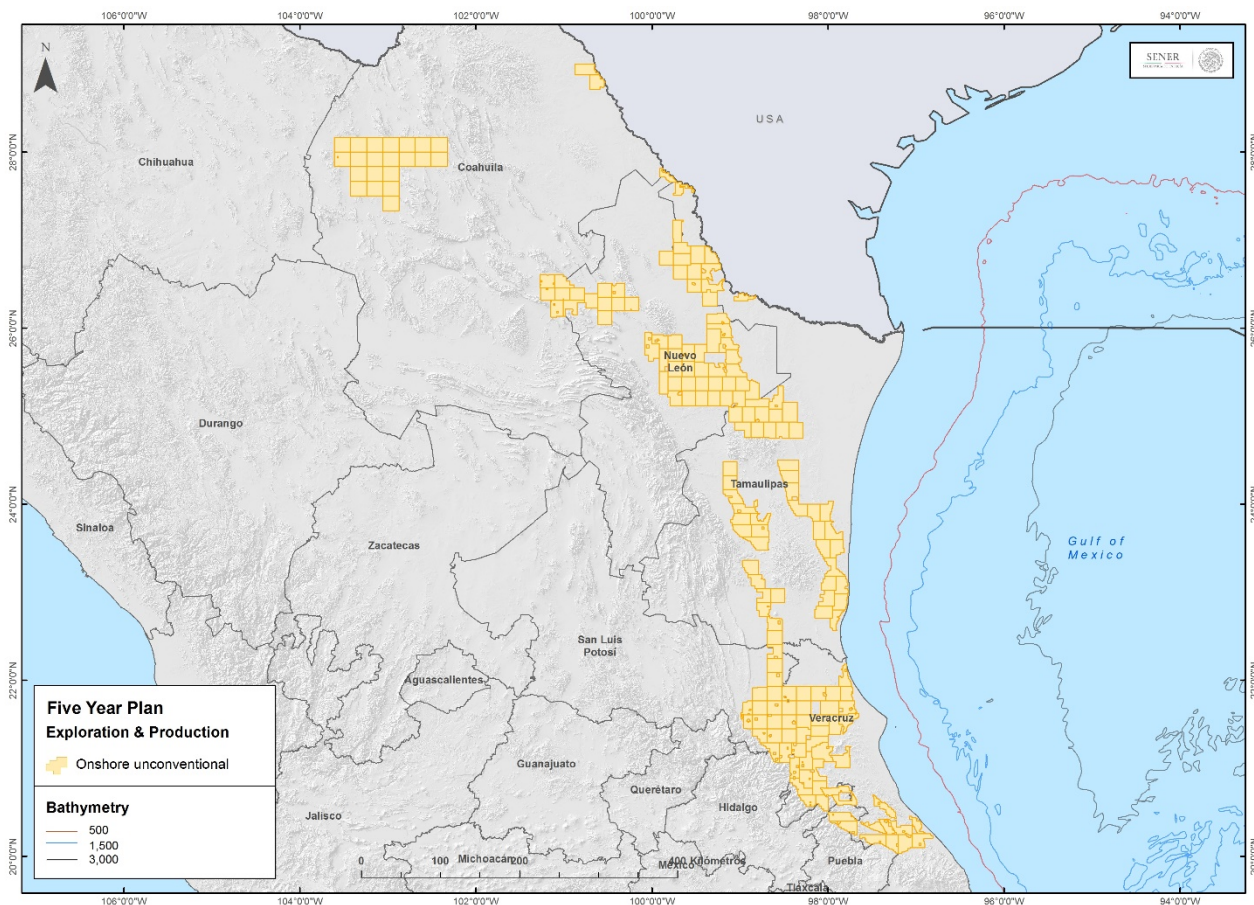
A1.4. Onshore unconventional

These areas are located in the states of Coahuila, Nuevo León, Tamaulipas, San Luis Potosí, Veracruz, Hidalgo and Puebla [Map 5]. These areas include the regions identified to have the greatest volume of shale prospective resources, and the resources associated to Chicontepec. Additionally, other objectives located at depths between 1000 and 4000 meters below ground level were included.

Table 10. Onshore unconventional areas available for exploration and production

Basin	Prospective Resources (MMBOE)	Remaining volume (MMBOE)	Area (km ²)	Number of blocks
Sabinas	1,103.9	-	10,626.9	35
Sabinas-Burgos	8,148.8	480.5	20,082.2	70
Tampico-Misantla	22,043.9	13,379.3	21,895.1	78
Total	31,296.6	14,240.3	52,604.3	183

Map 5. Onshore unconventional areas available for exploration & production



A2. Available fields for oil and gas production

The Five Year Plan includes 74 fields inside 66 areas where only production can be carried out as a result of coexistence of the exploration entitlements allocated to Pemex.

A2.1. Production in Deep water

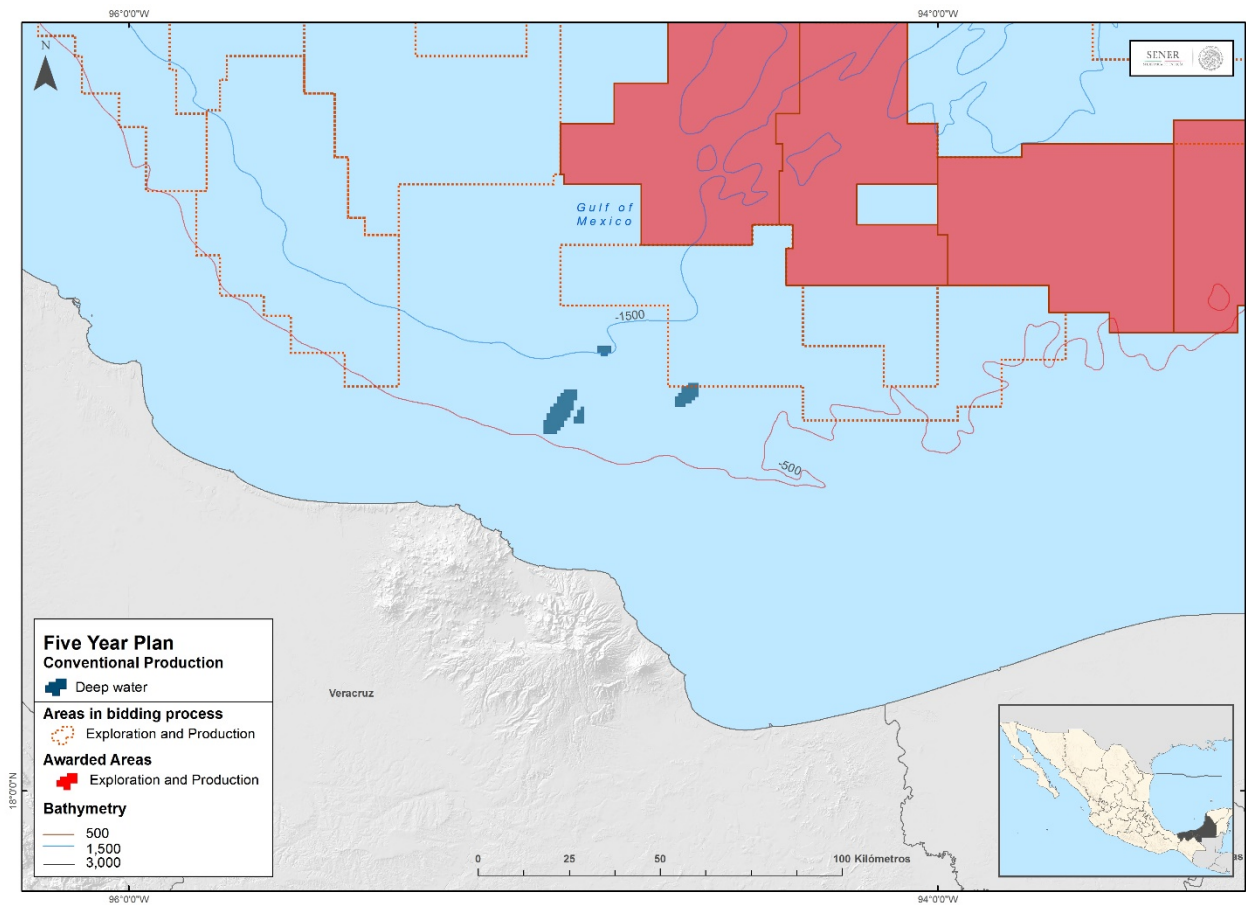
The fields for production in deep water are located at a distance of 30-60 km from the coastline and have a volume of 520.2 MMBOE with a surface of 102.3km² [Table 11].

Table 11. Fields available for production in deep water

Basin	Number of fields	Remaining Volume (MMBOE)	Surface (km ²)
Cuenca Salina	4	520.2	102.3
Total	4	520.2	102.3

The four fields available are located in front of the coastline of the state of Veracruz in the provinces Cuenca Salina del Istmo and Cinturón Plegado de Catemaco [Map 6].

Map 6. Fields available for production in deep water



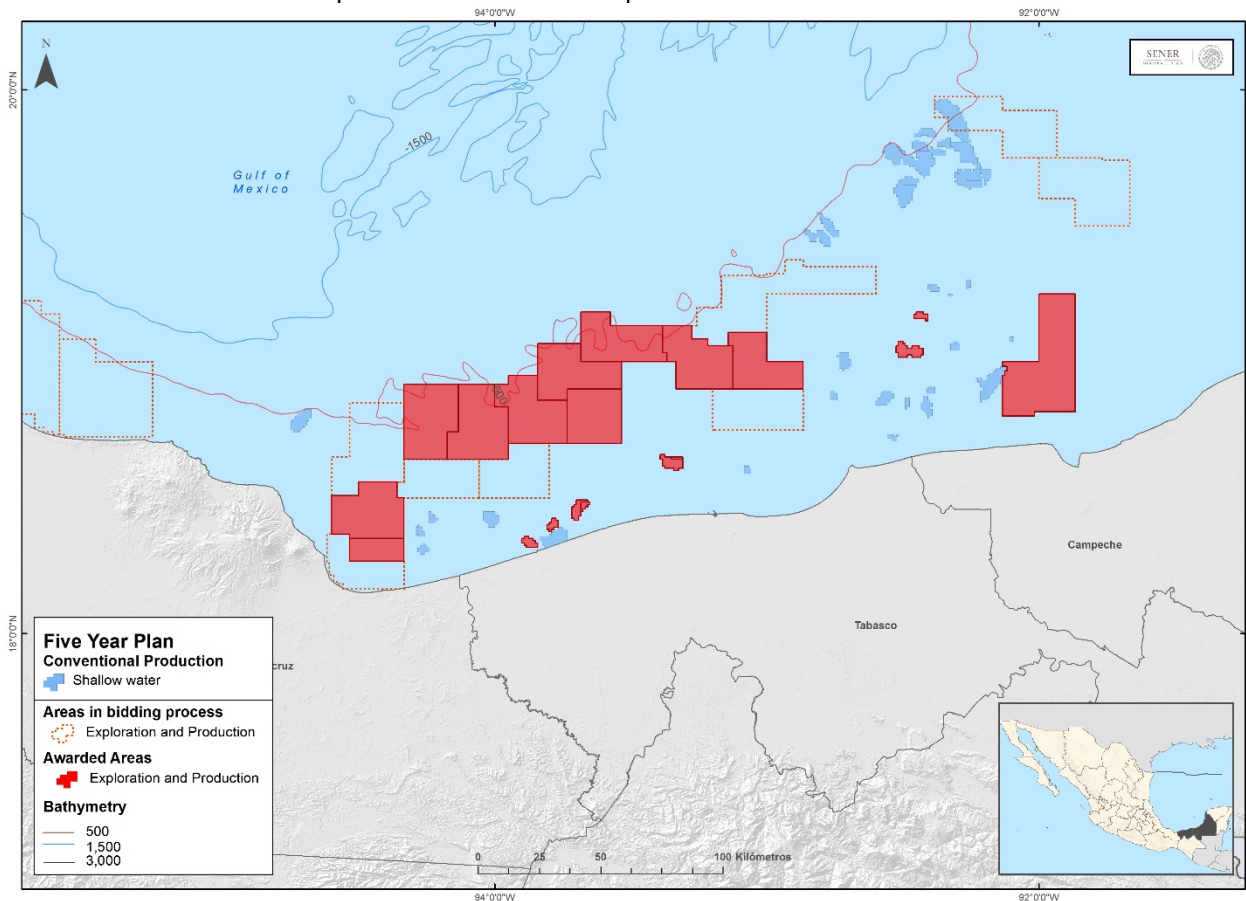
A2.2. Production in shallow water

The fields located in shallow water are located where the depth to the sea bed is below 500 meters [Table 12] and hold resources composed of medium to super light crude and associated gas with an estimated remaining volume of 17,646.9 MMBOE. The surface are of these fields is 1,034.7 km². These fields are located in front of the coastlines of the states of Campeche, Tabasco y Veracruz [Map 7].

Table 12. Fields available for production in shallow water

Basin	Number of fields	Remaining Volume (MMBOE)	Surface (km ²)
Cuencas del Sureste Somero	35	17,643.9	1,000.3
Cuenca Salina	2	3.0	34.5
Total	37	17,646.9	1,034.7

Map 7. Fields available for production in shallow water



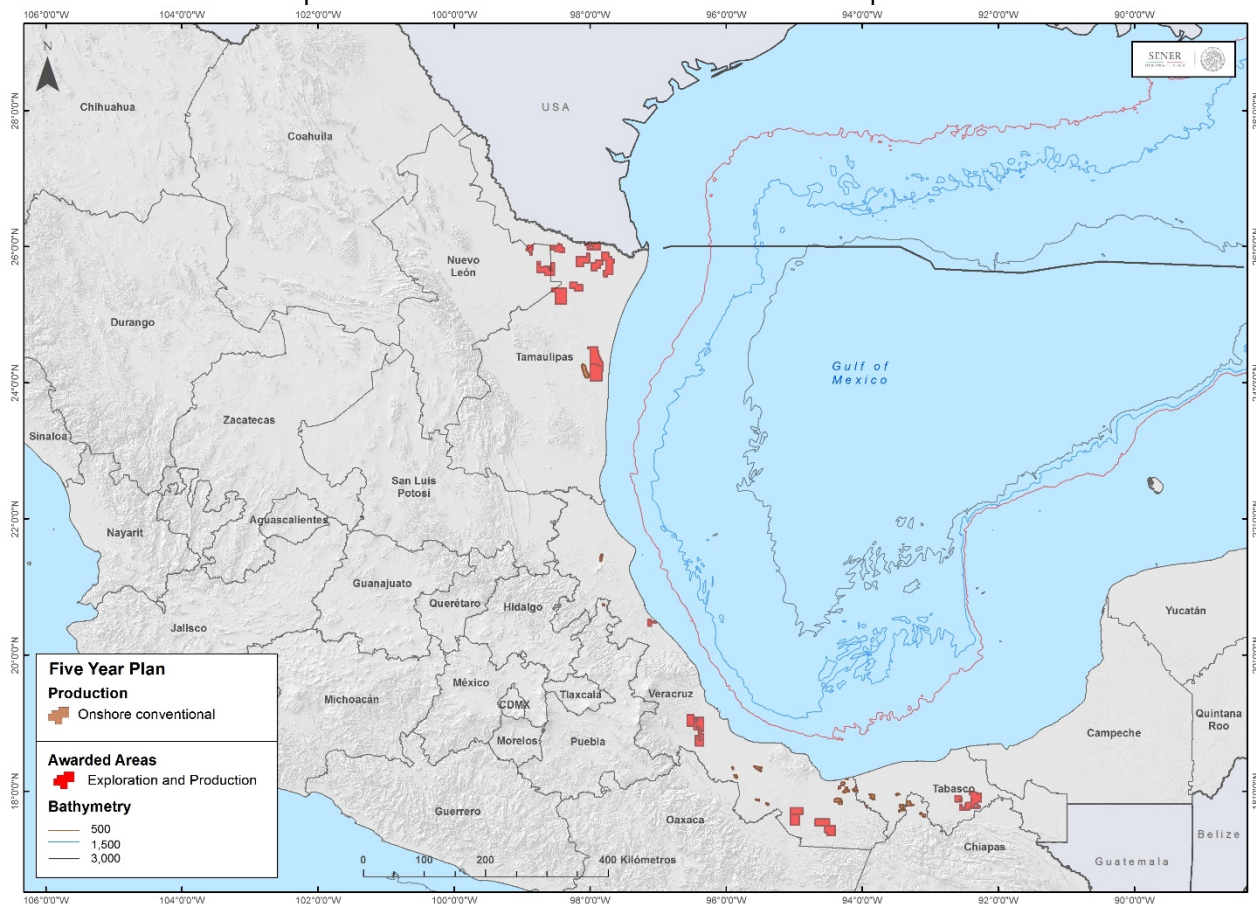
A2.3. Production in onshore conventional areas

The conventional fields available for production onshore are located in the states of Chiapas, Puebla, Tabasco, Tamaulipas and Veracruz [Map 8]. Their total remaining volume is equivalent to 835.4 MMBOE and the sum of their surface is 646.4 km² [Table 13].

Table 13. Onshore conventional fields available for production

Basin	Number of fields	Remaining Volume (MMBOE)	Surface (km ²)
Sabinas-Burgos	1	51.8	120.6
Tampico-Misantla	2	8.7	34.8
Veracruz	5	14.8	90.0
Cuencas del Sureste-Chiapas	15	760.1	401.0
Total	23	835.4	646.4

Map 8. Onshore conventional fields available for production



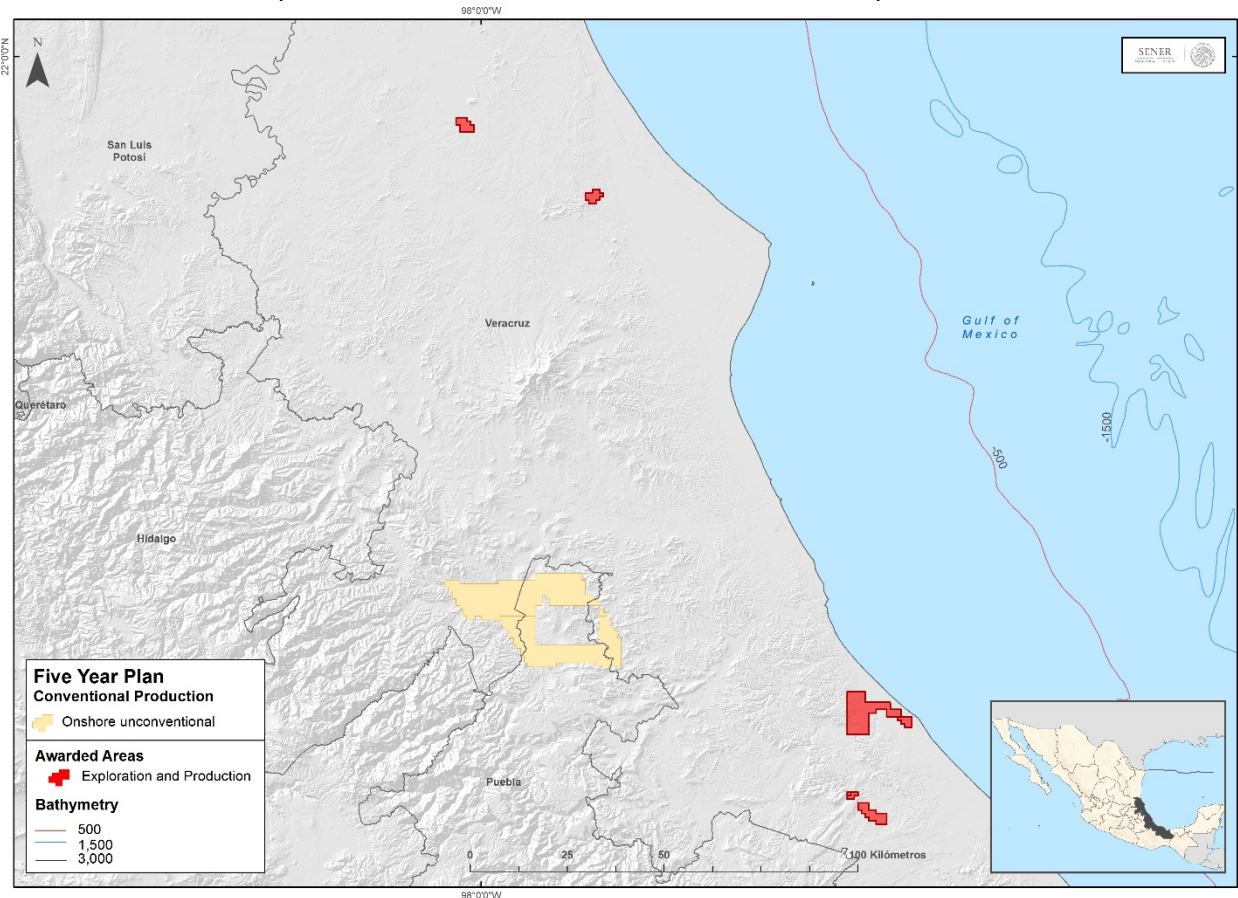
A2.4. Production in onshore unconventional areas

The fields available are located in the Tampico-Misantla province. They only have rights for production since they coexist with Pemex’s exploration entitlements [Map 9]. The oil and gas resources of these fields are 4,988.1 MMBOE in a surface of 478.1 km² [Table 14].

Table 14: Onshore unconventional fields available for production

Basin	Number of fields	Remaining Volume (MMBOE)	Surface (km ²)
Tampico-Misantla	2	4,978.9	478.1
Total	2	4,978.9	478.1

Map 9. Onshore unconventional fields available for production



Appendix B:

Licensing rounds results: surface area awarded

	Licensing round	Category	Total area awarded (km ²)	Prospective resources ¹ (MMBOE)	Number of fields	Remaining oil volume (MMb)	Remaining gas volume (MMMcf)
Round 1	First	Shallow water	659	61	-	-	-
	Second	Shallow water	165	46	6	1,901	1,492
	Third	Onshore conventional	813	87	25	1,515	1,746
	Fourth	Deep water	18,818	1,743	-	-	-
	Total Round 1			20,456	1,937	31	3,416
Round 2	First	Shallow water	227	586	3	658	83
	Second	Onshore conventional	216	227	32	0	414
	Third	Onshore conventional	2,595	216	22	149	534
	Total Round 2			11,361	1,030	57	807
Total			31,817	2,967	88	4,223	4,270

* Prospective resources estimated with average probability, with risks also in average probability

B1. Round One

	Licensing round			
	First	Second	Third	Fourth
Prospective resources* (MMBOE)	687	-	-	2,907
Certified reserves (MMBOE)	-	1P: 143 2P: 355 3P: 671	Remaining volume: 1,882	-
Total surface area offered (km ²)	4,222	281	813	23,835
Block sizes (km ²)	116 – 500	42 – 68	7 – 172	1,678 – 3,287
Total number of areas	14	9 fields, 5 contracts	25	10
Category	Shallow water	Shallow water	Onshore conventional	Deep water
Contract	Production Sharing Contract	Production Sharing Contract	License	License
Award date	July 15th, 2015	September 30th, 2015	December 15th, 2015	December 5th, 2016
Blocks awarded	2	3	25	8

* Prospective resources estimated with average probability, with risks also in average probability

Source: SENER & CNH.

Winners Round 1.1

Awarded block	Winner
Area 2	Sierra Oil & Gas S. de R.L. de C.V., Talos Energy LLC y Premier Oil PLC.
Area 7	Sierra Oil & Gas S. de R.L. de C.V., Talos Energy LLC y Premier Oil PLC.

Winners Round 1.2

Awarded block	Field(s)	Winner
Area 1	Amoca, Miztón, Tecoailli	Eni International
Area 2	Hokchi	Pan American Energy LLC / E&P Hidrocarburos y Servicios
Area 4	Ichalkil y Pokoch	Fieldwood Energy LLC / Petrobal

Winners Round 1.3

Awarded block	Field(s)	Winner
1	Barcodón	Diavaz Offshore, S.A.P.I. de C.V.
2	Benavides Primavera	Sistemas Integrales de Compresión, S.A. de C.V. en consorcio con Nuvoil, S.A. de C.V. y Constructora Marusa, S.A. de C.V.
3	Calibrador	Consortio Manufacturero Mexicano, S.A. de C.V.
4	Calicanto	Grupo Diarqco, S.A. de C.V.
5	Carretas	Strata Campos Maduros, S.A.P.I. de C.V.
6	Catedral	Diavaz Offshore, S.A.P.I. de C.V.
7	Cuichapa Poniente	Servicios de Extracción Petrolera Lifting de México, S.A. de C.V.
8	Duna	Construcciones y Servicios Industriales Globales, S.A. de C.V.
9	Fortuna Nacional	Compañía Petrolera Perseus, S.A. de C.V.
10	La Laja	Geo Estratos, S.A. de C.V. en consorcio con Geo Estratos Mxoil Exploración y Producción, S.A.P.I. de C.V.
11	Malva	Renaissance Oil Corp S.A. de C.V.
12	Mareógrafo	Consortio Manufacturero Mexicano, S.A. de C.V.
13	Mayacaste	Grupo Diarqco, S.A. de C.V.
14	Moloacán	Canamex Dutch B.V. en consorcio con Perfolat de México, S.A. de C.V. y American Oil Tools S. de R.L. de C.V.
15	Mundo Nuevo	Renaissance Oil Corp S.A. de C.V.
16	Paraíso	Roma Energy Holdings, LLC en consorcio con Tubular Technology, S.A. de C.V. y Gx Geoscience Corporation, S. de R.L. de C.V.
17	Paso de Oro	Geo Estratos, S.A. de C.V. en consorcio con Geo Estratos Mxoil Exploración y Producción, S.A.P.I. de C.V.
18	Peña Blanca	Strata Campos Maduros, S.A.P.I. de C.V.
19	Pontón	Geo Estratos, S.A. de C.V. en consorcio con Geo Estratos Mxoil Exploración y Producción, S.A.P.I. de C.V.
20	Ricos	Strata Campos Maduros, S.A.P.I. de C.V.
21	San Bernardo	Sarreal, S.A. de C.V.
22	Secadero	Grupo R Exploración y Producción, S.A. de C.V. en consorcio con Constructora y Arrendadora México, S.A. de C.V.
23	Tajón	Compañía Petrolera Perseus, S.A. de C.V.
24	Tecolutla	Geo Estratos, S.A. de C.V. en consorcio con Geo Estratos Mxoil Exploración y Producción, S.A.P.I. de C.V.
25	Topén	Renaissance Oil Corp S.A. de C.V.

Winners Round 1.4

Block awarded	Basin	Winner
1	Cinturón Plegado Perdido	China Offshore Oil Corporation E&P México, S.A.P.I de C.V.
2		Total E&P Mexico, S.A. de C.V.; ExxonMobil Exploración y Producción Mexico, S. de R.I de C.V
3		Chevron Energía de México, S. de R.L. de C.V.; Pemex Exploración y Producción; Inpex Corporation.
4		China Offshore Oil Corporation E&P México, S.A.P.I de C.V.
5	Cuenca Salina	Statoil E&P Mexico, S.A. de C.V.; BP Exploration Mexico, S.A. de C.V.; Total E&P México S.A. de C.V.
7		Statoil E&P Mexico, S.A. de C.V.; BP Exploration Mexico, S.A. de C.V.; Total E&P México S.A. de C.V.
8		PC Carigali Mexico Operations, S.A. de C.V.; Sierra Offshore Exploration, S. de R.L. de C.V.
9		Murphy Sur, S. de R.L. de C.V.; Ophir Mexico Holding Limited; PC Carigali Mexico Operations, S.A. de C.V.; Sierra Offshore Exploration, S. de R.L. de C.V.

B2. Round Two

	Licensing round			
	First	Second	Third	Fourth
Prospective resources*(MMBOE)	1,586	643	251	4,228
Certified reserves (MMBOE)	Remaining volume: 869	Remaining volume: 93	Remaining volume: 328	-
Total surface area offered (km ²)	8,909	5,066	2,595	66,425.1
Block sizes (km ²)	466 – 972	349 – 479		1,853 - 3,254
Total number of areas	15	10	14	29
Category	Shallow water	Onshore conventional	Onshore conventional	Deep water
Contract	Production Sharing Contract	License	License	License
Award date	June 19th, 2017	July 12th, 2017	July 12th, 2017	January 31st, 2018
* Prospective resources estimated with average probability, with risks also in average probability				

Source: SENER&CNH

Winners Round 2.1

Awarded block	Winner
2	DEA Deutsche Erdoel AG; Pemex Exploración y Producción
6	PC Carigali Mexico Operations, S.A. DE C.V.; Ecopetrol Global Energy, S.L.U.
7	ENI México S. de R.L. de C.V.; Capricorn Energy Limited; Citla Energy E&P S.A.P.I. de C.V.
8	Pemex Exploración y Producción; Ecopetrol Global Energy, S.L.U.
9	Capricorn Energy Limited; Citla Energy E&P S.A.P.I. de C.V.
10	ENI México S. de R.L. de C.V.
11	Repsol Exploración México, S.A. de C.V.; Sierra Perote E&P, S. de R.L. de C.V.
12	Lukoil International Upstream Holding B.V.
13	ENI México S. de R.L. de C.V.; Citla Energy E&P S.A.P.I. de C.V.
14	Total E&P México, S.A. DE C.V.; Shell Exploración y Extracción de México, S.A. de C.V.
15	DEA Deutsche Erdoel AG; Pemex Exploración y Producción

Winners Round 2.2

Awarded block	Winner
1	Iberoamericana de Hidrocarburos, S.A. de C.V.; Servicios PJP4 de México, S.A. de C.V.
4	Sun God Energía de México, S.A. de C.V.; Jaguar Exploración y Producción de Hidrocarburos, S.A.P.I. de C.V.
5	Sun God Energía de México, S.A. de C.V.; Jaguar Exploración y Producción de Hidrocarburos, S.A.P.I. de C.V.
7	Sun God Energía de México, S.A. de C.V.; Jaguar Exploración y Producción de Hidrocarburos, S.A.P.I. de C.V.
8	Sun God Energía de México, S.A. de C.V.; Jaguar Exploración y Producción de Hidrocarburos, S.A.P.I. de C.V.
9	Sun God Energía de México, S.A. de C.V.; Jaguar Exploración y Producción de Hidrocarburos, S.A.P.I. de C.V.
10	Sun God Energía de México, S.A. de C.V.; Jaguar Exploración y Producción de Hidrocarburos, S.A.P.I. de C.V.

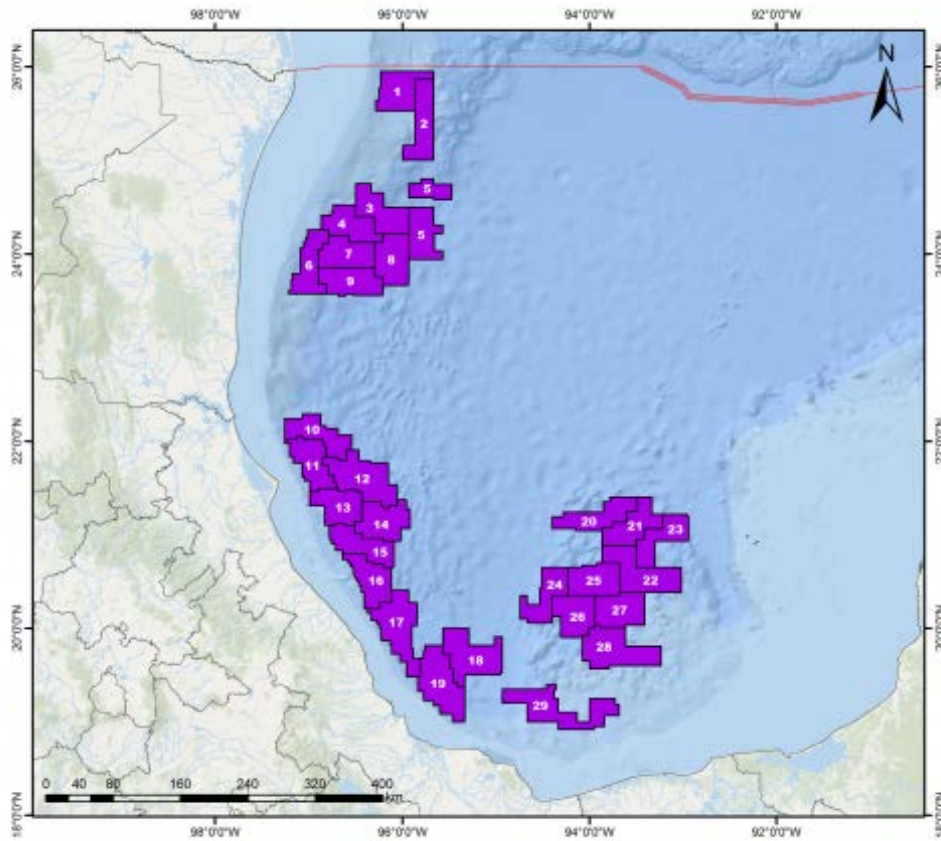
Winners Round 2.3

Awarded block	Winner
1	Iberoamericana de Hidrocarburos, S.A. de C.V.; Servicios PJP4 de México, S.A. de C.V.
2	Newpek Exploración y Extracción, S.A. de C.V.; Verdad Exploration Mexico LLC
3	Newpek Exploración y Extracción, S.A. de C.V.; Verdad Exploration Mexico LLC
4	Iberoamericana de Hidrocarburos, S.A. de C.V.; Servicios PJP4 de México, S.A. de C.V.
5	Jaguar Exploración y Producción de Hidrocarburos, S.A.P.I. de C.V.
6	Shandong Kerui Oilfield Service Group Co. Ltd; Sicoval MX, S.A. de C.V.; Nuevas Soluciones Energéticas A&P, S.A. de C.V.
7	Jaguar Exploración y Producción de Hidrocarburos, S.A.P.I. de C.V.
8	Jaguar Exploración y Producción de Hidrocarburos, S.A.P.I. de C.V.
9	Jaguar Exploración y Producción de Hidrocarburos, S.A.P.I. de C.V.
10	Shandong Kerui Oilfield Service Group Co. Ltd; Sicoval MX, S.A. de C.V.; Nuevas Soluciones Energéticas A&P, S.A. de C.V.

Awarded block	Winner
11	Shandong Kerui Oilfield Service Group Co. Ltd; Sicoval MX, S.A. de C.V.; Nuevas Soluciones Energéticas A&P, S.A. de C.V.
12	Carso Oil and Gas, S.A. de C.V.
13	Carso Oil and Gas, S.A. de C.V.
14	Jaguar Exploración y Producción de Hidrocarburos, S.A.P.I. de C.V.

Round 2.4

As part of Round 2.4, 29 blocks in deep water will be tendered on January 31st, 2018.



More information available at <https://rondasmexico.gob.mx/r2-l04-bloques/>

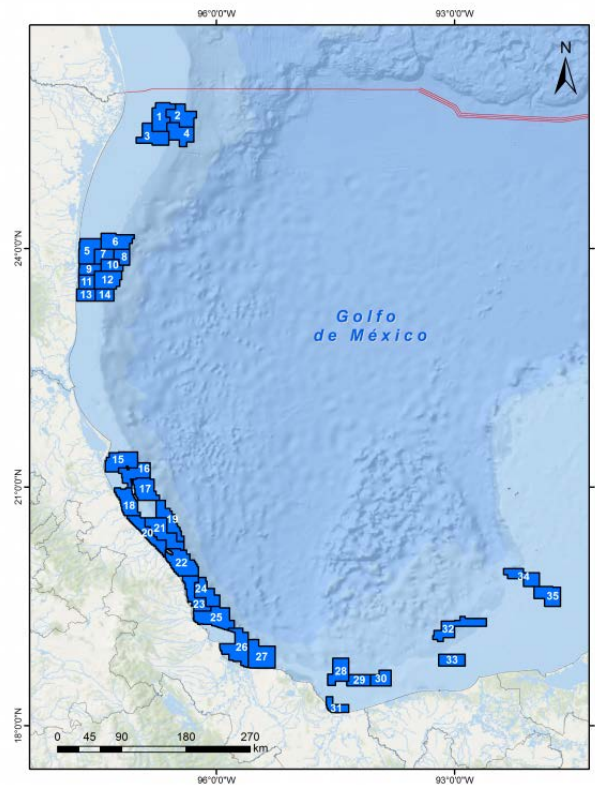
B3. Round Three

Licensing round	First
Prospective resources* (MMBOE)	1,988
Certified reserves (MMBOE)	-
Area (km ²)	26,265
Block sizes (km ²)	390-1,225
Total number of areas	35
Category	Shallow water
Fiscal regime	Production Sharing Contract
Closing date	March 28th, 2018
Awarded blocks	-

* Prospective resources estimated with average probability, with risks also in average probability
Source: SENER&CNH

Round 3.1

35 blocks will be tendered on March 27th, 2018



B4. Deep water licensing round results

Round 1.4 (R1.4)

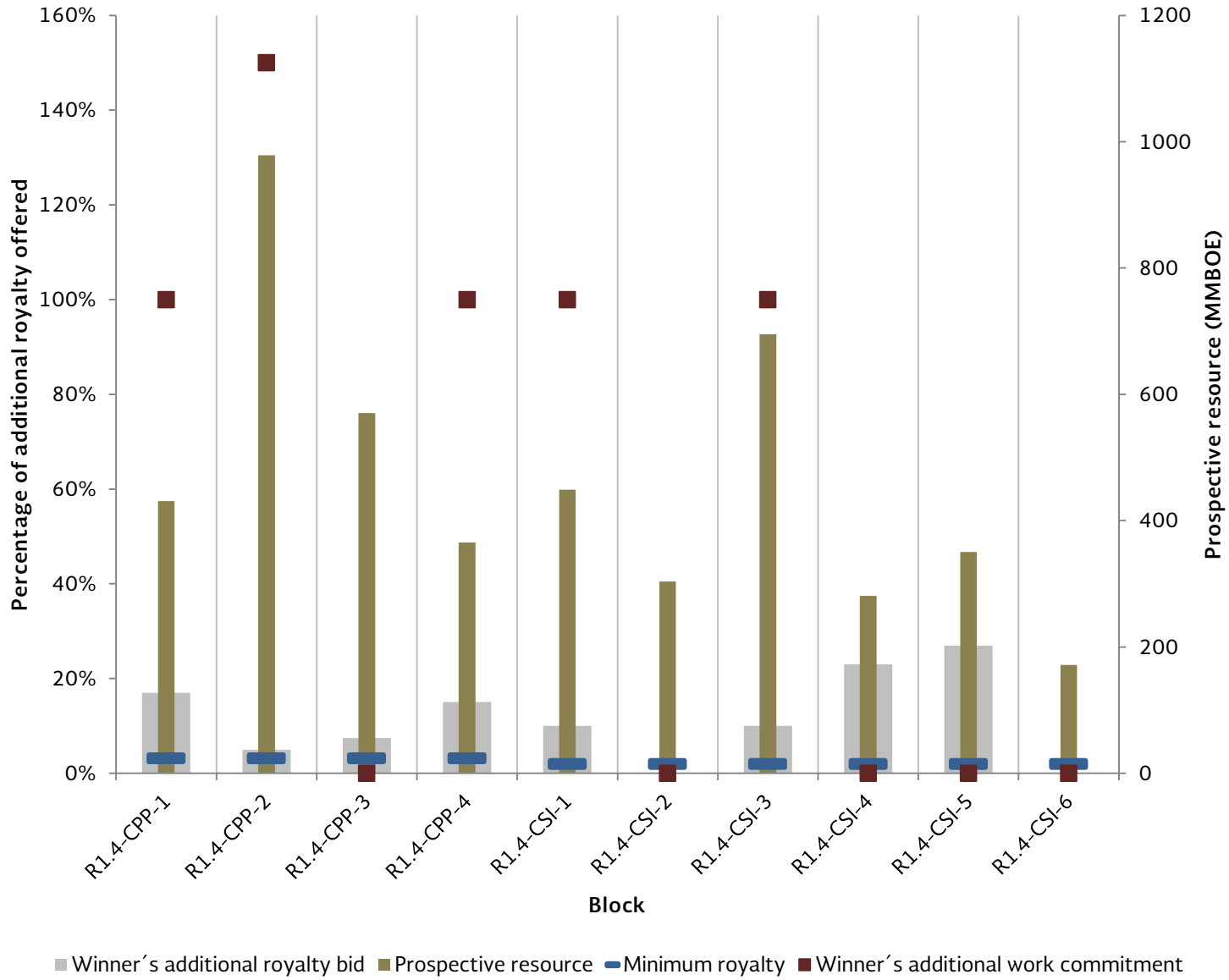
List of blocks

Abbreviation	Block name
R1.4-CPP-1	Cinturón Plegado Perdido-Área 1
R1.4-CPP-2	Cinturón Plegado Perdido-Área 2
R1.4-CPP-3	Cinturón Plegado Perdido-Área 3
R1.4-CPP-4	Cinturón Plegado Perdido-Área 4
R1.4-CSI-1	Cuenca Salina-Área 1
R1.4-CSI-2*	Cuenca Salina-Área 2
R1.4-CSI-3	Cuenca Salina-Área 3
R1.4-CSI-4	Cuenca Salina-Área 4
R1.4-CSI-5	Cuenca Salina-Área 5
R1.4-CSI-6*	Cuenca Salina-Área 6

*No bid was offered

More information available at <https://rondasmexico.gob.mx/>

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B5. Shallow water licensing rounds results
Round 1.1 (R1.1), Round 1.2 (R1.2) and Round 2.1(R2.1)
List of blocks

Abbreviation	Block name
R1.1-A1*	Area 1
R1.1-A2	Area 2
R1.1-A3*	Area 3
R1.1-A4*	Area 4
R1.1-A5*	Area 5
R1.1-A6*	Area 6
R1.1-A7	Area 7
R1.1-A8*	Area 8
R1.1-A9*	Area 9
R1.1-A10*	Area 10
R1.1-A11*	Area 11
R1.1-A12*	Area 12
R1.1-A13*	Area 13
R1.1-A14*	Area 14
R1.2-ATM	Amoca, Miztón, Tecoalli
R1.2-HOK	Hokchi
R1.2-IP	Ichalkil y Pokoch

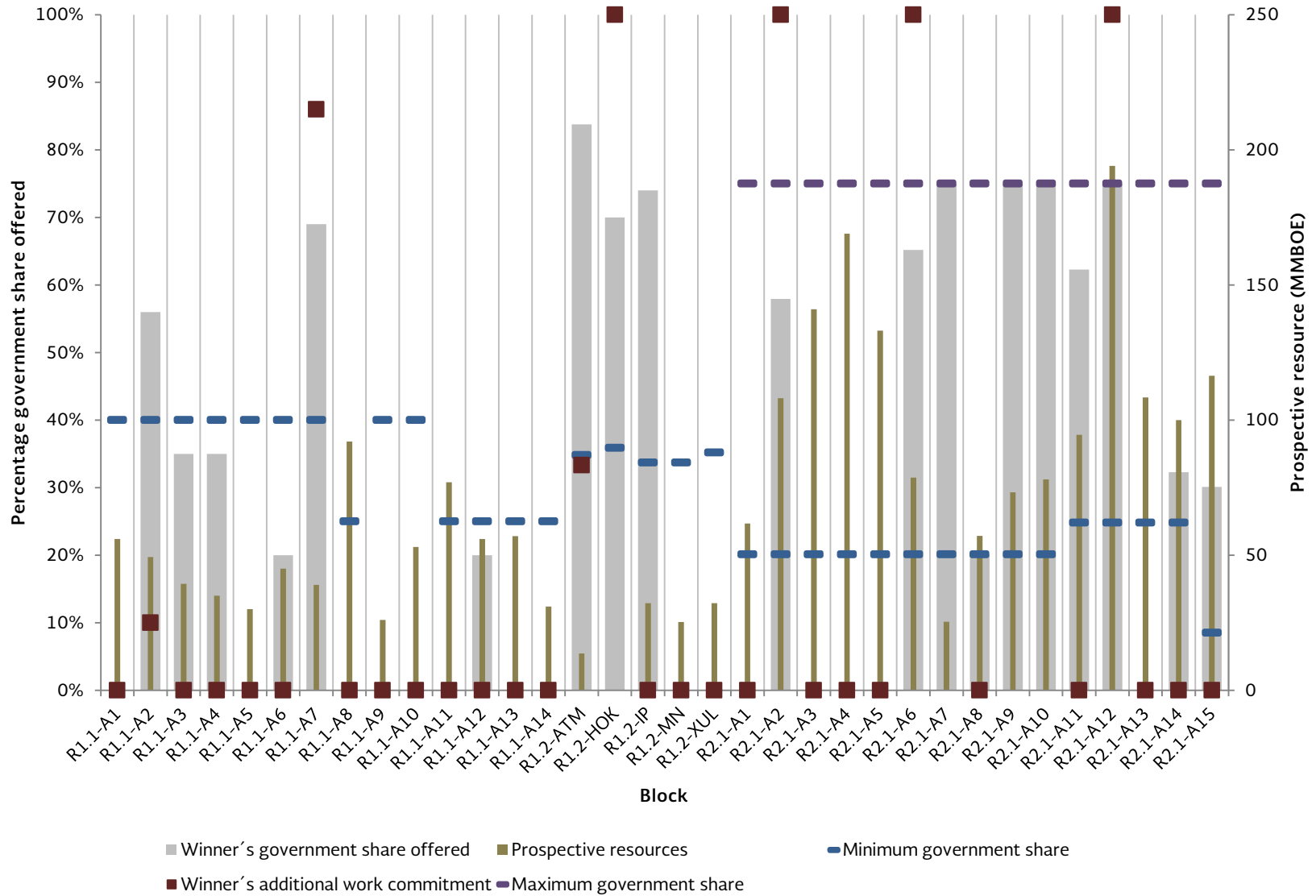
Abbreviation	Block name
R1.2-MN*	Misión-Nak
R1.2-XUL*	Xulum
R2.1-A1*	Area 1
R2.1-A2	Area 2
R2.1-A3*	Area 3
R2.1-A4*	Area 4
R2.1-A5*	Area 5
R2.1-A6	Area 6
R2.1-A7	Area 7
R2.1-A8	Area 8
R2.1-A9	Area 9
R2.1-A10	Area 10
R2.1-A11	Area 11
R2.1-A12	Area 12
R2.1-A13*	Area 13
R2.1-A14	Area 14
R2.1-A15	Area 15

*No bid was offered

More information available at <https://rondasmexico.gob.mx/>



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B6. Onshore conventional licensing rounds results
Round 1.3 (R1.3), Round 2.2 (R2.2), and Round 2.3(R2.3)
List of blocks

Abbreviation	Block name
R1.3-Barcodón	Barcodón
R1.3-Benavides-Primavera	Benavides-Primavera
R1.3-Calibrador	Calibrador
R1.3-Calicanto	Calicanto
R1.3-Carretas	Carretas
R1.3-Catedral	Catedral
R1.3-Cuichapa-Poniente	Cuichapa-Poniente
R1.3-Duna	Duna
R1.3-Fortuna Nacional	Fortuna Nacional
R1.3-La Laja	La Laja
R1.3-Malva	Malva
R1.3-Mareógrafo	Mareógrafo
R1.3-Mayacaste	Mayacaste
R1.3-Moloacán	Moloacán
R1.3-Mundo Nuevo	Mundo Nuevo
R1.3-Paraíso	Paraíso
R1.3-Paso de Oro	Paso de Oro
R1.3-Peña Blanca	Peña Blanca
R1.3-Pontón	Pontón
R1.3-Ricos	Ricos
R1.3-San Bernardo	San Bernardo
R1.3-Secadero	Secadero
R1.3-Tajón	Tajón
R1.3-Tecolutla	Tecolutla
R1.3-Topén	Topén

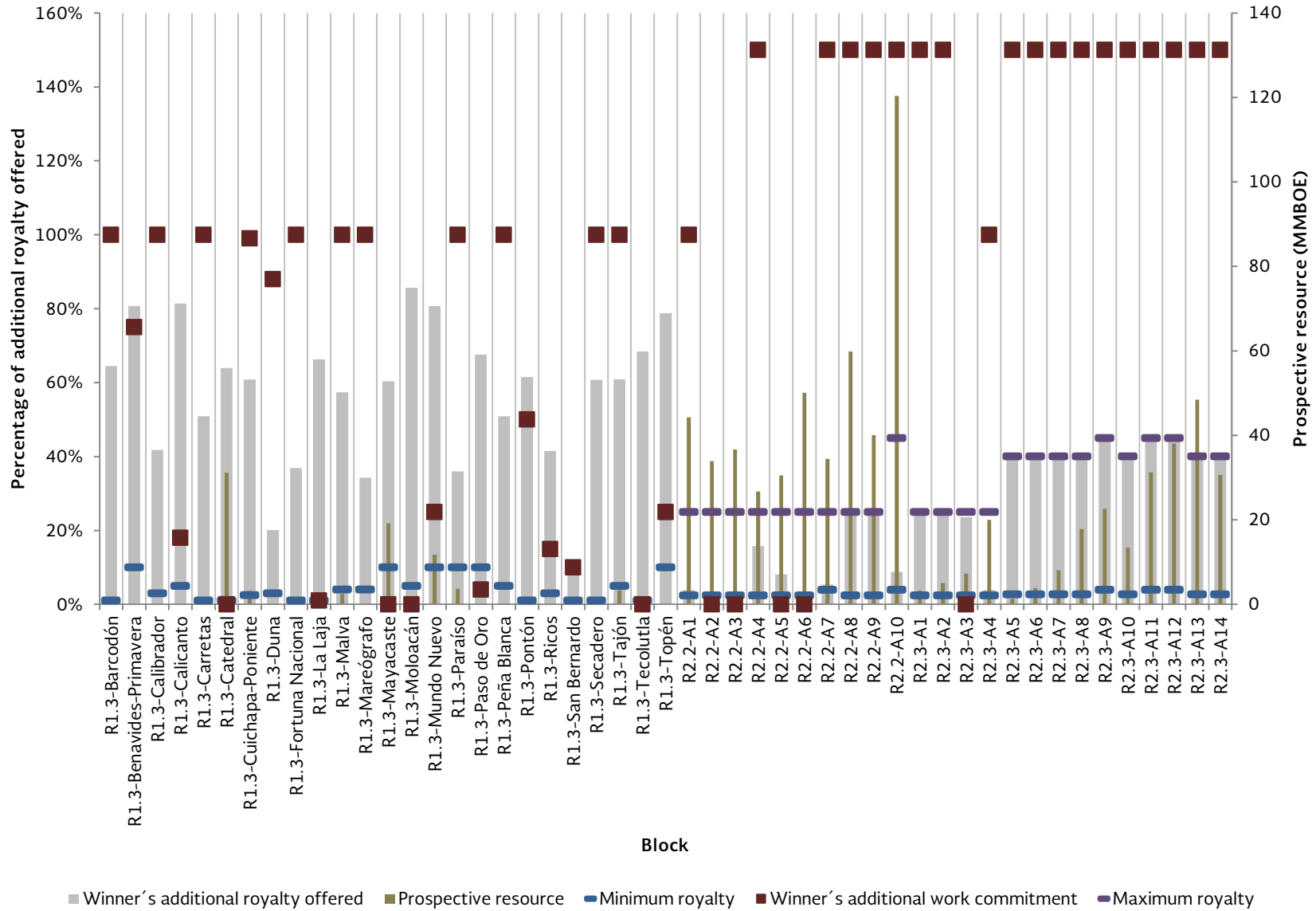
Abbreviation	Block name
R2.2-A1	Area 1
R2.2-A2*	Area 2
R2.2-A3*	Area 3
R2.2-A4	Area 4
R2.2-A5	Area 5
R2.2-A6*	Area 6
R2.2-A7	Area 7
R2.2-A8	Area 8
R2.2-A9	Area 9
R2.2-A10	Area 10
R2.3-A1	Area 1
R2.3-A2	Area 2
R2.3-A3	Area 3
R2.3-A4	Area 4
R2.3-A5	Area 5
R2.3-A6	Area 6
R2.3-A7	Area 7
R2.3-A8	Area 8
R2.3-A9	Area 9
R2.3-A10	Area 10
R2.3-A11	Area 11
R2.3-A12	Area 12
R2.3-A13	Area 13
R2.3-A14	Area 14

*No bid was offered

More information available at <https://rondasmexico.gob.mx/>



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B7. Licensing rounds results around the world (2015-2017)

Country	Year	Onshore conventional awarded blocks			Shallow water awarded blocks			Deep water awarded blocks			Total	
		#	Total area (km2)	Average area (km2)	#	Total area (km2)	Average area (km2)	#	Total area (km2)	Average area (km2)	Blocks	Area (km2)
Canada	2015	41	13	0	3	3,754	1,251	1	2,888	2,888	45	6,655
	2016	41	90	2	2	2,751	1,375	8	20,071	2,509	51	22,912
	2017	51	27	1	4	3,982	995	6	11,907	1,985	61	15,917
	Total	133	130		9	10,487		15	34,866		157	45,483
United States	2015	371	3,522	9	41	569	14	30	31,958	1,065	442	36,049
	2016	143	925	6	36	693	19	20	576	29	199	2,195
	2017	152	3,074	20	26	515	20	7	68	10	185	3,658
	Total	666	7,521		103	1,778		57	32,602		826	41,902
Mexico	2015	0	0		3	727	242	8	18,818	2,352	11	19,545
	2016	25	778	31	12	5,972	498	1	1,285	1,285	38	8,034
	2017	21	5,512	262	0	0		0	0	0	21	5,512
	Total	46	6,290		15	6,699		9	20,103		70	33,092
Brazil	2015	30	31,958	1065	0	0		3	1,546	515	33	33,504
	2016	20	576	29	0	0		0	0		20	576
	2017	7	68	10	0	0		0	0		7	68
	Total	57	32,602		0	0		3	1,546		60	34,149
Australia	2015	73	63,067	864	15	41,847	2,790	15	6,649	443	103	111,563
	2016	13	9,078	698	18	46,737	2,597	7	3,678	525	38	59,493
	2017	6	686	114	3	6,919	2,306	0	0		9	7,605
	Total	92	72,831		36	95,503		22	10,327		150	178,661
Morocco	2015	4	14,185	3546	0	0		0	0		4	14,185
	2016	1	4,990	4990	7	13,794	1,971	10	19,856	1,986	18	38,640
	2017	1	1,362	1362	1	1,400	1,400	0	0		2	2,762
	Total	6	20,537		8	15,194		10	19,856		24	55,587
Norway	2015	0	0		78	9,017	116	5	1,284	257	83	10,301
	2016	0	0		175	25,473	146	15	4,137	276	190	29,610
	2017	0	0		141	20,163	143	14	3,745	268	155	23,909
	Total	0	0		394	54,653		34	9,166		428	63,819
Colombia	2015	3	2,469	823	0	0		0	0		3	2,469
	2016	6	398	66	0	0		0	0		6	398
	2017	0	0		0	0		0	0		0	0
	Total	9	2,867		0	0		0	0		9	2,867

Source: Wood Mackenzie, 2017.