

The logo for the Comisión Nacional de Hidrocarburos (CNH), consisting of the letters 'CNH' in a bold, white, sans-serif font inside a white rectangular box.

Comisión Nacional  
de Hidrocarburos

2022



# Production Forecast 2022-2028

Second Quarter of 2022

# Projected Production of Oil

CNH

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de Hidrocarburos

2022

## PROJECTED PRODUCTION OF OIL

2<sup>nd</sup> QUARTER OF 2022

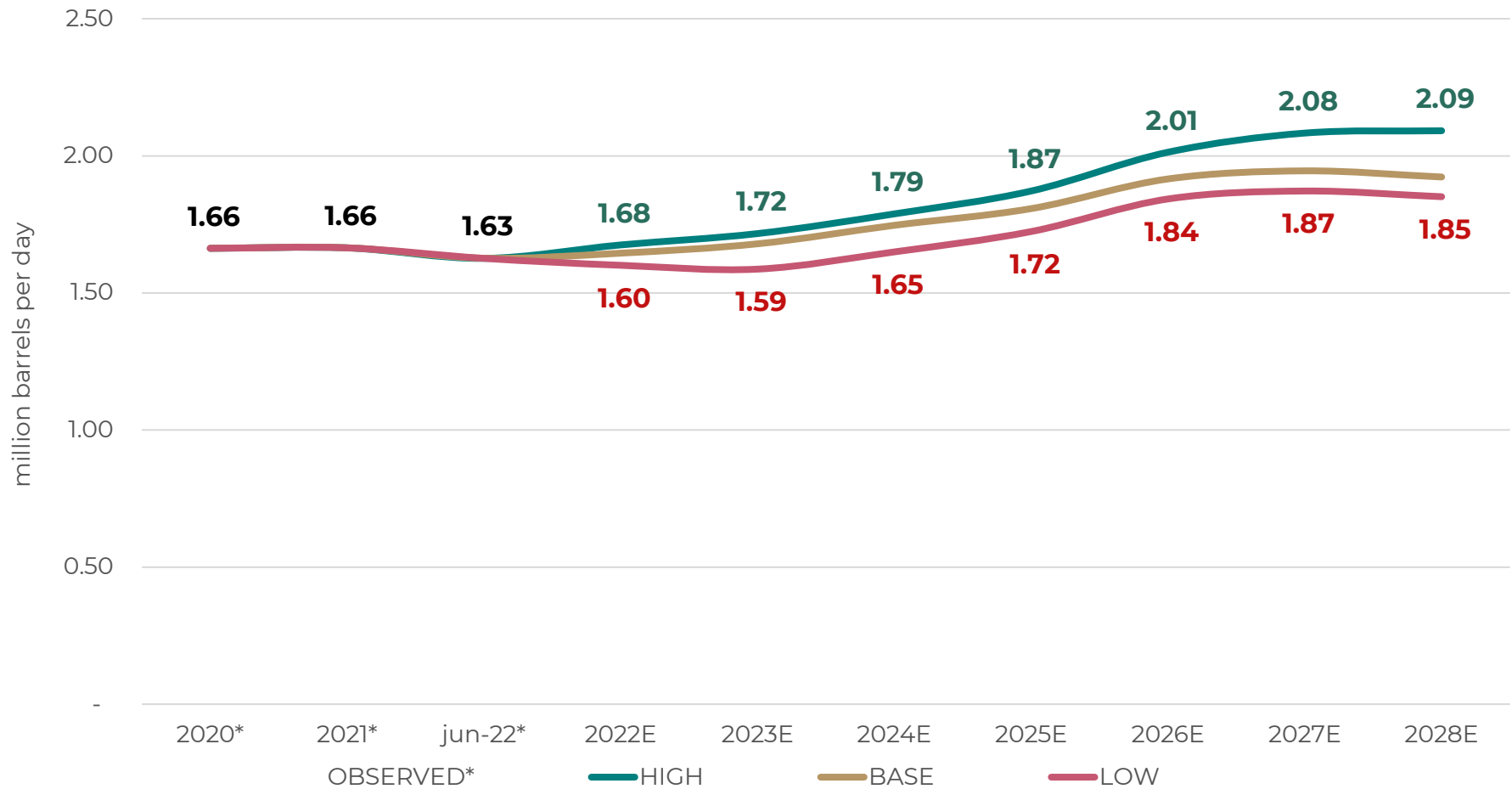


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[contacto@cnh.gob.mx](mailto:contacto@cnh.gob.mx)  
55 4774 6500



## Projected Production

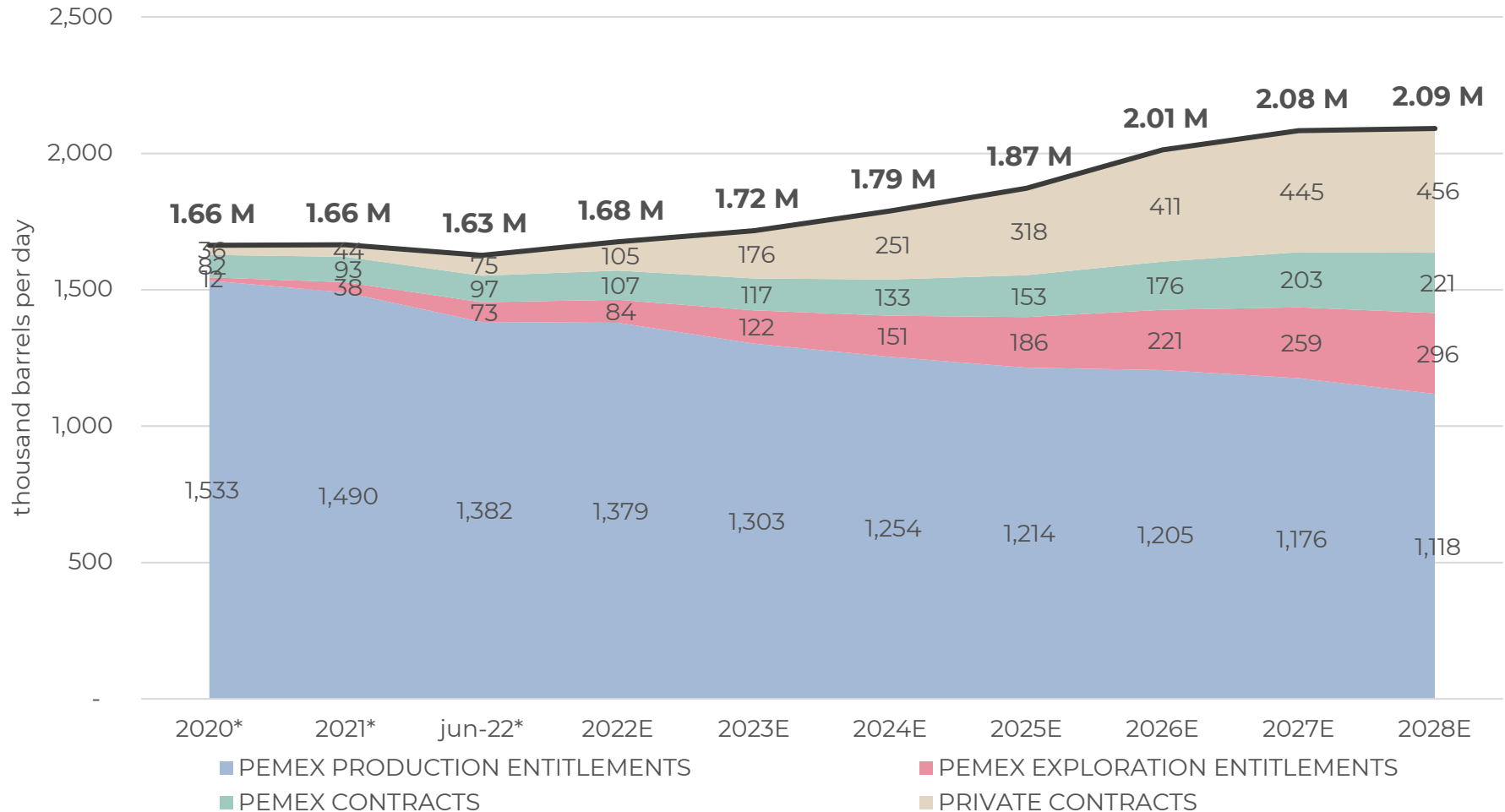


\*Observed production from 2020 to June 2022.

Source: CNH estimates with information available through June 2022.

For more information, please consult the **Methodology Note** of the **Report "Production Prospective 2022-2028"**, available at: <https://hidrocarburos.gob.mx/estadisticas/>, Production / Reports.

## High Scenario



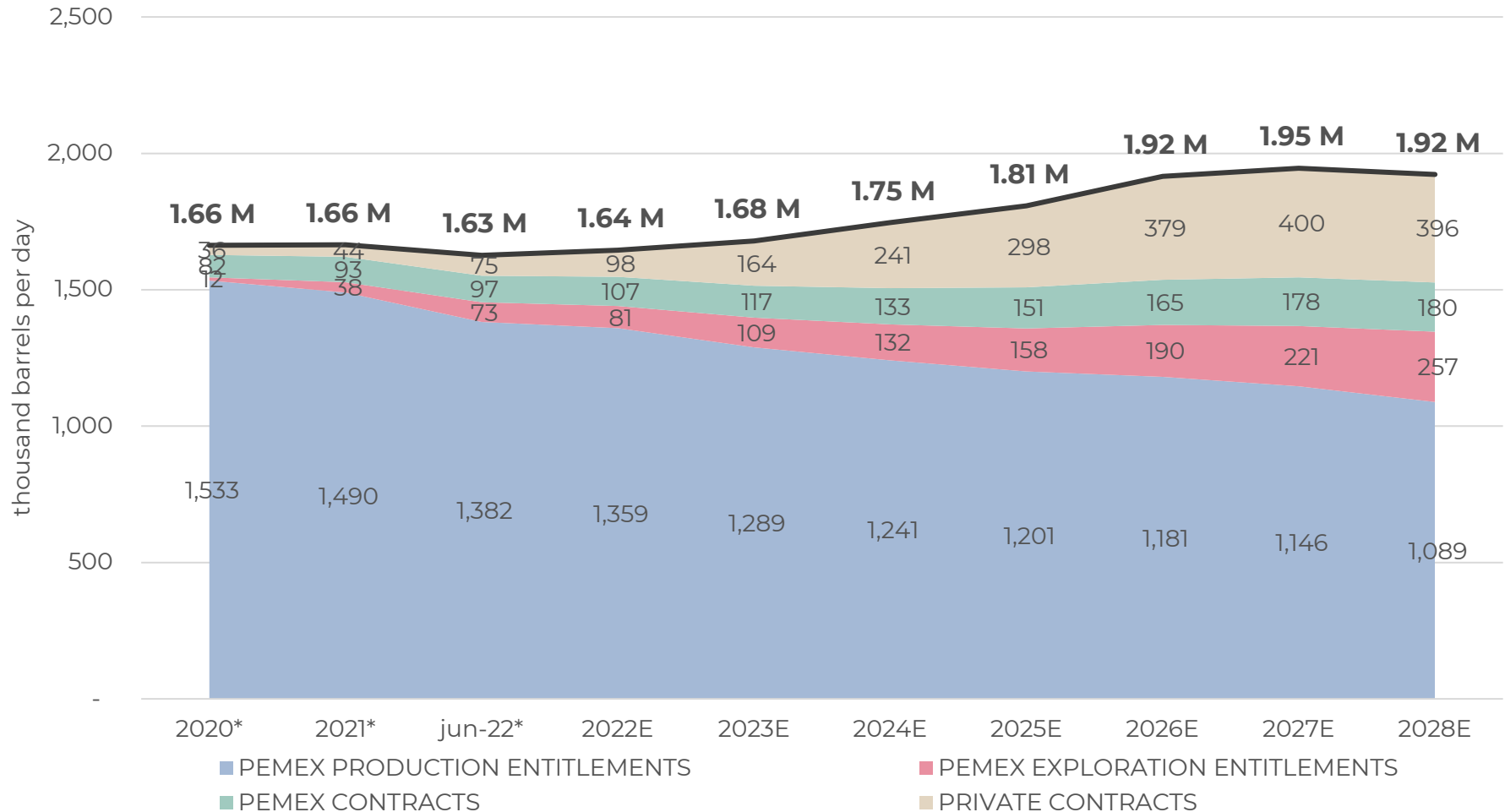
\*Observed production from 2020 to June 2022. M: million barrels per day

Source: CNH estimates with information available through June 2022.

The "Pemex Contracts" category considers Pemex's participation in Hydrocarbons Exploration and Production Contracts, in which it is either the operator or a partner.

The "Private Contracts" category considers private companies' participation in Hydrocarbons Exploration and Production Contracts, in which they are either the operator or a partner.

## Base Scenario



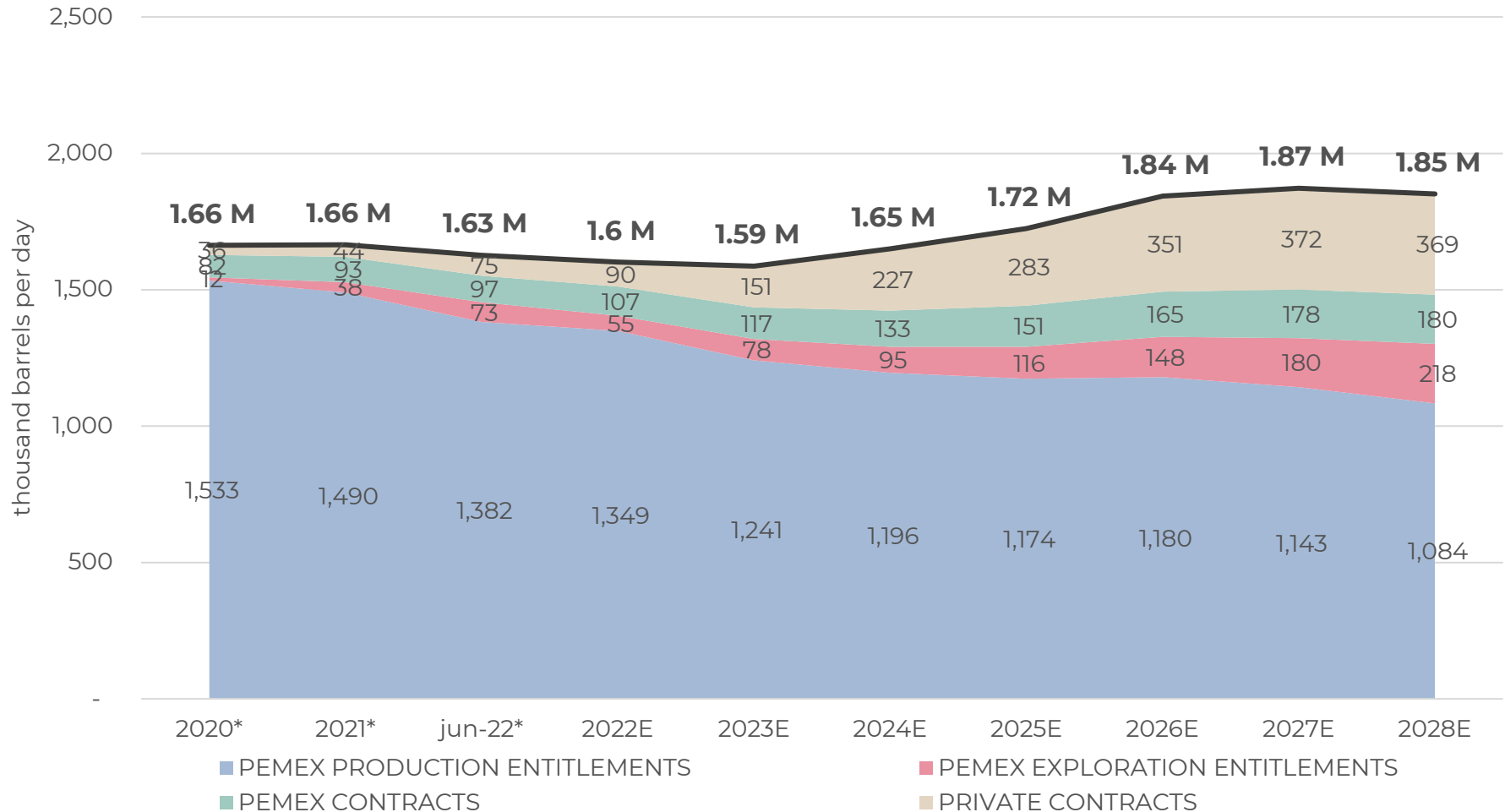
\*Observed production from 2020 to June 2022. M: million barrels per day

Source: CNH estimates with information available through June 2022.

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## Low Scenario



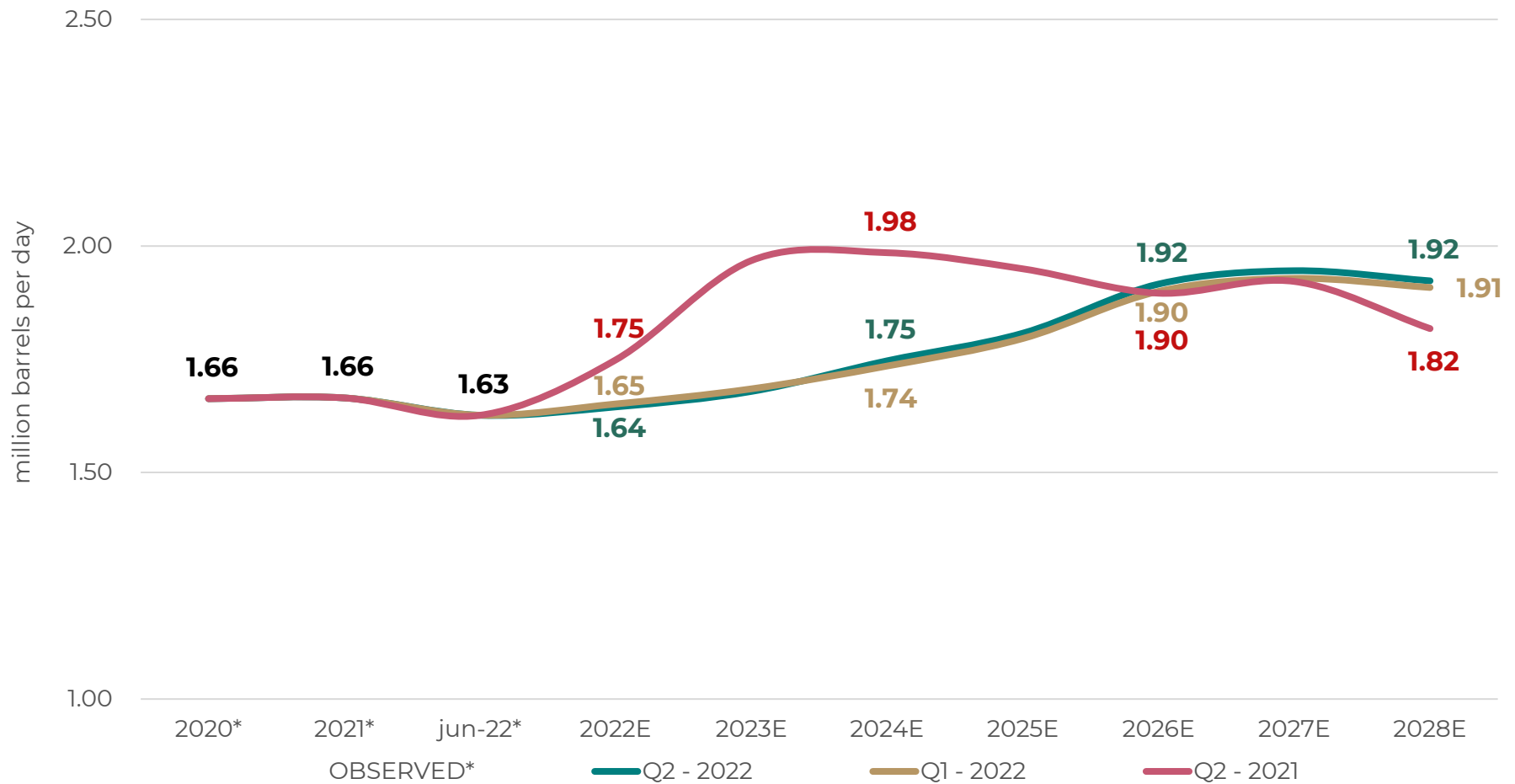
\*Observed production from 2020 to June 2022. M: million barrels per day

Source: CNH estimates with information available through June 2022.

The "Pemex Contracts" category considers Pemex's participation in Hydrocarbons Exploration and Production Contracts, in which it is either the operator or a partner.

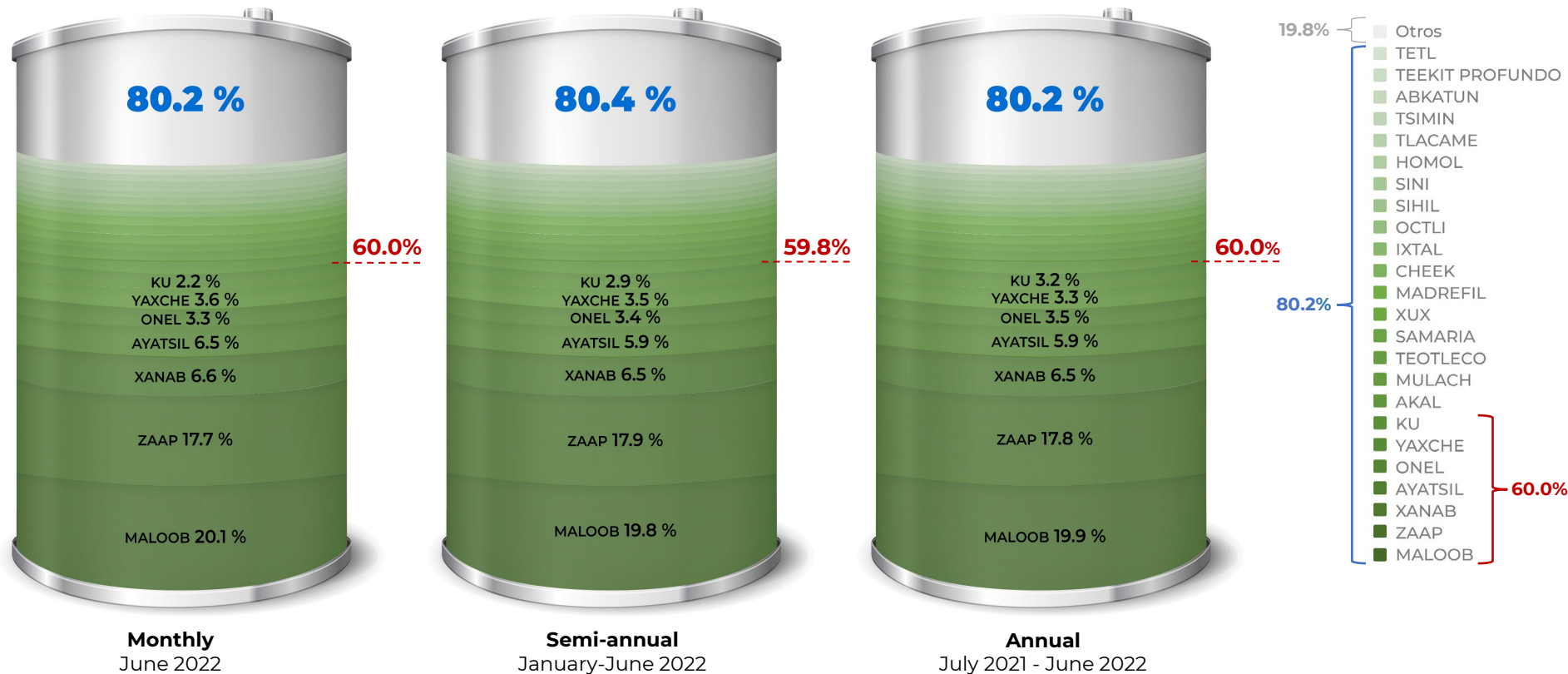
The "Private Contracts" category considers private companies' participation in Hydrocarbons Exploration and Production Contracts, in which they are either the operator or a partner.

## Changes in the Projected Production (Base Scenarios)



\*Observed production from 2020 to June 2022.  
Source: CNH estimates with information available through June 2022.

## Historical Distribution of Oil Production in Production Entitlements (187 Fields)



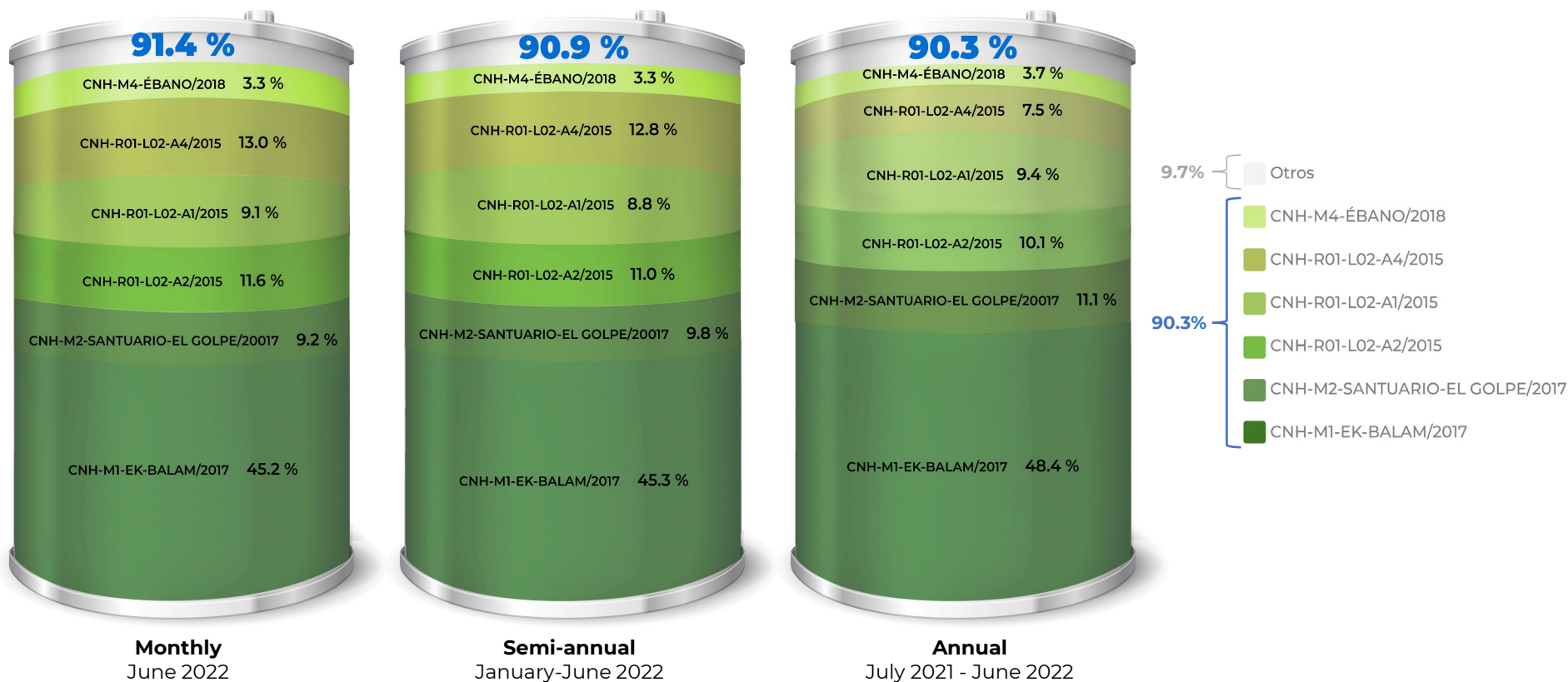
Source:

> Elaborated with information as of June 2022, available at: <https://sih.hidrocarburos.gob.mx/> and <https://hidrocarburos.gob.mx/estadisticas/>

Note: Fields that in accordance with the provisions of the respective Entitlement Title are inside Exploration Entitlements (AE) could be considered, nevertheless, their main objective would be the development and extraction of hydrocarbons.



## Historical Distribution of Oil Production in Contracts (21 Contracts)



Source:

> Elaborated with information as of June 2022, available at: <https://sih.hidrocarburos.gob.mx/> and <https://hidrocarburos.gob.mx/estadisticas/>



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2022

## PROJECTED PRODUCTION OF NATURAL GAS

2<sup>nd</sup> QUARTER OF 2022



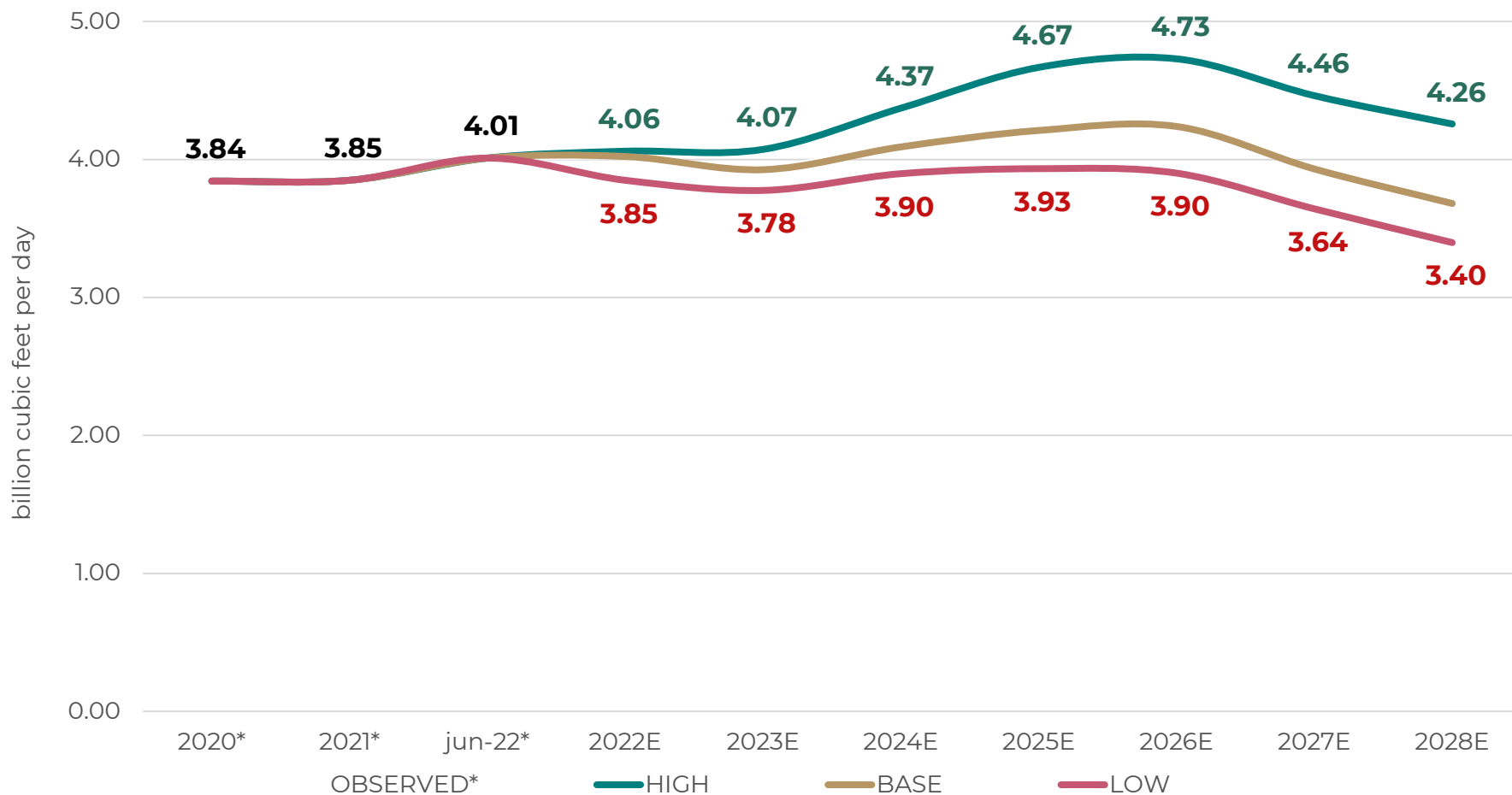
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# Projected Production of Natural Gas

## Projected Production



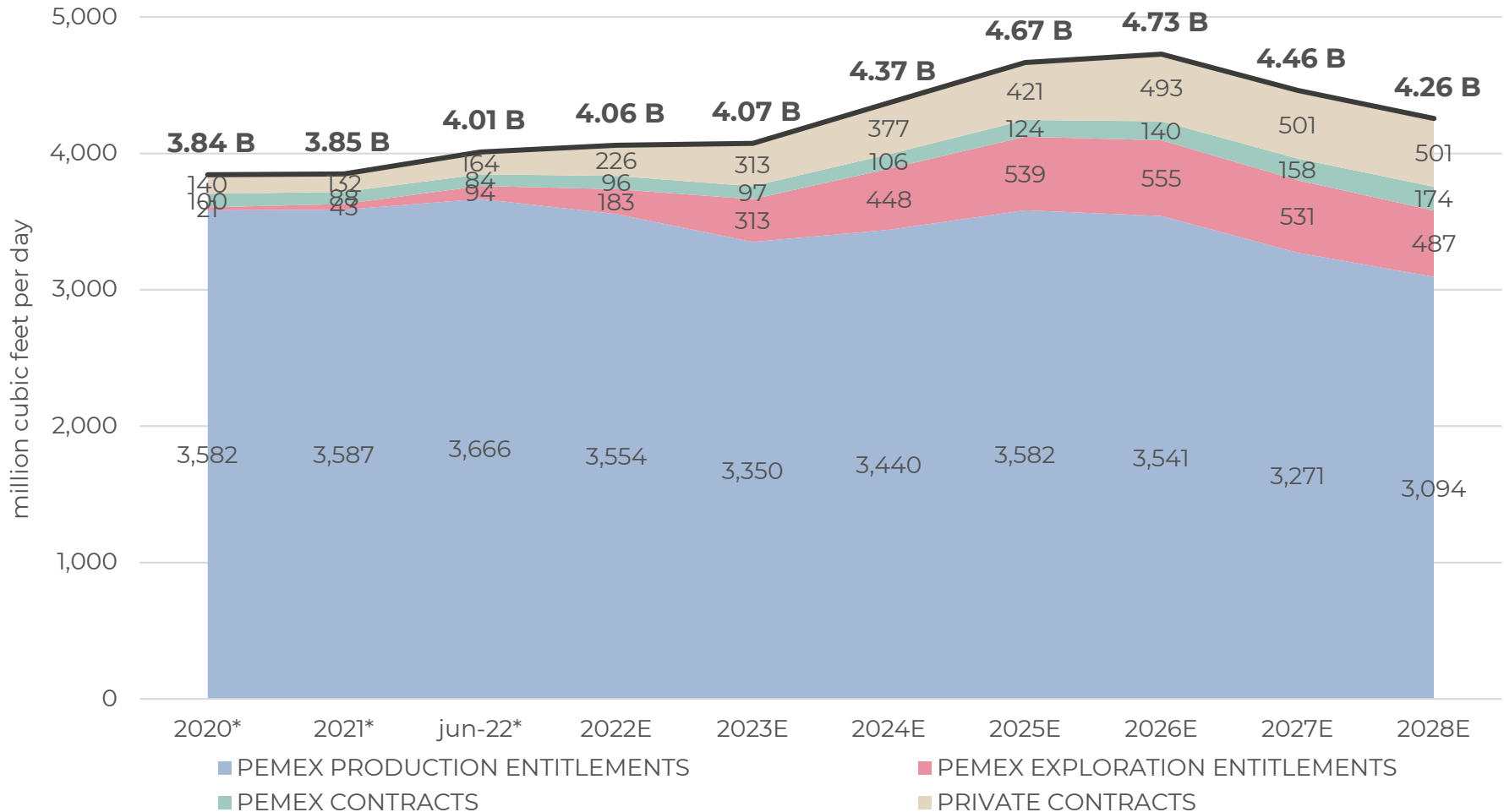
\*Observed production from 2020 to June 2022.

Source: CNH estimates with information available through June 2022. Volume without nitrogen.

For more information, please consult the **Methodology Note** of the **Report "Production Prospective 2022-2028"**, available at: <https://hidrocarburos.gob.mx/estadisticas/>, Production / Reports.

# Projected Production of Natural Gas

## High Scenario



\*Observed production from 2020 to June 2022. B: billion cubic feet per day

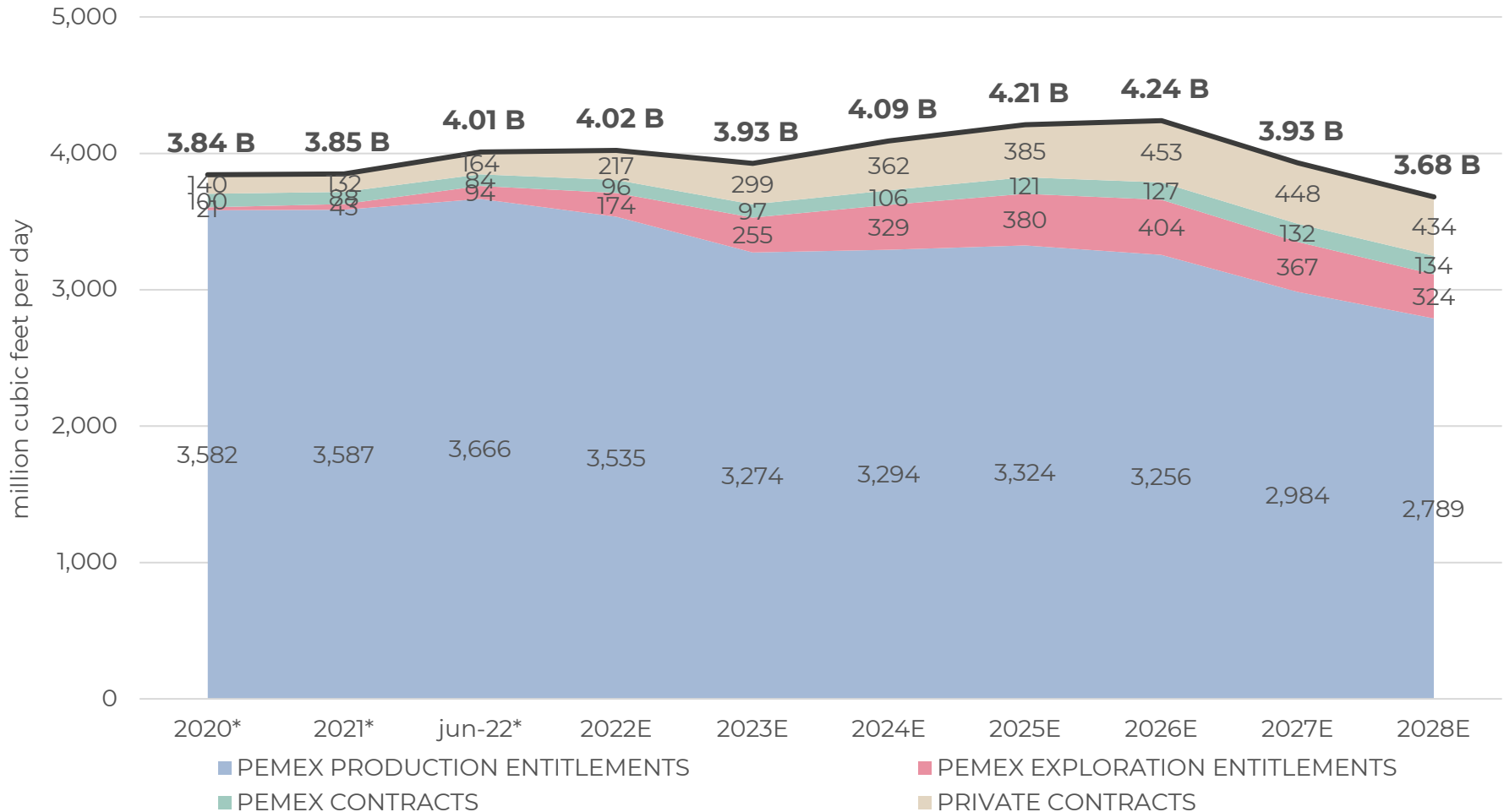
Source: CNH estimates with information available through June 2022. Volume without nitrogen.

The "Pemex Contracts" category considers Pemex's participation in Hydrocarbons Exploration and Production Contracts, in which it is either the operator or a partner.

The "Private Contracts" category considers private companies' participation in Hydrocarbons Exploration and Production Contracts, in which they are either the operator or a partner.

# Projected Production of Natural Gas

## Base Scenario



\*Observed production from 2020 to June 2022. B: billion cubic feet per day

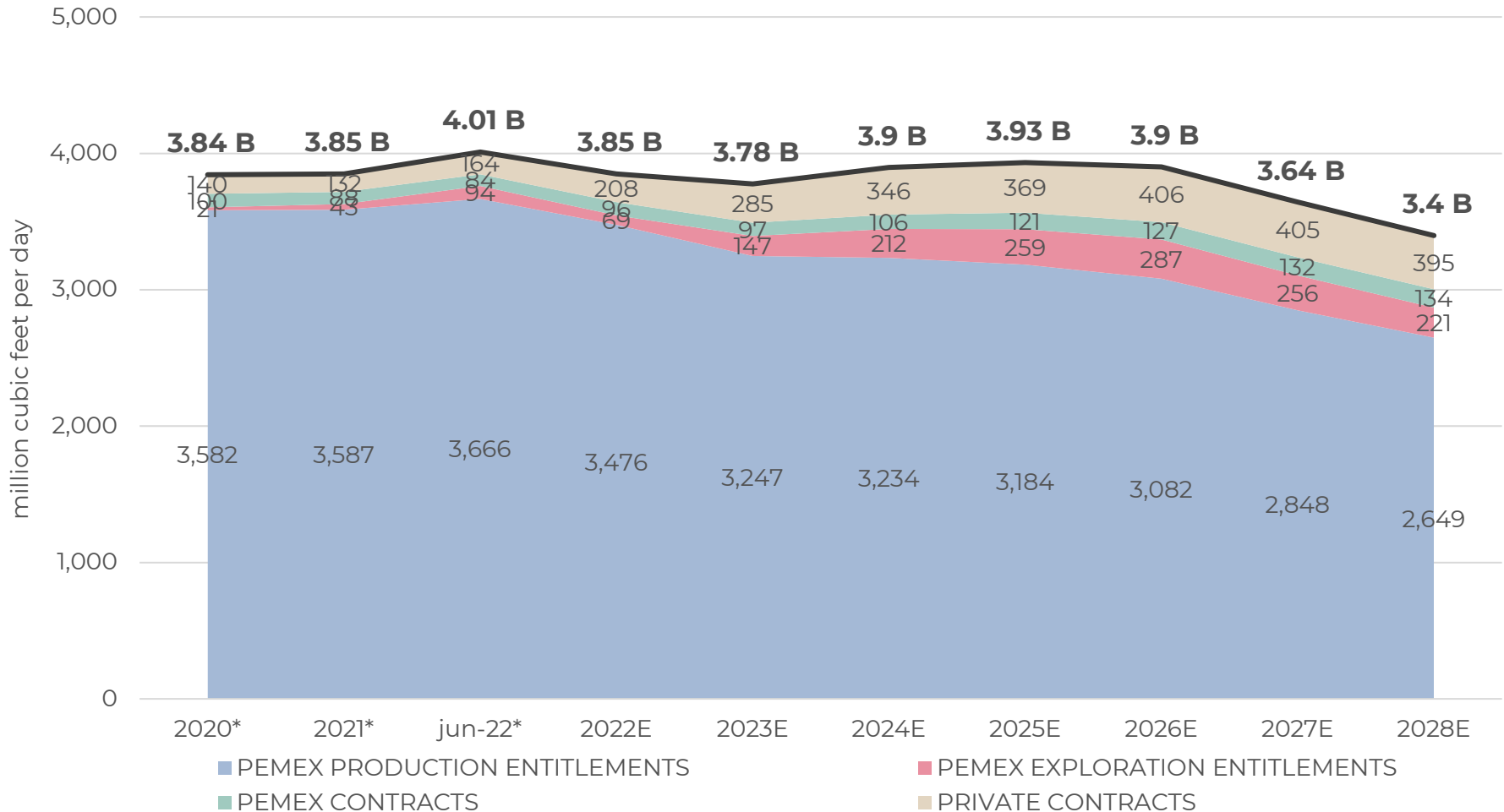
Source: CNH estimates with information available through June 2022. Volume without nitrogen.

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# Projected Production of Natural Gas

## Low Scenario



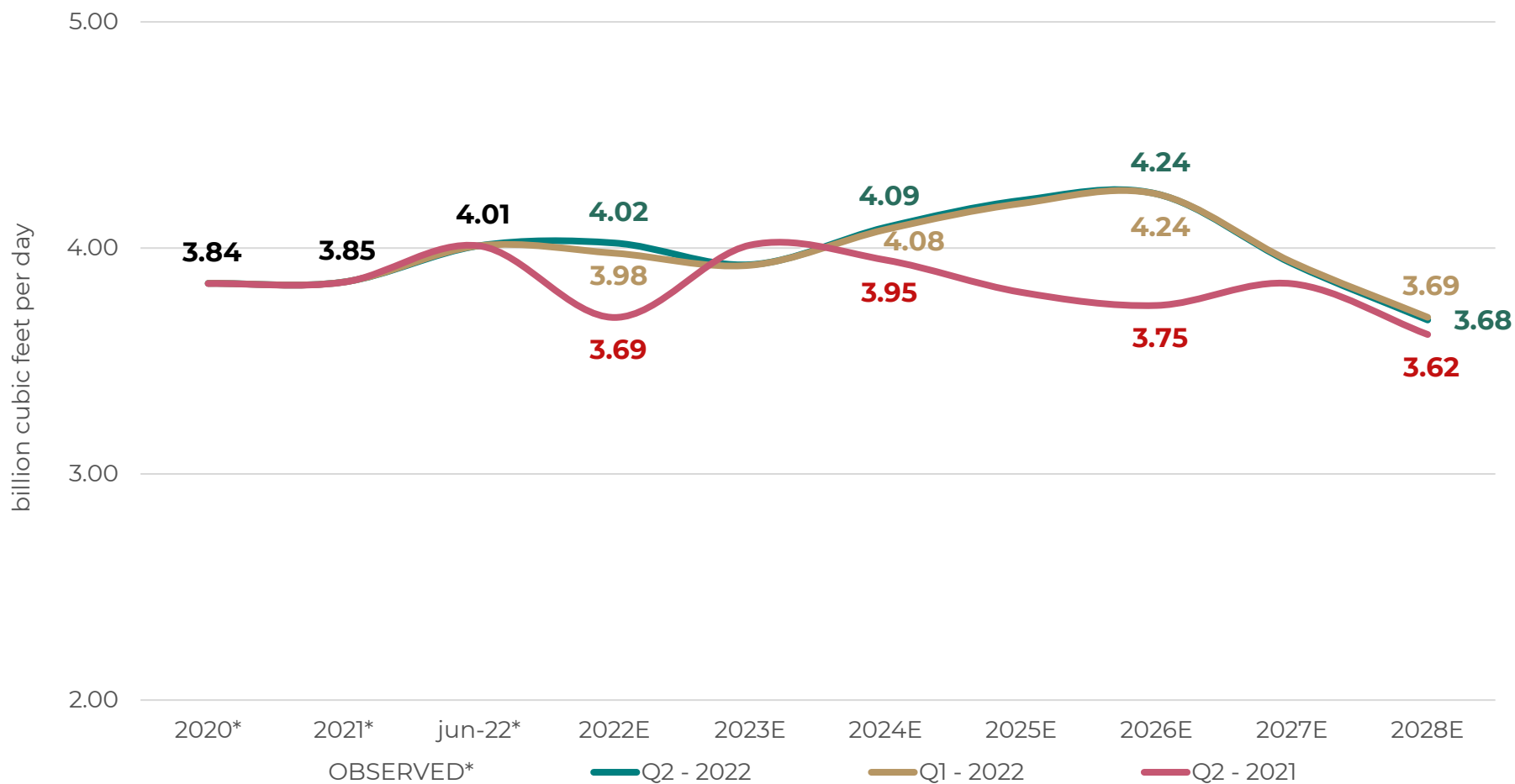
\*Observed production from 2020 to June 2022. B: billion cubic feet per day

Source: CNH estimates with information available through June 2022. Volume without nitrogen.

The "Pemex Contracts" category considers Pemex's participation in Hydrocarbons Exploration and Production Contracts, in which it is either the operator or a partner.

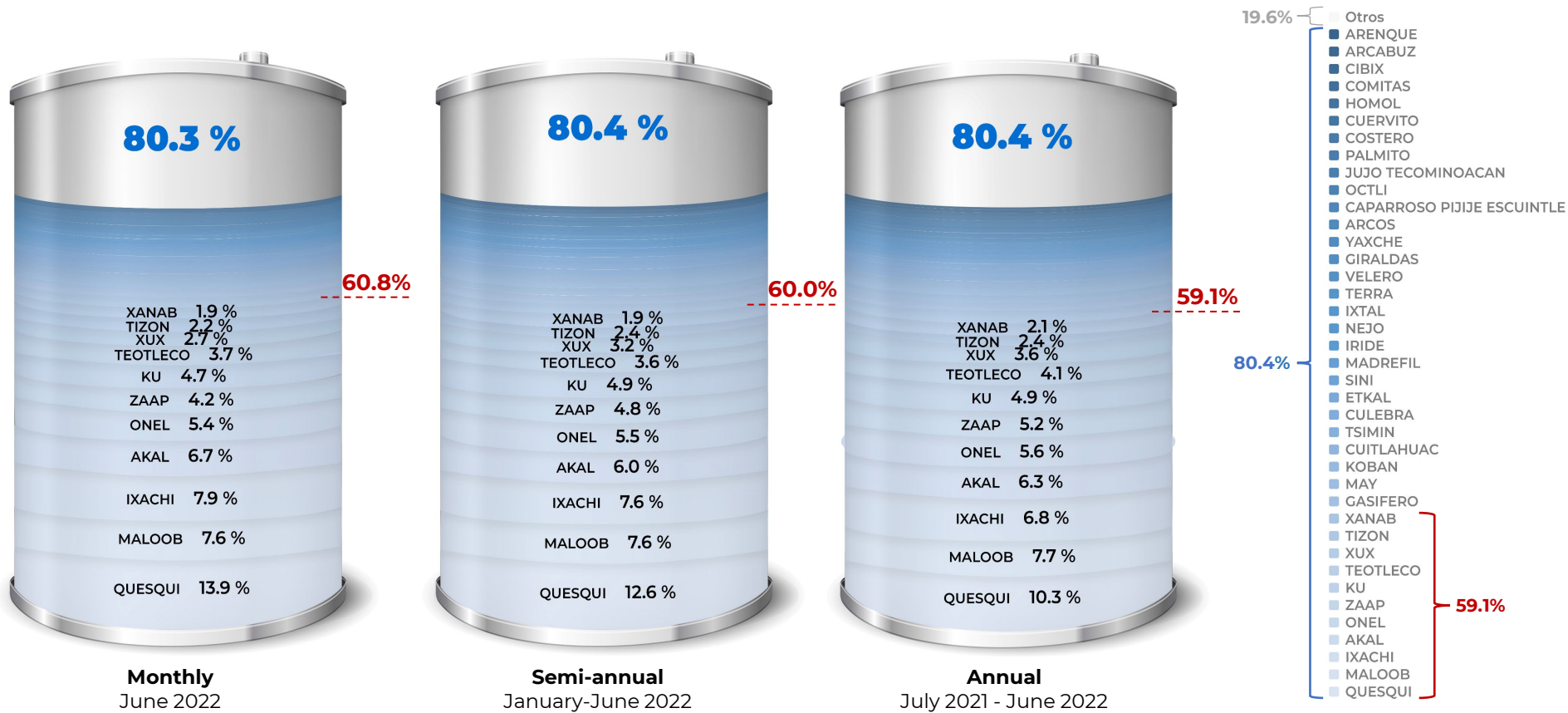
The "Private Contracts" category considers private companies' participation in Hydrocarbons Exploration and Production Contracts, in which they are either the operator or a partner.

## Changes in the Projected Production (Base Scenarios)



\*Observed production from 2020 to June 2022.  
Source: CNH estimates with information available through June 2022. Volume without nitrogen.

## Historical Distribution of Natural Gas Production in Production Entitlements (303 Fields)



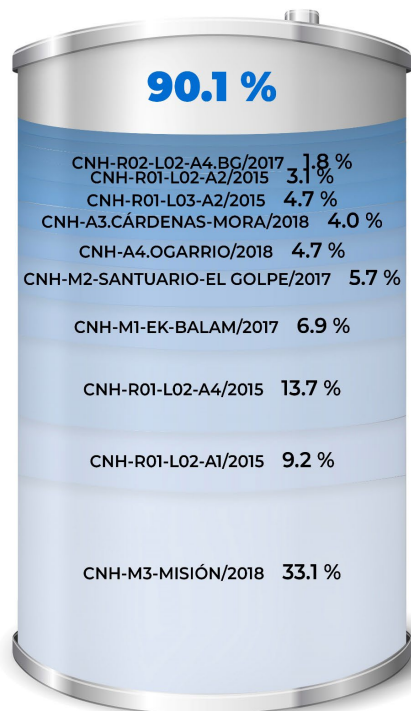
Source:

> Elaborated with information as of June 2022, available at: <https://sih.hidrocarburos.gob.mx/> and <https://hidrocarburos.gob.mx/estadisticas/>

Note: Fields that in accordance with the provisions of the respective Entitlement Title are inside Exploration Entitlements (AE) could be considered, nevertheless, their main objective would be the development and extraction of hydrocarbons.



## Historical Distribution of Natural Gas Production in Contracts (36 Contracts)



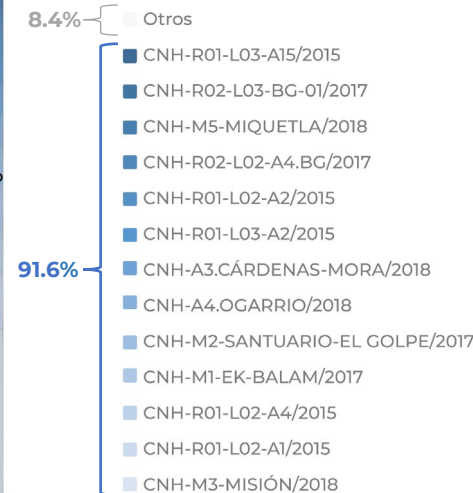
**Monthly**  
June 2022



**Semi-annual**  
January-June 2022



**Annual**  
July 2021 - June 2022





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2022

## PROJECTED PRODUCTION OF CONDENSATES

2<sup>nd</sup> QUARTER OF 2022



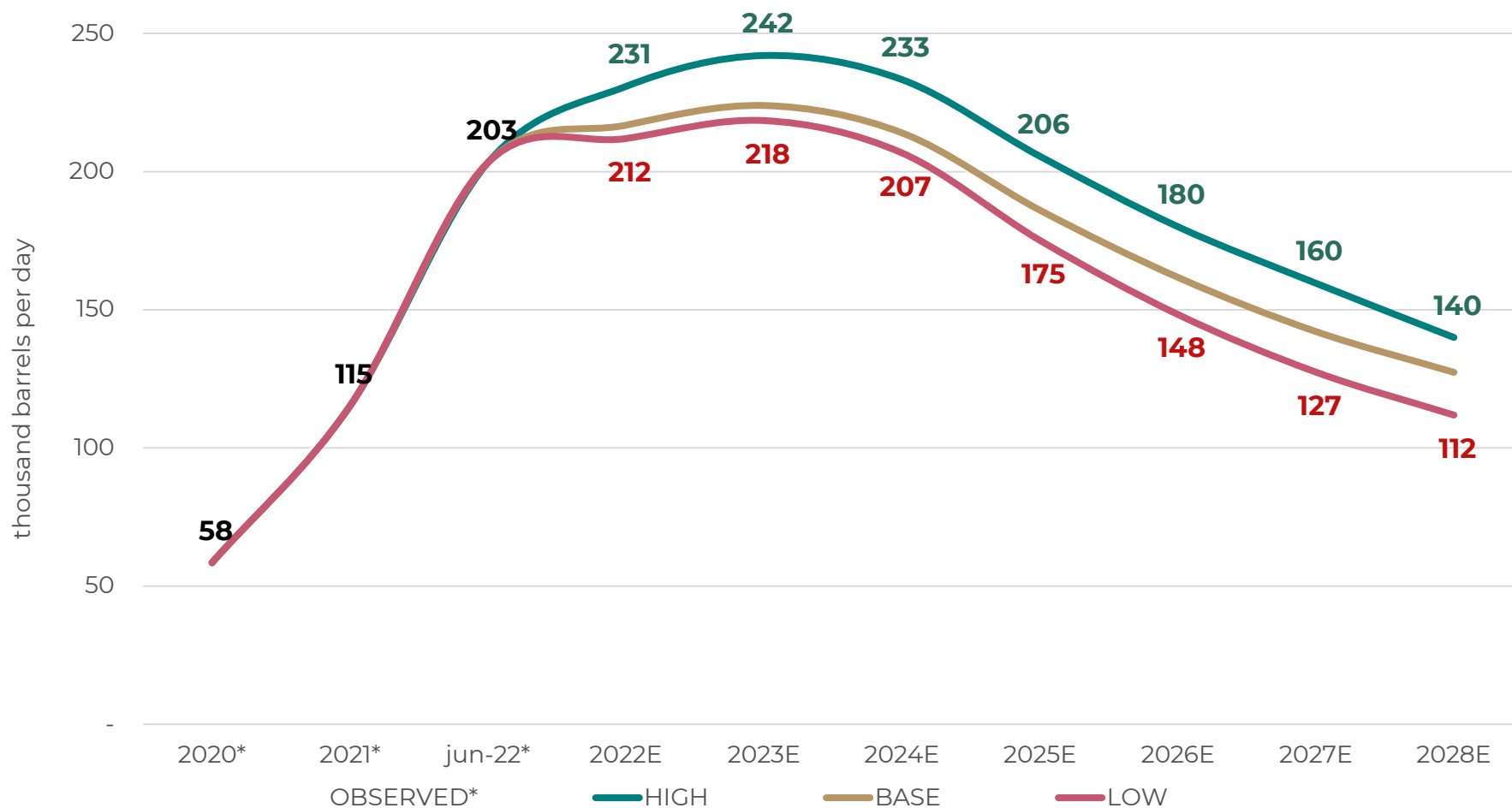
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# Projected Production of Condensates

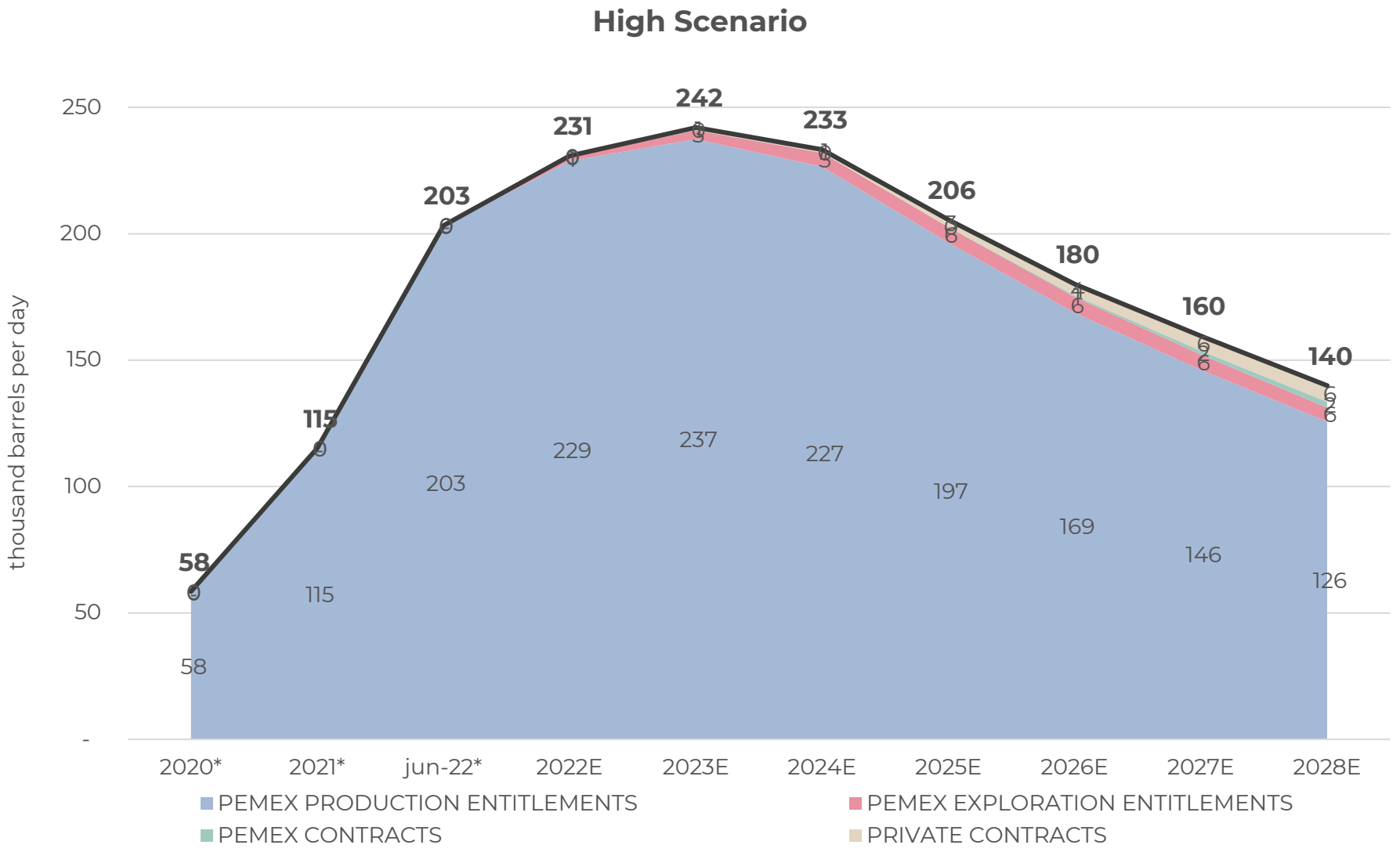
## Projected Production



\*Observed production from 2020 to June 2022.

Source: CNH estimates with information available through June 2022.

For more information, please consult the **Methodology Note** of the **Report "Production Prospective 2022-2028"**, available at: <https://hidrocarburos.gob.mx/estadisticas/>, Production / Reports.



\*Observed production from 2020 to June 2022.

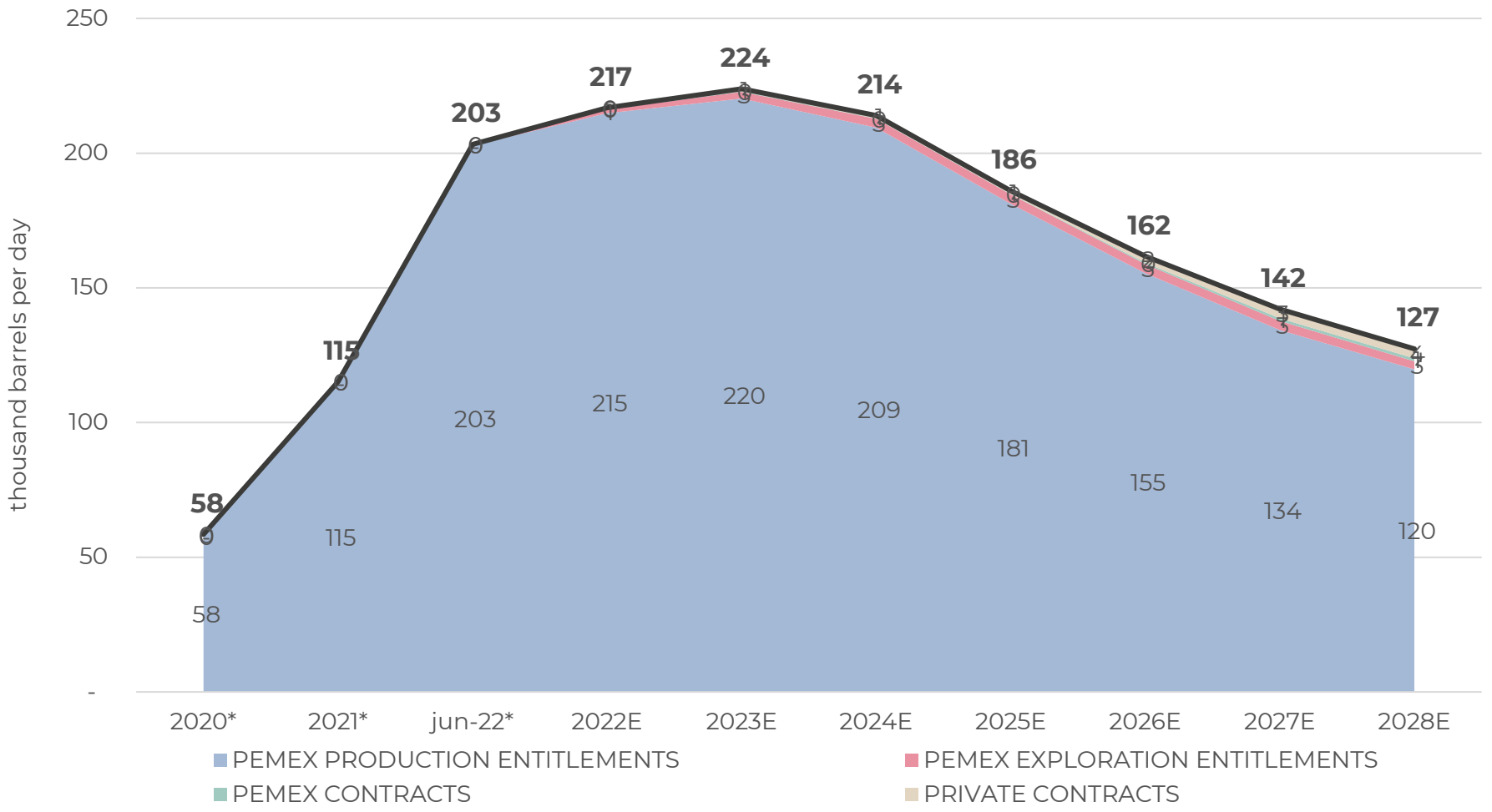
Source: CNH estimates with information available through June 2022.

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# Projected Production of Condensates

## Base Scenario



\*Observed production from 2020 to June 2022.

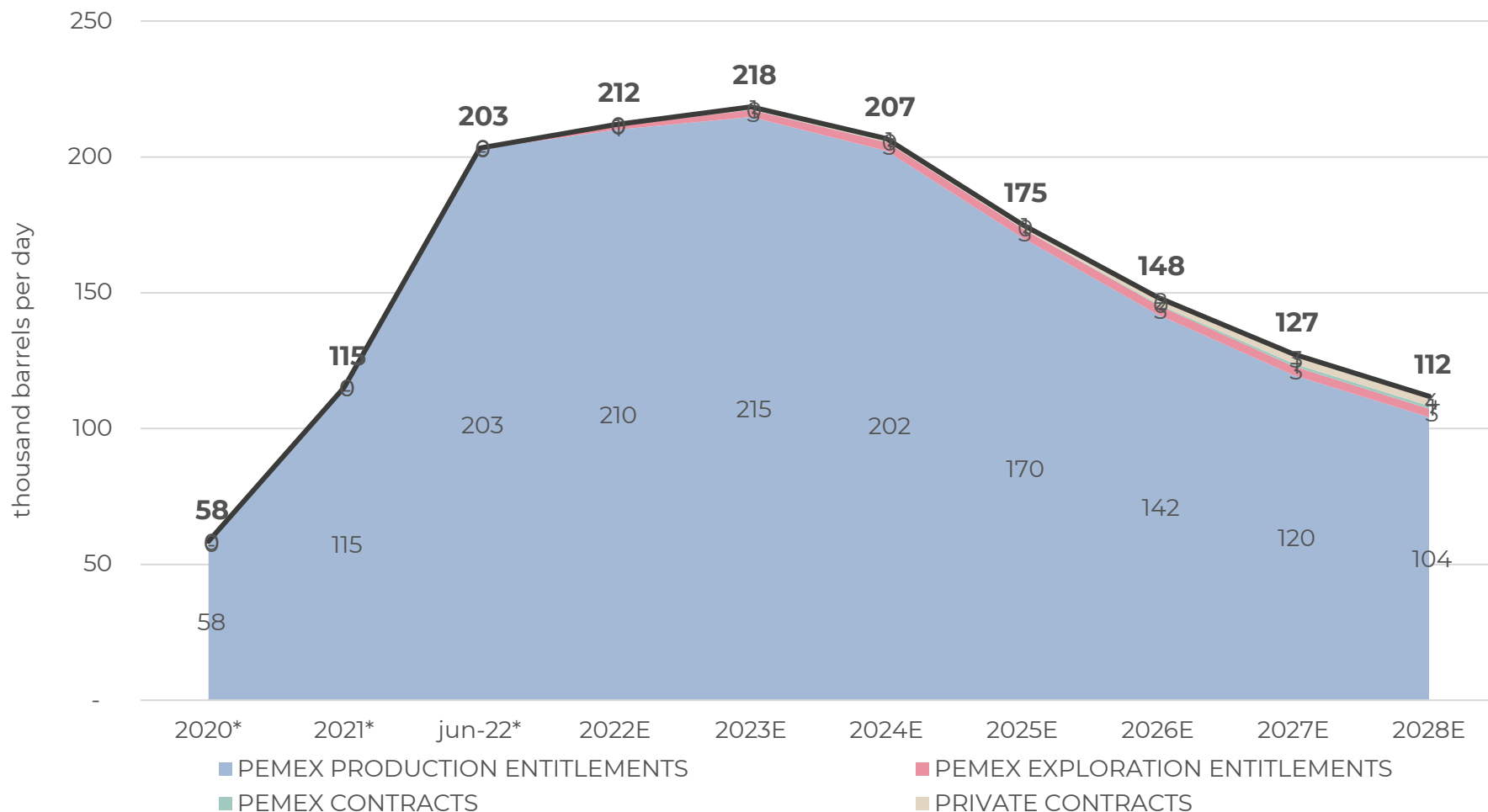
Source: CNH estimates with information available through June 2022.

The "Pemex Contracts" category considers Pemex's participation in Hydrocarbons Exploration and Production Contracts, in which it is either the operator or a partner.

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# Projected Production of Condensates

## Low Scenario



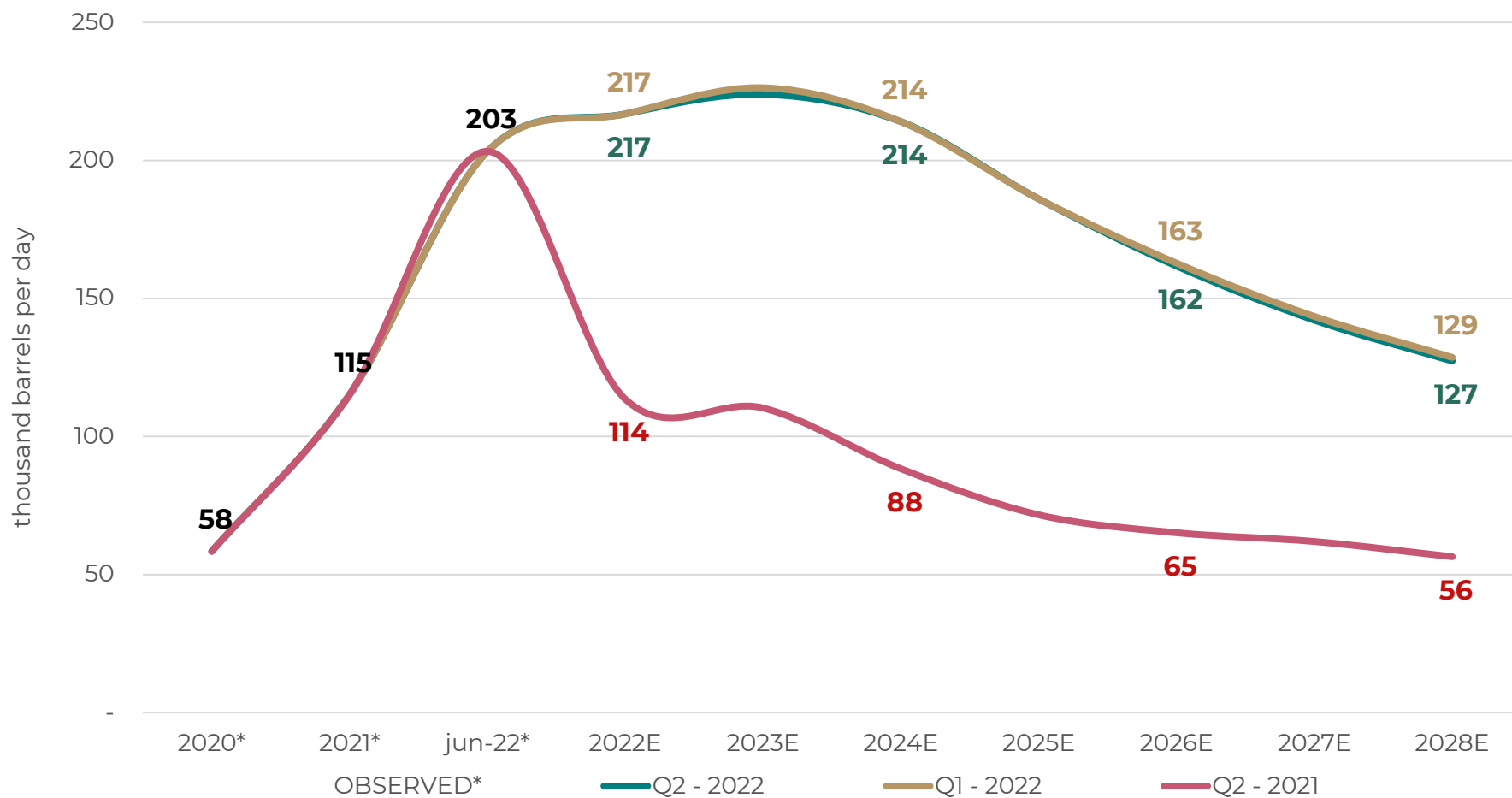
\*Observed production from 2020 to June 2022.

Source: CNH estimates with information available through June 2022.

The "Pemex Contracts" category considers Pemex's participation in Hydrocarbons Exploration and Production Contracts, in which it is either the operator or a partner.

The "Private Contracts" category considers private companies' participation in Hydrocarbons Exploration and Production Contracts, in which they are either the operator or a partner.

## Changes in the Projected Production (Base Scenarios)



\*Observed production from 2020 to June 2022.  
Source: CNH estimates with information available through June 2022.

## Introduction

The National Hydrocarbons Commission (the Commission) created a forecast for oil and natural gas production for the period 2022-2028 (the Forecast).

To generate the Forecast, the Commission used information available through the second quarter of 2022, utilizing production profiles and development plans presented by operators of oil and gas fields, either as entitlement or contractual areas. In the case of areas without discoveries or without an approved development plan, the Commission made production projections using available reserves profiles as of January 1st, 2022, as well as information contained in the Exploratory Opportunities Database.

This document presents a summary of the methodology used to generate production estimates, based on the aforementioned data, for fields with reserves or potential resources. The components of this methodology are described below, according to the following classification of areas:

- Fields with certified reserves in entitlement and contractual areas, and
- Exploration areas of entitlements and tendered contracts.

## 1. Components of the Methodology

### 1.1 Fields with certified reserves in entitlement and contractual areas

The Commission estimated the production of fields that currently have discovered reserves, in which there is knowledge of the existence of reserves in the subsoil, including Pemex entitlements in the production phase as well as contractual areas with an approved development plan or production estimates.

In order to generate the production estimates for fields being operated as Pemex entitlements, profiles of the 2P and 3P certified reserves as of January 1st, 2022, as well as the exploration plans, and appraisal reports presented as of the second quarter of 2022 were used.

In the case of the 17 Pemex priority fields, the investments profiles and oil and gas production profiles are considered from the 2P and 3P certified reserves as of January 1st, 2022; plus, adjustments according to the compliance of activities and observed production.

For contractual areas with discovered reserves, the production estimates include the profiles of 2P and 3P certified reserves as of January 1st, 2022, and information from development plans approved as of the second quarter of 2022. In addition, estimates were made considering the historical production per well and region.

### 1.2 Exploration areas in entitlements and contracts

The Forecast considers an estimate of the discovery and development potential of the opportunities identified in the exploration plans for entitlements and contracts, in accordance with the exploration plans, the discoveries reported, as well as a probabilistic exercise to determine the exploratory opportunities using the methodology described in Section 3 of this Note. In the case of exploration areas being operated as contracts or entitlements, the Forecast assumes that operators will have sufficient resources to execute the required investments for exploration activities and the subsequent development of profitable projects.



## 2. Description of Scenarios

The Forecast presents estimates in low, base, and high scenarios, with the following considerations:

### Low Scenario

- Production profiles for entitlements of Pemex are based on 2P reserves in 2022 for oil and 2P reserves 2022 for natural gas.
- Considers a pessimistic adjustment in the production profiles, based on the observed production trend and the compliance of scheduled activities, for the Entitlements Akal, Ayatsil, Bedel, Ku-Maloob-Zaap, Ixachi, Nejo, Tupilco, Quesqui, Xanab, Yaxché, Cuitláhuac and Cuervito, as well as the Round 1.2 Contracts and CNH-M4-ÉBANO/2018.
- Base exploration scenario for areas in Pemex entitlements.

### Base Scenario

- Production profiles for entitlements of Pemex are based on 2P reserves in 2022 for oil and 2P reserves 2022 for natural gas.
- Considers a neutral adjustment in the production profiles, based on the observed production trend and the compliance of scheduled activities, for the Entitlements Akal, Ayatsil, Bedel, Ku-Maloob-Zaap, Ixachi, Nejo, Tupilco, Quesqui, Xanab, Yaxché, Cuitláhuac and Cuervito, as well as the Round 1.2 Contracts and CNH-M4-ÉBANO/2018.
- Base exploration scenario for areas in Pemex entitlements.

### High Scenario

- Production profiles for entitlements of Pemex are based on 2P reserves 2022 for oil and 3P reserves 2022 for natural gas.
- Considers an optimistic adjustment in the production profiles for the Entitlements Akal, Ayatsil, Bedel, Ku-Maloob-Zaap, Ixachi, Nejo, Tupilco, Quesqui, Xanab, Yaxché, Cuitláhuac and Cuervito, as well as the Round 1.2 Contracts and CNH-M4-ÉBANO/2018, due to the compliance of the activities in development plans and the observed production trends.
- High exploration scenario for areas in Pemex entitlements.
- An additional exploratory well is considered for exploration activities in contractual areas, based on the compliance of scheduled activities.

## 3. Probabilistic Exercise

To obtain production estimates in exploration blocks, an initial identification of opportunities with the best prospects was made for each of the evaluated areas with a designated operator.

Once the opportunities with the best prospects in each block were identified, a Montecarlo simulation model was used to determine the distribution of prospective resources in each of the developable opportunities in a block, assuming independence among opportunities. 10,000 iterations were made using the following model:

- I. Simulate success or failure of the opportunity using a Bernoulli-type distribution, using as a parameter the probability of geological success. That is, for an opportunity with a 30% probability of success, the simulation will generate 3,000 successes and 7,000 failures.
- II. Simulate the distribution of prospective resources, reconstructing the distribution function according to P10, P50 y P90 and assuming that the variables are distributed in Lognormal form.
- III. Multiply the simulation of successes and failures for observed prospective resources to obtain a distribution of prospective resources conditional to opportunity success.

Once a final distribution of resources in each field was obtained, this was used as an input for the calculation of estimated Net Present Value for each of the evaluated projects.

<https://hidrocarburos.gob.mx/eng/>

Link:

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## Production Prospective 2022-2028



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