HR Ratings Credit Rating Agency

*A NRSRO Rating**

Petróleos Mexicanos

HR BBB+ (G)

Corporates
April 28, 2023

Ratings

Pemex LT Global	HR BBB+ (G)
LT Debt Issues Global	HR BBB+ (G)
Outlook	Stable

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Definition

The rating assigned indicates that the issuer or issue with this rating provides moderate safety for timely payment of debt obligations. Maintains moderate credit risk on a global scale, with weakness in the ability to pay in adverse economic scenarios. The positive sign means a relative strength into the assigned rate.

Rule 17g-7 Information Disclosure Form

The Rating Action Commentary (RAC) associated with this disclosure form is an integral part of the form.

1. Symbol, Number, or Score in the Rating Scale used by HR Ratings as required by Paragraph (a)(1)(ii)(A) of Rule 17g-7:

Entity/Instrument	Rating Action	Rating Type	Rating Code
Petróleos Mexicanos (PEMEX and/or the Company)	Affirmed	Long Term	HR BBB+ (G) / Stable Outlook
PEMEX 6.500% Notes 2027 / US71656MBQ15	Affirmed	Long Term	HR BBB+ (G) / Stable Outlook
PEMEX 6.750% Notes 2047 / US71654QCC42	Affirmed	Long Term	HR BBB+ (G) / Stable Outlook
PEMEX 5.350% Notes 2028 / US71654QCH39	Affirmed	Long Term	HR BBB+ (G) / Stable Outlook
PEMEX 6.350% Notes 2048 / US71654QCJ94	Affirmed	Long Term	HR BBB+ (G) / Stable Outlook
PEMEX 6.500% Notes 2029 / US71654QCM24	Affirmed	Long Term	HR BBB+ (G) / Stable Outlook
Pemex 6.49% Notes due 2027 ISIN: US71654QCQ38	Affirmed	Long Term	HR BBB+ (G) / Stable Outlook
Pemex 6.84% Notes due 2030 ISIN: US71654QCT76	Affirmed	Long Term	HR BBB+ (G) / Stable Outlook
Pemex 7.69% Bonds due 2050 ISIN: US71654QCW06	Affirmed	Long Term	HR BBB+ (G) / Stable Outlook
3.500% NOTES 2023 US71654QBG64	Affirmed	Long Term	HR BBB+ (G) / Stable Outlook
4.625% NOTES 2023 US71654QCD25	Affirmed	Long Term	HR BBB+ (G) / Stable Outlook
8.625% NOTES 2023 US706451BC43/US706451AV33/US71654XAC11	Affirmed	Long Term	HR BBB+ (G) / Stable Outlook
4.875% NOTES 2024 US71654QBH48	Affirmed	Long Term	HR BBB+ (G) / Stable Outlook
9.500% NOTES 2027 US71654QAM42/US706451BD26/US706451AW16	Affirmed	Long Term	HR BBB+ (G) / Stable Outlook
4.250% NOTES 2025 US71654QBV32	Affirmed	Long Term	HR BBB+ (G) / Stable Outlook
4.500% NOTES 2026 US71654QBW15	Affirmed	Long Term	HR BBB+ (G) / Stable Outlook
5.950% NOTES 2031 US71654QCZ37	Affirmed	Long Term	HR BBB+ (G) / Stable Outlook
6.875% NOTES 2026 US71654QCB68/US71656LBK61	Affirmed	Long Term	HR BBB+ (G) / Stable Outlook
6.625% NOTES 2035 US706451BG56	Affirmed	Long Term	HR BBB+ (G) / Stable Outlook
6.625% NOTES 2038 US706451BR12	Affirmed	Long Term	HR BBB+ (G) / Stable Outlook
6.500% NOTES 2041 US71654QAZ54	Affirmed	Long Term	HR BBB+ (G) / Stable Outlook
5.500% NOTES 2044 US71654QBE17	Affirmed	Long Term	HR BBB+ (G) / Stable Outlook
6.375% NOTES 2045 US71654QBR20	Affirmed	Long Term	HR BBB+ (G) / Stable Outlook
5.625% NOTES 2046 US71654QBX97	Affirmed	Long Term	HR BBB+ (G) / Stable Outlook
6.950% NOTES 2060 US71654QDA76	Affirmed	Long Term	HR BBB+ (G) / Stable Outlook
6.625% NOTES PERP US71656LAF85	Affirmed	Long Term	HR BBB+ (G) / Stable Outlook
6.875% NOTES 2025: US71654QDG47 / USP7S08VBZ31	Affirmed	Long Term	HR BBB+ (G) / Stable Outlook
10% NOTES 2033 / US71654QDN97	Assigned	Long Term	HR BBB+ (G) / Stable Outlook

2. Version of the Procedure or Methodology used to determine the credit rating as required by Paragraph (a)(1)(ii)(B) of Rule 17g-7:

The rating assigned by HR Ratings to the entity is based in accordance with the following methodologies established by the rating agency:

- Corporate Debt Credit Risk Evaluation, August 2021
  https://www.hrratings.com/docs/metodologia/Corporate_Debt_Credit_Risk_Evaluation_(August_2021).pdf
- General Methodological Criteria, January 2023
  https://www.hrratings.com/docs/metodologia/General_Methodological_Criteria_January_2023.pdf
- Sovereign Debt Methodology, May 2017
  https://www.hrratings.com/docs/metodologia/0Sovereign%20Debt%20Methodology.pdf

3. Main assumptions and principles used in constructing the procedures and methodologies to determine the credit rating as required by Paragraph (a)(1)(ii)(C) of Rule 17g-7:

This methodology describes the process that HR Ratings uses to evaluate the ability and willingness of corporate entities to pay their debt obligations. This process consists of two elements: the first element refers to a quantitative analysis, which initially determines the credit rating through the historical analysis of the entity and the projection of a Base Scenario and a Stress Scenario, weighting the main metrics of indebtedness identified by HR Ratings; the second element includes a qualitative analysis based on environmental, social, and corporate governance (ESG) factors. The quantitative element of this methodology consists of three sections that describe different rating processes that in general terms are similar, but that include different concepts and weights associated with these concepts. The first process refers to a quantitative evaluation of the corporate entities, the second to the assets that focus on real estate investments and, lastly, a third process that shows how to rate structured debt issues that have pledge a specific source of revenue to service the debt and that said revenue is dependent on the issuer's operations. All these processes have the following similarities:

- They are developed based on historical information, a Base Scenario, and a Stress Scenario in which the corporate entity's financial information is projected.
- Financial metrics are developed under each scenario for the historical and projected years.
- Each metric, under each scenario, is weighted over the years to generate a unique intertemporal value.
- An integer value between 1 (lowest) and 19 (highest) is assigned to each metric based on its intertemporal value.
- These integer values are averaged based on the different metrics in each process and a result is obtained for the Base Scenario and another for the Stress Scenario.
- Based on the averages per scenario, the result of the quantitative evaluation is obtained.
- In turn, the qualitative analysis of HR Ratings allows to subtract or add up to three notches to the credit rating based on ESG factors. This evaluation focuses on identifying the credit risk that these factors could give rise to; therefore, it is important to clarify that, to a certain extent, their impact could already be included in the quantitative analysis. The ESG evaluation also recognizes that each factor being analyzed involves different risks depending on the economic activity and line of business of the corporate entity, an issue that the methodology considers in its analysis.
- In this specific rating, the rating incorporates notch adjustments to align with Mexico's sovereign debt rating, which was ratified in HR BBB+ (G) with a Stable Outlook on April 25, 2023. The above is due to the de facto sovereign status we consider the Company’s debt to have due to the support shown by the Federal Government through contributions for debt service payments, capital investments and tax support. This is also due to the importance of oil revenue in Mexico's public finances.

4. <u>Potential limitations of the credit rating as required by Paragraph (a)(1)(ii)(D) of Rule 17g-7</u>

- HR Ratings does not validate, guarantee, or certify the accuracy, correctness or completeness of any information and is not responsible for any errors or omissions or for results obtained from the use of such information.
- Ratings and/or opinions assigned by HR Ratings are based on an analysis of the creditworthiness of an entity, issue or issuer, and do not necessarily imply a statistical likelihood of default.
- The credit ratings do not opine on the liquidity of the issuer´s securities or stock.
- The credit ratings do not consider the possible loss severity on an obligation default.
- The credit ratings are not an opinion of the market value of any issuer´s securities or stock, or the possibility that this value suffer a deterioration.

5. <u>Information on the uncertainty of the credit rating as required by Paragraph (a)(1)(ii)(E) of Rule 17g-7</u>

The Analysis Committee noted no material limitations on the reliability, accuracy and quality on the data relied on in determining the credit rating.

6. <u>Use of third party due diligence services as required by Paragraph (a)(1)(ii)(F) of Rule 17g-7</u>

HR Ratings did not use third-party due diligence information for the rating.

7. <u>Use of servicer or remittance reports to conduct surveillance of the credit rating as required by Paragraph (a)(1)(ii)(G) of Rule 17g-7</u>

HR Ratings did not use Servicer or Remittance Reports for the rating.

8. **Description of types of data about any obligor, issue, security or money market instrument relied upon for determining credit rating as required by Paragraph (a)(1)(ii)(H) of Rule 17g-7**

Among the main information used for the rating is:

- Annual Audited reports obtained from public records, regulatory filings, and PEMEX.
- Quarterly financial statements and operational results.
- Projections, budget, and guidelines provided by the Federal Government and the entity.
- Presentations issued by the Company.
- Legal documentation of the entity's debt obtained from public sources and PEMEX.
- Pemex's institutional database.
- Federal Government Annual budgets and programs.
- Relevant events published by the entity.

9. **Overall assessment of quality of information available and considered in determining credit rating as required by Paragraph (a)(1)(ii)(I) of Rule 17g-7**

The quality of the information provided by the entity is considered to be consistent with the quality observed in ratings that use a similar methodology.

10. **Information relating to conflicts of interest as required by Paragraph (a)(1)(ii)(J) of Rule 17g-7**

The rating was solicited by the entity or issuer, or on its behalf, and therefore, HR Ratings has received the corresponding fees for the rating services provided. The following information can be found on our website at www.hrratings.com: (i) The internal procedures for the monitoring and surveillance of our ratings and the periodicity with which they are formally updated, (ii) the criteria used by HR Ratings for the withdrawal or suspension of the maintenance of a rating, (iii) the procedure and process of voting on our Analysis Committee, and (iv) the rating scales and their definitions.

11. **Explanation or measure of potential volatility to the credit rating as required by Paragraph (a)(1)(ii)(K) of Rule17g-7**

1. Factors that are reasonably likely to lead to a change in the credit rating:

   - **Reduced support from the Mexican government.** If the Mexican government reduces its support for the Company, which historically has been reflected through capital injections and policies that contribute to improving the Company's financial and operating results, the Company's results could be pressured. This could have a minimum to strong negative impact on the rating.
   - **International crude oil prices volatility.** EBITDA margins, as well as expected FCF generation, depend mainly on the price of international crude oil prices worldwide. If there is a further than expected drop in international crude oil prices, the rating could have a minimal to strong negative impact.
   - **Decline in Oil Production Volumes.** If Pemex reports a negative trend in crude oil production and is unable to reach their forecasted production levels, a key factor in its New Business Plan, its results would be significantly impacted. This would represent a minimum to strong negative impact on the Company's rating.
   - **Lower recovery rates of its reserves.** If Pemex reports lower recovery rates of its reserves due to unsuccessful exploration programs and the scarce substitution of its production by new fields, its results may be lower than expected in our scenarios and could have a minimum to strong negative impact on the rating.
   - **Disruptions in the refining process.** The Company's results could be pressured if there are unscheduled shutdowns at its refineries and delays in the implementation and start-up of the new Dos Bocas refinery plan, coupled with higher-than-expected investment costs. This could have a minimum to strong negative impact on the rating.

2. The magnitude of the change that could occur under different market conditions determined by HR Ratings to be relevant to the rating:

   - **Sovereign debt.** Any change, positive or negative, to the sovereign rating for Mexico, and its outlook, would be reflected directly in the global rating for Pemex, as HR Ratings considers the Pemex debt to have a de facto guarantee from the federal government. This could have a minimum to strong positive or negative impact on the rating.

- **Adverse scenario in crude oil supply worldwide.** Volatility could be higher than expected as a consequence of geopolitical conflicts, actions taken by OPEC+ members and therefore the global supply/demand balance. The Company's rating could reflect a minimum to strong negative impact if the average Mexican crude oil export price decreases to an estimated US$58.5 per barrel on average by 2023-2025.

NOTE: The Credit Analysis Committee must convene to review and discuss the changes that could occur under different market conditions. All the ratings issued by HR Ratings must be approved by the Credit Analysis Committee in accordance with the applicable methodology and the information available at the time. However, the magnitude of a potential change in the rating that could reasonably occur as a result of the impact of the factors listed above are characterized by the following summary chart:

Rating change impact	Number of notches
Minimum	(0-1)
Moderate	(2 - 3)
Strong	>3

12. Historical performance and expected probability of default and expected loss in event of default as required by Paragraph (a)(1)(ii)(L) of Rule 17g-7

For historical performance of each rating listed in the disclosure form, click on the link in the ratings table presented on the first page.

Our credit ratings need to be understood as rankings of the relative creditworthiness of different entities or credits. Creditworthiness takes into consideration both the ability and willingness to meet debt obligations in the manner prescribed in the relevant documentation. Default refers to the noncompliance of previously agreed obligations. As our ratings measure relative creditworthiness, they do not necessarily reflect any specific statistical probability of default. However, HR Ratings provides to the market participants the default rate for historical default and loss statistics for the class or subclass of the credit rating. Although the default rate is not the expected probability of default or loss given default, we consider it the ratio that could be interpreted by market participants as such. The default rate for each of the asset classes in which HR Ratings provides ratings and for each rating category is publicly available for each calendar year at: https://www.hrratings.com/regulatory_disclosure/transition_matrix.xhtml

13. Assumptions made by HR Ratings in determining announced credit ratings and examples of how assumptions impact the rating as required by Paragraph (a)(1)(ii)(M) of Rule 17g-7

1. Assumptions made in the ratings process that, without accounting for any other factor, would have the greatest impact on the credit rating if proven false or inaccurate:

HR Ratings bases its ratings and/or opinions on information obtained from sources that are believed to be accurate and reliable. The assumption is that the information provided is reliable and credible, however, does not validate, guarantee, or certify the accuracy, correctness or completeness of any information and is not responsible for any errors or omissions or for results obtained from the use of such information.

- **Status of Sovereign Debt**. Pemex's debt enjoys a sovereign status de facto because we consider that it is a relevant income generator for the Mexican Federal Government and due to its importance to Mexico's economy. This assumption is relevant since the stand-alone rating of Pemex, based only on its initial rating (IR), is lower than Mexico's sovereign rating.
- **Oil Production**. The main element that supports the strategy of the current administration and future revenue generation for the Federal Government is the reversion of the decline trend on the crude oil production. Our estimates consider a gradual recovery in production levels, considering recent and expected investments, as well as the ramp-ups of new fields.
- **National Refining System (NRS).** We expect that Pemex will reactivate the refineries. Nevertheless, there is a risk that the refining margin will not improve if Pemex cannot reduce its non-programmed stoppages, improve its utilization rate and upgrade them to process more value-added products.
- **Price estimates.** We estimate a drop in the average export price of Mexican crude oil in tandem with the expected outlook for international prices (WTI).

- **Indebtedness levels.** Taking into consideration the planned support from the Federal Government to Pemex, we consider that the entity will achieve its defined short-term objective of no increase of net indebtedness, and a gradual reduction of its debt in the years to follow. However, the success of this target will depend on crude oil production levels and efficiencies that the entity could achieve.

2. Analysis, using specific examples, of how each of the assumptions identified in the preceding paragraph impacts the credit rating:

- Any change, positive or negative, to the sovereign rating for Mexico, and its outlook, would be reflected directly in the global rating for Pemex.
- The Company's results could be impacted if the Company achieves average oil production levels below 1,724Mbd for 2023-2025. This could have a negative impact on the rating.
- The Company would not achieve the forecasted revenue levels if there were a higher-than-expected downward price trend to approximately US$58.5 per barrel for the projected years (2023-2025), which would represent a deviation of -7.5% with respect to the average price forecast in the base scenario. This would have a negative impact on the rating.
- The rating could be negatively impacted if there are further unscheduled shutdowns at its refineries and delays in the implementation and start-up of the new Dos Bocas Refinery plan, coupled with a higher-than-expected investment cost.
- Under a stress scenario, Pemex could be expected to require greater levels of debt in order to cover investments so as to continue with their strategy to maximize the profitability of the production units, such as refineries and those related to crude exploration and extraction, which would translate into higher levels of debt than those estimated under a base scenario. This would have a negative impact on the rating.

14. Representations, warranties and enforcement mechanisms available to investors as required by Paragraph (a)(1)(ii)(N) of Rule 17g-7

The credit rating is not assigned to an asset backed security.

Credit Rating Attestation

I, Heinz Cederborg, Corporates / ABS Director have the responsibility for this rating action and, to the best of my knowledge:

- No part of the credit rating was influenced by any other business activities;
- The credit rating was based solely upon the merits of the obligor, security, or money market instrument being rated; and
- The credit rating was an independent evaluation of the credit risk of the obligor, security, or money market instrument.

Mexico City, April 28, 2023

/s/ Heinz Cederborg, Corporates / ABS Director
HR Ratings de México, S.A. de C.V.

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****HR Ratings, LLC (HR Ratings), is a Credit Rating Agency registered by the Securities and Exchange Commission (SEC) as a Nationally Recognized Statistical Rating Organization (NRSRO) for the assets of public finance, corporates and financial institutions as described in section 3 (a) (62) (A) and (B) subsection (i), (iii) and (v) of the US Securities Exchange Act of 1934.***

The rating was solicited by the entity or issuer, or on its behalf, and therefore, HR Ratings has received the corresponding fees for the rating services provided. The following information can be found on our website at www.hrratings.com: (i) The internal procedures for the monitoring and surveillance of our ratings and the periodicity with which they are formally updated, (ii) the criteria used by HR Ratings for the withdrawal or suspension of the maintenance of a rating, and (iii) the procedure and process of voting on our Analysis Committee.

The ratings and/or opinions of HR Ratings de México S.A. de C.V. (HR Ratings) are opinions regarding the credit quality and/or the asset management capacity, or relative to the performance of the tasks aimed at the fulfillment of the corporate purpose, by issuing companies and other entities or sectors, and are based on exclusively in the characteristics of the entity, issue and/or operation, regardless of any business activity between HR Ratings and the entity or issuer. The ratings and/or opinions granted are issued on behalf of HR Ratings and not of its management or technical personnel and do not constitute recommendations to buy, sell or maintain any instrument, or to carry out any type of business, investment or operation, and may be subject to updates at any time, in accordance with the HR Ratings classification methodologies, in terms of the provisions of article 7, section II and/or III, as appropriate, of the "General provisions applicable to the issuers of securities and other participants in the stock market".

HR Ratings bases its ratings and/or opinions on information obtained from sources that are believed to be accurate and reliable. HR Ratings, however, does not validate, guarantee or certify the accuracy, correctness or completeness of any information and is not responsible for any errors or omissions or for results obtained from the use of such information. Most issuers of debt securities rated by HR Ratings have paid a fee for the credit rating based on the amount and type of debt issued. The degree of creditworthiness of an issue or issuer, opinions regarding asset manager quality or ratings related to an entity's performance of its business purpose are subject to change, which can produce a rating upgrade or downgrade, without implying any responsibility for HR Ratings. The ratings issued by HR Ratings are assigned in an ethical manner, in accordance with healthy market practices and in compliance with applicable regulations found on the www.hrratings.com rating agency webpage. There Code of Conduct, HR Ratings' rating methodologies, rating criteria and current ratings can also be found on the website.

Ratings and/or opinions assigned by HR Ratings are based on an analysis of the creditworthiness of an entity, issue or issuer, and do not necessarily imply a statistical likelihood of default, HR Ratings defines as the inability or unwillingness to satisfy the contractually stipulated payment terms of an obligation, such that creditors and/or bondholders are forced to take action in order to recover their investment or to restructure the debt due to a situation of stress faced by the debtor. Without disregard to the aforementioned point, in order to validate our ratings, our methodologies consider stress scenarios as a complement to the analysis derived from a base case scenario. The rating fee that HR Ratings receives from issuers generally ranges from US$1,000 to US$1,000,000 (or the foreign currency equivalent) per issue. In some instances, HR Ratings will rate all or some of the issues of a particular issuer for an annual fee. It is estimated that the annual fees range from US$5,000 to US$2,000,000 (or the foreign currency equivalent).