Mexico's Deepwater opportunities and challenges



The Westin Houston, Memorial City • Houston, Texas • November 8, 2018

Contents

Mexican Deep Water Resource Potential

- Seismic activity
- Five year plan
- Bidding rounds
- Economic aspects of Deep Water contracts
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- Regulatory challenge
 - New government risks
 - Regulatory compliance burden

DEEPWATER EXECUTIVE SUMMIT

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A revolution in subsoil knowledge generation

Permits for Surface Exploration Activities(ARES):

During the last 3 years, Mexico has been multiplying data acquisition.

3x 2D (332,000 km)
4x 3D WAZ (87,000 km²)

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A revolution in surface knowledge generation

- Until august 2018, CNH has authorized 69 projects of 21 service companies to develop acquisition and reprocessing works among other geophysics studies.
- Red area: investment related to 10 projects of acquisition and reprocessing represents 1.2 MMUSD for each 40 km²

Mapa 5. Inversión estimada en dólares por cada 40 km² por concepto de ARES para adquisición o reprocesamiento sismico





Five year plan definition process



Five-Year Plan, 2018 version

- Four main divisions: Deep Water, Shallow Water, Onshore and Unconventional (shale)
- Blocks 528

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- Total Surface 212,927 km²
- Total estimated resources: 40,077 mmboe

Area	Resources (mmboe)	Av block size Km²	Blocks num
Deep	5,765	973	108
Shallow	2,319	406	76
Onshore	697	233	95
Shale	31,294	287	183





Five-Year Plan, 2018 version Deepwater

- Three basins: Perdido, Salina and Cordilleras Mexicanas
- Average block size 973 km²
- Blocks 108

GULF OUEST

- Total Surface 105,093 km²
- Total estimated resources: 5,765
 mmboe

Area	Resources (mmboe)	Surface Km ²	Blocks num
Perdido	1,186	27,595	28
Cordilleras	2,258	41,889	44
Salina	2,321	35,609	36





Deepwater Rounds 1.4 and 2.4

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Concept	1.4	2.4	Difference
Offered Blocks	10	30	200%
Awarded Blocks	8	19	138%
Surface awarded (km ²)	2,352	2,325	-1%
Offers submitted	13	39	200%
Average additional royalty offered	14.3%	16.1%	2%
Committed wells	8	23	188%
Committed investments (mmusd)	488	1,334	173%
Average government take	59.8%	64.7%	5

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Deepwater Rounds 1.4

GULF OUEST Blocks Awarded by Company or Consortium



Deepwater Round 2.4

GULF QUEST Blocks Awarded by Company or Consortium



Bidding round results

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Call	Blocks offered	Bids / blocks offered	Average Bids / blocks offered	Blocks awarded	Bids / blocks awarded	Average Bids / blocks awarded
R01-L01	14	11	0.8	2	7	3.5
R01-L02	5	15	3	3	15	5
R01-L03	25	195	7.8 25		195	7.8
R01-L04	10	13	1.3	8	13	1.6
R02-L01	15	28	1.9	10	28	2.8
R02-L02	10	12	1.2	7	12	1.7
R02-L03	14	52	3.7	14	52	3.7
R02-L04	29	39	1.3	19	39	2.1
R03-L01	35	36	1	16	36	2.3
Subtotal	157	401	2.6	104	397	3.8
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National Content Rounds 1.4 & 2.4



Fiscal Regime Rounds 1.4 & 2.4

License Contracts Rounds 1.4 & 2.4

Profit and

production

sharing

contracts

Other

Rounds

- Signature Bonus: Predetermined amount in bidding rounds.
- A Consideration: additional royalty to be determined in bidding rounds. Designed to capture extraordinary profitability.

Percentage of operating profit: to be

Common to any type of Contract

Contract fee for the exploratory phase: payment per square kilometer for the part of the Contractual Area that is not in the production phase.

Basic royalty: rate applicable to the value of oil, gas and condensates.

Exploration and extraction of hydrocarbons activities tax : payment per square kilometer, differentiated between exploration and extraction phase.

Corporate income tax: according to the income tax law.



determined in bidding rounds. Designed to capture extraordinary profitability. In cash for profit sharing and in kind for production sharing contracts.

Fiscal Regime Rounds 1.4 & 2.4

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Consideration	Procedure to calculate
Royalties*	Amount determined monthly for each type of Hydrocarbon.
Signature bonus*	Amount determined in the bidding rounds.
Contractual fee for the exploratory phase	Monthly payment for the part of the contract area that does not have a development plan approved by the CNH: \$1,294.71 pesos per km² during the first 60 months. \$3,096.04 pesos per km² beginning in month 61.
Exploration and Extraction of Hydrocarbons Activity Tax	 Monthly payment by contractual area applying the following rates: \$1,688.74 pesos per km² during the exploration phase. \$6,754.99 pesos per km² during the extraction phase.
Corporate income tax	30% applied to the income minus authorized deductions.
Adjustment mechanism	Applied to the additional royalty. Designed to capture extraordinary profits, as follows:
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(Production Sharing) License ?

The *R* factor used to determine the adjustment factor will be calculated at the end of every quarter in the months of March, June, September and December as follows:

$$FR_n = \frac{\sum_{i=1}^{n} (VCH_i - CP_i - IEEH_i)}{\sum_{i=1}^{n} CT_i}$$

Where:

 $FR_n = R$ factor up to quarter n.

 VCH_i = Contractual Value of Hydrocarbons in quarter *i*.

 CP_i = Royalty, additional royalty considering adjustments and the Contractual Fee for the Exploratory Phase.

 $IEEH_I$ = Exploration and Extraction of Hydrocarbons Activities Tax.

 CT_i = The costs incurred in quarter *i*.



Adjusment mechanism

The applicable rate to determine the additional royalty will be calculated according to the following:

$$T_t = R_0 + AR_n$$

Where:

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 T_t = Applicable rate to the contract value of hydrocarbons produced in the contract area during months t.

 R_0 = Initial percentage of the contract value of the hydrocarbons produced in the contract area.

 AR_n = The adjustment factor applicable to the months that constitute quarter n and calculated as follows: The adjustment factor for each quarter will be determined based on the following formulas:

<i>R</i> factor at the end of the immediately preceding quarter	Applicable adjustment factor
$FR_{n-1} < 2$	$AR_n = 0\%$
$2 \le FR_{n-1} \le 4$	$AR_n = [(FR_{n-1} - 2) \times 16.65 \times CRO_{n-1}]\%$
$4 < FR_{n-1}$	$AR_n = (33.3 \times CRO_{n-1})\%$

Where:

 AR_n = The adjustment factor applicable for the months that constitute the quarter $n FR_{n-1}$ = The R factor calculated at the end of the immediately preceding quarter CRO_{n-1} = The operative result coefficient calculated by the end of the immediately preceding quarter.

Adjusment mechanism



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Regulatory challenge

New government risks
Regulatory compliance burden

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Regulatory Risks

- **1. Government risks:** *Type I*, where the source is a government misunderstanding of compliance and *Type II*, those where there is a hardening of policy enforcement.
- **2. Operator risks:** those derived from cultural and economic barriers to achieve the necessary compliance standard.
- **3. Legal risks:** those derived from asymmetry between regulation and operation.



Likelihood of occurrence

Examples:

- Government risks (Type I): 1b Averse contract modification and 1e Turnover costs.
- Government risks (Type II): 1a Contract audits; 1c ASEA's capture; 1d CNH-CRE's capture and 1f Increase of compliance cost (e.g. National Content and SIA)
- **Operator risks:** 2a Misunderstanding of compliance; 2b Deviation from regulations caused by public-servant's recommendations or someone else's experience and 2c Misalignment of Operator's and Industry (group) goals of advocacy.
- Legal risks: (3) Any derived from a risk assessment of the contract and regulations, like the Clause 4.1 (Obligation to request authorization of implementation of SASISOPA in the first 180 days of the contract)

Risk: Government Turnover

Ley Federal de Remuneraciones de los Servidores Públicos

"No official salary can exceed the one of the Mexican President."

		MO	NTHLY SALARY	2018-2019 (%)		
SALARY LEVEL	2018		201	.9	Min	Max
			Min	Max	IVIIII	IVIdX
TITULAR	\$	177,747	\$84,550	\$99,590	-52%	-44%
DG	\$	154,789	\$63,500	\$80,300	-59%	-48%
DGA	\$	118,688	\$45,000	\$66,800	-62%	-44%
DGA	\$	105,912	\$45,000	\$66,800	-58%	-37%
DGA	\$	99,328	\$45,000	\$66,800	-55%	-33%
DA	\$	71,004	\$26,100	\$40,900	-63%	-42%
DA	\$	66,985	\$26,100	\$40,900	-61%	-39%

Risk: Regulators Instability

CNH	Appointment	1st period	2nd period
JCZ	abr-14		abr-19
AAP	abr-16		mar-23
NMR	nov-17		oct-24
HMR	abr-18		mar-25
SPV	sep-14	sep-21	sep-28
HAF *	sep-14	sep-21	sep-28
GFH	may-15	may-22	may-29

 * El H. Congreso del Estado de Chihuahua, eligió el jueves 23 de agosto del 2018 como nuevo Auditor Superior del Estado, al Lic.
 Héctor Alberto Acosta Félix, el cual tomará protesta y asumirá el cargo el primero de diciembre del presente año, por un periodo de 7 años.

Risk: Government Austerity

SALARY LEVEL	EXPLORATION	EXTRACTION	CONTRACT ADMINISTRATION	DRILLING PERMITS	CNIH	ARES	ECONOMIC ASSESSMENT	TOTAL
TITULAR (\$177)	1	1	1		1			4
DG (\$154)	2	2	2		1		1	8
DGA (\$118)		2						2
DGA (\$106)	1	1	2			1		5
DGA (\$99)				1				1
DA (\$71)	2			2				4
DA (\$67)	3		1	1		1		6
TOTAL	9	6	6	4	2	2	1	30

Regulatory Compliance

Agency	Transition Stage for Startup	Exploration	Appraisal	Development	Extraction	Final Transition Stage	Transversal	Total
CNH	3	15	3	9	8	10	101	149
ASEA	18	7	1	1	1	7	59	94
CRE							4	4
SENER	1						2	3
SE		1	1	1				3
FMP		1			1		1	3
SAT							2	2
SCT							1	1
Total	22	24	5	11	10	17	170	259

Agency	Non-periodic	Monthly	Quarterly	Semiannual	Annual	Biannual	Variable	Total
CNH	133	2	3	1	10			149
ASEA	74			2	17	1		94
CRE	4							4
SENER	3							3
SE							3	3
FMP		3						3
SAT		2						2
SCT	1							1
Total	215	7	3	3	27	1	3	259

Regulatory Compliance

Agency	Cost			Total
	Low	Medium	High	- Iotai
CNH	14	62	73	149
ASEA		44	50	94
CRE			4	4
SE	3			3
SENER			3	3
FMP			3	3
SAT			2	2
SCT			1	1
Total	17	106	136	259

	Permits	Days for authorization			
Agency		Minimum	Average	Maximum	
CNH	149	5	62	260	
ASEA	94	10	42	165	
CRE	4	110	118	125	
SENER	3	110	136	170	
SE	3	5	5	5	
FMP	3	20	28	35	
SAT	2	20	28	35	
SCT	1	50	60	70	
Total	259	5	55	260	

Exploration Stage for an Offshore Contract



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