

# **Carbon Capture & Storage**

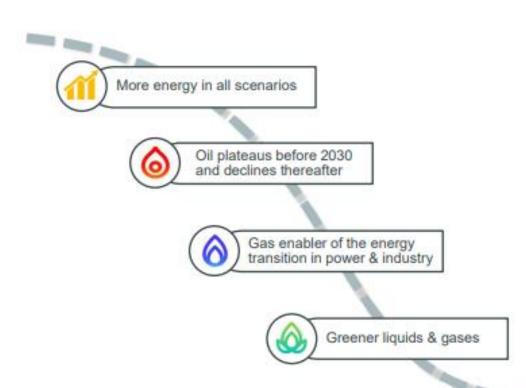
Centrale-Energies / Centrale-Transition

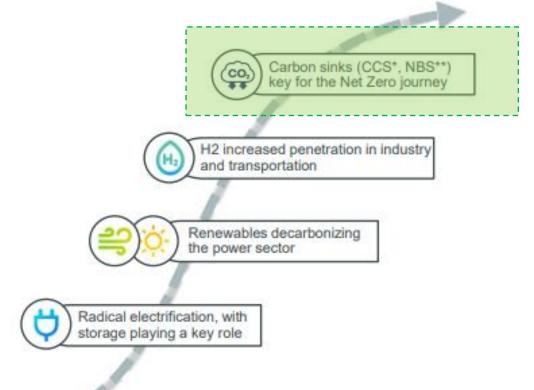
November 17th 2021

# More Energy & less Emissions

### **Energy transition pathway**







Source: TotalEnergies Energy Outlook 2021

\* Carbon Capture and Storage \*\* Nature-based Solutions

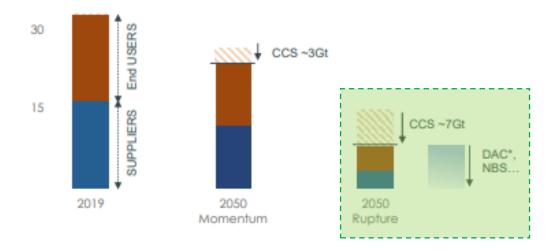
# World CO2 emissions (Rupture scenario)

CCS and NBS both needed to reach Net Zero

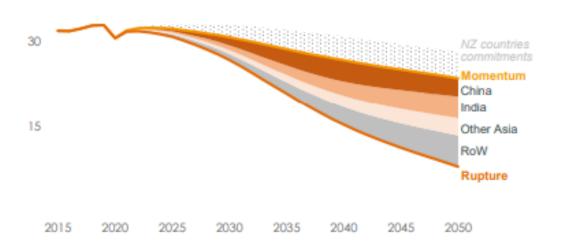
Momentum: +2.2-2.4°C Rupture: +1.7°C Rupture+: +1.5°C



### Energy-related CO2 emissions Gt



## Energy-related CO2 emissions abatements Gt



Hard to abate industries (cement, waste, chemical, steel, etc)
Low Carbon Hydrogen (blue)
Negative emissions (Beccs)

Source: TotalEnergies Energy Outlook 2021

## **TotalEnergies Strategy**



Notre stratégie consiste à accroître notre production d'énergie tout en réduisant nos émissions de gaz à effet de serre. Elle repose sur 4 piliers. Miser sur le gaz naturel, le biogaz et l'hydrogène

Croître dans le gaz naturel liquéfié (GNL) et développer les gaz renouvelables; Promouvoir le gaz naturel, allié de la transition énergétique, pour produire de l'électricité, se chauffer et se déplacer.

Construire un leader mondial de l'électricité Accélérer les investissements dans l'électricité bas carbone principalement issue des renouvelables ; Développer un modèle intégré, de la production à la vente d'électricité.

Économiser et décarboner les énergies liquides

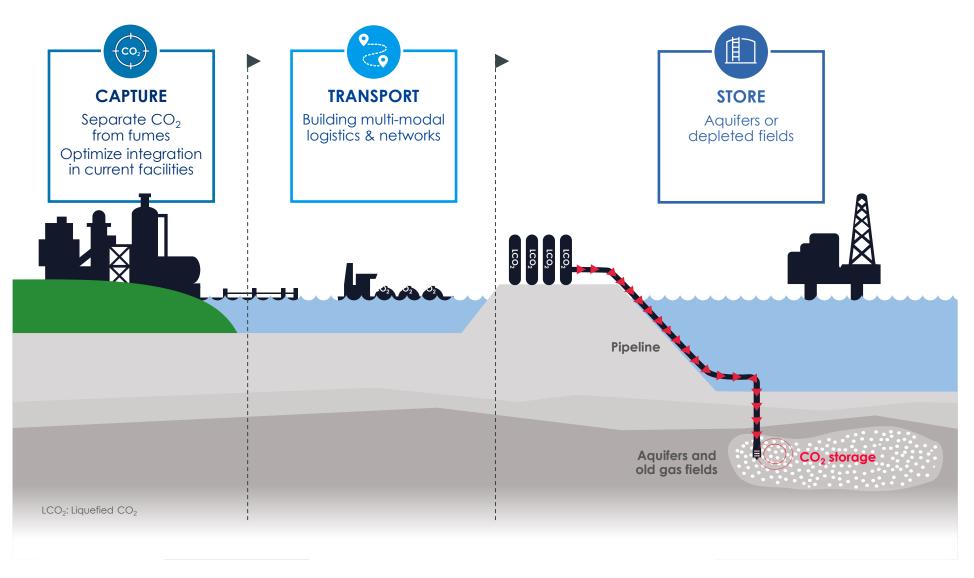
Se focaliser sur les projets pétroliers les plus résilients en privilégiant la valeur par rapport au volume ; Adapter nos capacités de raffinage et nos ventes à l'évolution de la demande et augmenter notre production de carburants renouvelables.

Développer des puits de carbone Poursuivre nos investissements dans les puits de carbone naturels (forêts, agriculture régénérative et zones humides) et les technologies de captage et stockage de CO<sub>2</sub>.

Source: TotalEnergies En Bref 2021

## Carbon Capture & Storage





### North Sea CCS activities





### **EU** favorable regulatory policies

North sea region: area of concentrated CO2 emissions and large storage potential

### Total's approach:

- Reducing Scope 1 emissions from operated assets though
   CO2 capture and storage
- Scale enabling cost reduction in transportation and storage
- Targeting 5 MtCO2/y storage capacity\* by 2030

<sup>\*</sup> Group Share

## Northern Lights Project in Norway





Norwegian government strong support, while announcing CO2 tax of 195 €/tCO2 by 2030

Phase 1 FID taken in May 2020. Ph1 Transport, injection and storage up to 1.5 MtCO<sub>2</sub>/y (0.8 MtCO<sub>2</sub>/y already booked)

Capex Ph.1: 800 M\$<sup>1</sup> for transport and sequestration

Potential capacity expansion for European emitters' needs up to 5 MtCO<sub>2</sub>/y or more

<sup>&</sup>lt;sup>1</sup> State subsidies: ~80%

## Aramis Project in Netherlands





Support from Dutch authorities, SDE++ (Cfd) for emitters + 125 €/tn CO2 tax in 2030 (incl ETS)

Leveraging TotalEnergies existing assets to develop CCS integrated project. Build offshore sequestration network re-using existing infrastructure

Build onshore multimodal terminal: reception by pipe, barges, ships

Modular expansion based on customer demand (up to 5 MtCO<sub>2</sub>/y\* storage capacity)

<sup>\*</sup> Group Share

### Disclaimer



This document may contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, notably with respect to the financial condition, results of operations, business activities and industrial strategy of TOTAL. This document may also contain statements regarding the perspectives, objectives and goals of the Group, including with respect to climate change and carbon neutrality (net zero emissions). An ambition expresses an outcome desired by the Group, it being specified that the means to be deployed do not depend solely on TOTAL. These forward-looking statements may generally be identified by the use of the future or conditional tense or forward-looking words such as "envisions", "intends", "anticipates", "believes", "considers", "plans", "expects", "thinks", "targets", "aims" or similar terminology. Such forward-looking statements included in this document are based on economic data, estimates and assumptions prepared in a given economic, competitive and regulatory environment and considered to be reasonable by the Group as of the date of this document.

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Financial information by business segment is reported in accordance with the internal reporting system and shows internal segment information that is used to manage and measure the performance of TOTAL. In addition to IFRS measures, certain alternative performance indicators are presented, such as performance indicators excluding the adjustment items described below (adjusted operating income, adjusted net operating income, adjusted net income), return on equity (ROE), return on average capital employed (ROACE), gearing ratio and operating cash flow before working capital changes. These indicators are meant to facilitate the analysis of the financial performance of TOTAL and the comparison of income between periods. They allow investors to track the measures used internally to manage and measure the performance of the Group.

These adjustment items include:

#### (i) Special items

Due to their unusual nature or particular significance, certain transactions qualified as "special items" are excluded from the business segment figures. In general, special items relate to transactions that are significant, infrequent or unusual.

However, in certain instances, transactions such as restructuring costs or asset disposals, which are not considered to be representative of the normal course of business, may be qualified as special items although they may have occurred within prior years or are likely to occur again within the coming years.

#### (ii) Inventory valuation effect

The adjusted results of the Refining & Chemicals and Marketing & Services segments are presented according to the replacement cost method. This method is used to assess the segments' performance and facilitate the comparability of the segments' performance with those of its competitors.

In the replacement cost method, which approximates the LIFO (Last-In, First-Out) method, the variation of inventory values in the statement of income is, depending on the nature of the inventory, determined using either the month-end price differentials between one period and another or the average prices of the period rather than the historical value. The inventory valuation effect is the difference between the results according to the FIFO (First-In, First-Out) and the replacement cost.

#### (iii) Effect of changes in fair value

The effect of changes in fair value presented as an adjustment item reflects for some transactions differences between internal measures of performance used by TOTAL's management and the accounting for these transactions under IFRS.

IFRS requires that trading inventories be recorded at their fair value using period-end spot prices. In order to best reflect the management of economic exposure through derivative transactions, internal indicators used to measure performance include valuations of trading inventories based on forward prices.

TOTAL, in its trading activities, enters into storage contracts, whose future effects are recorded at fair value in Group's internal economic performance. IFRS precludes recognition of this fair value effect.

Furthermore, TOTAL enters into derivative instruments to risk manage certain operational contracts or assets. Under IFRS, these derivatives are recorded at fair value while the underlying operational transactions are recorded as they occur. Internal indicators defer the fair value on derivatives to match with the transaction occurrence.

The adjusted results (adjusted operating income, adjusted net operating income, adjusted net income) are defined as replacement cost results, adjusted for special items, excluding the effect of changes in fair value.

Euro amounts presented herein represent dollar amounts converted at the average euro-dollar ( $\in$ -\$) exchange rate for the applicable period and are not the result of financial statements prepared in euros.

This document also contains extra-financial performance indicators, including a carbon intensity indicator for energy products used by Total customers, that measures the average greenhouse gas emissions of those products, from their production to their end use, per unit of energy. This indicator covers the direct GHG emissions of production and processing facilities (scope 1) and their indirect emissions associated with energy purchase (Scope 2), as well as the emissions associated with the use of products by the customers of the Group (Scope 3) which Total does not control (for the definitions of scopes 1, 2 and 3, refer to Total's Universal Registration Document).

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