

3.6.7 Monitoring procedures

Multi-disciplinary committees review the implementation of measures within their purview. Indicators are used to measure the effectiveness of the measures, progress made and to identify ways of improvement.

COMMITTEES

The **Ethics Committee** is particularly involved in monitoring compliance with the Code of Conduct and can be called upon for advice on its implementation.

The **Human Rights Steering Committee** is made up of representatives from different divisions (including security, procurement and societal) and business segments. It is chaired by the head of TotalEnergies' Sustainability & Climate division. It meets four times a year to coordinate the actions on human rights taken by the business segments and the Subsidiaries, as part of the implementation of the human rights road map submitted to the Executive Committee. All Country Chairs contribute to

this monitoring process, notably by acting as the local point of contact for the Security division with respect to compliance with the VPSHR.

Representatives of the Management Committee of TotalEnergies Global Procurement and of the Sustainability & Climate, HSE and Legal divisions as well as of the Ethics Committee meet at least once a year within the **Sustainable Procurement Committee**, which monitors the effective implementation of the Responsible Procurement road map.

The **HSE division** has set up cross-functional committees of experts, including in the fields of safety, the environment and crisis management, and monitors the ongoing coordination of HSE issues.

REPORTING

The system of internal reporting and indicators for monitoring implementation of the actions undertaken in TotalEnergies in these areas is based on:

- for social indicators (including health in particular), a guide entitled the Corporate Social Reporting Protocol and Methodology;
- for safety indicators, a Company rule regarding HSE event and statistical reporting; a return on experience analysis process identifies,

notably, events for which a formalized analysis report is required in order to draw lessons in terms of design and operation; and

- for environmental indicators, a Company reporting procedure, together with activity-specific instructions.

Consolidated objectives are defined for each key indicator and reviewed annually. The business segments apply these indicators as appropriate to their area of responsibility, analyze the results and set out a plan of action.

3.6.8 Implementation report⁽¹⁾

3.6.8.1 HUMAN RIGHTS

This section is primarily intended to present implementation of measures with respect to Subsidiaries, while the implementation of measures specific to Suppliers is described at point 3.6.8.5 of this chapter.

SUBSIDIARY ASSESSMENTS

TotalEnergies conducts assessments and impact assessments of various kinds:

- Ethics and human rights assessments of Subsidiaries, in particular regarding the working conditions of TotalEnergies employees;
- Impact assessments to analyze the challenges and the societal context of industrial projects, supplemented, if necessary, by specific impact assessments on human rights;
- Subsidiary self-assessments.

Ethics and human rights assessments

Assessed entities are identified according to several criteria, including the level of risk of human rights violation in each country, the number of alerts received the previous year and the date of the Subsidiary's last assessment. These assessments help identify Subsidiaries' best practices, share them within the Company and identify areas for improvement. Knowledge and appropriation of the Code of Conduct are tested and reinforced by ethics and human rights awareness-raising sessions. Employees are encouraged to voice their ethical concerns in a confidential manner and report behaviors potentially contrary to the Code of Conduct.

In 2021, in the context of the COVID-19 pandemic, two ethics and human rights assessments were conducted. They concerned two Subsidiaries

with a total of 517 employees (in Kenya and Poland). These assessments confirmed that the Code of Conduct has been taken on board by employees.

Action plans implemented following the assessments carried out in 2019 and 2020 in Subsidiaries in Brazil, Cameroon, Egypt, Nigeria, Madagascar and Russia (Vostok) were followed up in 2020 and 2021. It is planned to follow up the action plan for the Pau site (France) in 2022.

Impact assessments of industrial projects

When the decision is taken to develop a project, a detailed **baseline study** is conducted to identify in advance the stakeholders potentially affected, describe the local context and assess the main socio-economic and cultural stakes (risks and opportunities) in the affected area. A **societal impact assessment** is then conducted to evaluate and analyze the opportunities and direct, indirect or cumulative risks of the project in the short, medium and long term. In 2021, 103 of these studies were launched or carried out in the Integrated Gas, Renewables & Power segment (compared to 50 in 2020) and 13 in Exploration & Production (as in 2020).

In addition to these impact assessments, **specific human rights impact assessments** may also be conducted in high-risk areas or conflict zones with the support of independent experts.

(1) In accordance with Article L.225-102-4 of the French Commercial Code, the report on the effective implementation of the Vigilance Plan is presented below. Since the identification of risks and the prevention of severe impacts on human rights, human health and safety and the environment overlap partially with certain risks covered in the non-financial performance statement (refer to chapter 5), TotalEnergies has chosen to report below on the implementation of its Vigilance Plan by incorporating certain aspects of its non-financial performance statement although the latter includes risks of varying degrees.

Example: Tilenga and EACOP projects, Uganda and Tanzania

In preparation for the final investment decision of the Lake Albert development which includes the Tilenga upstream oil project (operated by TotalEnergies EP Uganda) and the construction of the East African Crude Oil Pipeline (EACOP) in Uganda and Tanzania (in which TotalEnergies Holdings EACOP is a major shareholder) TotalEnergies has been active in ensuring that environmental stakes are taken into consideration, as well as the rights of concerned communities, in accordance with the stringent performance standards of the International Finance Corporation (IFC).

Transparency

In accordance with its guiding principle of transparency in engaging with civil society, since March 2021 TotalEnergies publishes studies, independent third-party reviews and social and environmental action plans related to both the Tilenga and EACOP projects. Such independent reviews help ensure that the projects are carried out in compliance with good international industry practices. Alongside the ongoing dialogue with the local communities, these reviews also allow potential improvements to be identified.

Human Rights Impact Assessment

In order to address the potential human rights impact of the projects, TotalEnergies launched a human rights risks and impact assessment in 2016 through societal and environmental impact assessments. These assessments were approved by the authorities in 2019 for Tilenga and the Tanzanian part of EACOP, and in 2021 for its Ugandan part. Based on the recommendations of these reports, TotalEnergies has decided to conduct specific human rights impact assessments in parallel with the approval process of the societal and environmental impact assessments. The specific human rights impact assessment for EACOP was published in September 2018. The Tilenga specific HRIA was carried out in 2021 and will be published in 2022.

The findings of the assessments and the implementation of the mitigation measures identified have been discussed with national and international NGOs and their comments were taken into consideration. For example, as a result of dialogue in the EACOP project, a scope of work has been developed and a call for tender process is in place to have a dedicated Gender Impact Assessment carried out.

Stakeholder Engagement

Regular Stakeholder Engagement occurs with the full spectrum of Project Stakeholders including Ugandan and Tanzanian local, national and regional governmental authorities; Project-affected Communities (PACs) and Project Affected People (PAPs)⁽¹⁾; traditional and religious authorities; local businesses and tourism operators; developers of associated facilities; CSOs and NGOs; academic and research organizations; and Intergovernmental organizations. A variety of methods and tools are used for such engagement including: village meetings, small group meetings, focus group discussions, one to one meetings, site visits and tours, alternative medium such as community drives etc. Engagement is supported by disclosure materials adapted to the audience including a range of written and visual material, traditional media including community radio, telecommunications and websites.

A field-based stakeholder engagement team including community relations and community liaison officers are present on the sites and are in dialogue with local communities and have developed strong relations with local government, civil society and community representatives, acting as a "bridge" between the project and communities.

In July 2021, TotalEnergies EP Uganda has further developed its organisation, creating a NGO & Human Rights Department to establish closer and more direct relationships with NGOs, and supervise human rights issues arising from TotalEnergies EP Uganda's activities.

In Uganda, TotalEnergies has maintained for several years relations with the Coalition of Civil Society Organization - a network of over 60 Ugandan NGOs whose objective is to work towards the sustainable governance of oil and gas resources to maximize benefits to the people of Uganda. In addition, bilateral meetings are regularly conducted with civil society organizations and an innovative series of webinars known as "Let's Talk!" has been launched providing a deep dive into topics of interest for civil society. For example, a session was held in November 2021 on the Tilenga project biodiversity survey and monitoring programme. Such webinars are followed by a written bulletin summarizing issues discussed as well as links to materials and further information.

In Tanzania, the Project meets with NGOs on a quarterly basis to present project progress. The Project team is working with communities and traditional leaders of Vulnerable Ethnic Groups self-identifying as Indigenous Peoples. Three Tanzanian NGOs have been supporting this work for more than one year. They have assisted at quarterly workshops with the traditional leaderships of the groups and are assisting with the development of community profiles for all of those communities directly impacted by the Project.

Since 2013, the Tilenga and EACOP projects have formed an independent Biodiversity and Livelihood Advisory Committee, composed of independent experts from various national and international organizations (WCS, Wetlands International, CIRAD...), whose objective is to help identify improvements or useful additional mitigations. In addition, a dialogue was initiated in 2020 with representatives of the International Union for Conservation of Nature (IUCN), concerning in particular the impacts of the Tilenga project on primate habitats and measures to mitigate these impacts.

Land Acquisition

The land acquisition processes for both projects are carried out in compliance with the IFC Performance Standards.

The land acquisition program for the Tilenga project is well advanced. The compensation process for the first tranche of land acquisition, known as "Resettlement Action Plan 1 (RAP1)" concerning 622 PAPs has been completed. Deployment of the program for RAPs 2 through 5, concerning 4,901 PAPs, began in March 2021. Improvements in implementation of the land acquisition process have been integrated into procedures for RAPs 2 to 5. As an example, it appeared to TotalEnergies EP Uganda that there may have been some misunderstanding about the cut-off date for some PAPs in RAP1.

(1) A PAP (Project Affected Person) corresponds to a group of individuals forming a household or an entity (institution, company) which has been identified, within the framework of the studies carried out for the program of acquisition of the land necessary for the execution of the project, project, as having at least one asset impacted by the implementation of the project. An asset can be a dwelling, a construction, a plot of bare or cultivated land, plants, trees, crops.

TotalEnergies EP Uganda has reinforced information provided to communities in the implementation of RAPs 2 to 5 to ensure that PAPs understand that they may continue to cultivate their land until they have received their notice to vacate following compensation. Transitional food support assistance is offered as it is anticipated that certain PAPs may miss a planting season due to the resettlement process.

For the EACOP project, ten RAPS have been developed, one for Uganda and nine for Tanzania. The Priority Areas correspond to land for the construction camps and key sites that will be used for the project's initial operations in the country. RAP implementation activities include entitlement briefings (explanation of compensation options), signature of compensation agreements, payment of compensation, handover of replacement land, transitional support services delivery (food packages), and initial livelihood restoration activities (agricultural programmes aimed at ensuring or increasing food security, support for livestock and enterprise development) and replacement housing construction. The project has completed the acquisition process for land in the Priority Areas in Tanzania which concerns around 350 PAPs who have now been resettled and have received the foreseen compensation, transitional support is being delivered and livelihood restoration programs have commenced.

Due to delays in government approvals and signature of final project agreements, PAPs experienced a significant delay between valuation of assets and the signature of land acquisition contracts. In addition, the timetable for implementation was impacted by the COVID-19 pandemic and its related constraints (lockdown and limits on travel, notably between regions). To account for these delays, the Tilenga project decided to apply an uplift of additional financial compensation of 15% per year for the period between valuation of the inventory and payment. Delays have also been taken into account on the EACOP project where in Uganda the 15% uplift has been applied and in Tanzania interest has been applied in line with Tanzanian legal requirements and an uplift has been applied based on market research to establish full replacement value for land and structures, and an inflation uplift for crops and trees for the period of delay.

Livelihood restoration programs will be implemented for at least three years after land acquisition or until livelihoods are fully restored. During this period, as set out in the RAPs continuous socioeconomic monitoring of the impacted populations will be conducted to ensure that their medium-term living standards are not impacted.

VPHSR and Human Rights Defenders

The Company's approach to human rights due diligence in relation to security is through the continuous implementation of VPSHR. Security supervisors have been appointed to oversee daily security activities and constant dialogue occurs through regular meetings. In 2021, TotalEnergies EP Uganda conducted 26 VPHSR trainings sessions and a total of 123 Government Security Force members and 349 Private Security Company guards were trained during the year.

Some NGOs have raised concerns about a reduction in civic space in both Uganda and Tanzania especially in the area of the Lake Albert Development Projects. TotalEnergies EP Uganda is clear that it does not tolerate or contribute to attacks, or physical or legal threats, against those who safely and lawfully exercise their right to freedom of expression, peacefully protest or assemble.

Two concrete examples are representative of TotalEnergies EP Uganda's approach:

On May 25, 2021, TotalEnergies EP Uganda was alerted by a non-governmental organization that police detentions of a journalist and a Human Rights Defender had occurred near Buliisa, Uganda.

TotalEnergies EP Uganda was informed that prior to their detention these individuals were carrying out investigative research in proximity to the Tilenga project area. Following the non-governmental organization's request for support TotalEnergies EP Uganda took immediate action by contacting the relevant officials in order to insist on the need to respect the Human Rights of the persons detained. The UN Office of the High Commissioner for Human Rights (OHCHR) in Uganda was also informed. On May 28, 2021, the Chairman and Chief Executive Officer of TotalEnergies SE wrote a letter to the President of the Republic of Uganda to share his concerns on this issue and request that the rights of the concerned individuals be respected. He emphasized the importance that TotalEnergies places on freedom of speech and open dialogue with stakeholders. A response was provided by the President of the Republic of Uganda, which made it possible to establish a process of communication with the Ugandan authorities to facilitate the activities of representatives of NGOs and the media wishing to work on the Tilenga and EACOP projects, in compliance with the Ugandan law.

More generally, TotalEnergies EP Uganda is proactive in this area and regularly takes opportunities to discuss and promote the rights of Human Rights Defenders during its dialogue with Government, petroleum authorities and the police. In its contacts with all level of the authorities, it freely discusses with the authorities the importance of freedom of expression and the essential role that NGOs and Human Rights Defenders play in upholding rights and ensuring constructive dialogue and an open civic space.

A second example also occurred in May 2021 when a road was blocked by community members who wished to protest in relation to a pending court case in Masindi district related to a land disputes on ownership rights.

By law in Uganda, where persons wish to demonstrate, they are required to notify the local police due to restrictions on public gatherings under the Public Order Management Act. Under this act, the police are given discretion to allow or refuse public gatherings. Thus prior to public gatherings, demonstrators must write to the police notifying them of the purpose, date, time and venue of the gathering.

To facilitate the peaceful course of the demonstration, the Subsidiary's security was informed that this demonstration was likely to be held. Thanks to the prior development of a trusting and strong collaboration TotalEnergies EP Uganda was able to work with Government security forces and private security companies to insist on respectful management of the demonstration. De-escalation measures were prepared to ensure that protestors voices could be heard. A constructive dialogue took place which included TotalEnergies EP Uganda's community liaison officers and the demonstration ended peacefully.

Community grievance mechanisms

Community grievance mechanisms in line with the United Nations guiding principles on business and human rights effectiveness criteria have been put in place to receive and respond to community concerns and complaints including those of PAPs. There are a variety of access points to present grievances which include a local office manned daily, a toll free number, an email address and the possibility to address grievances to traditional and district government who relay such information to the project teams. Concerns and grievances are registered by a community liaison officers and the complainants receive a copy of the grievance form. The mechanisms have four main steps: receipt and acknowledge; register, assess and assign; investigate and respond and close out.

Grievances are recorded in a register. Where possible they are resolved within 24 hours but for more complex cases, the process has four levels of escalation. Where necessary external stakeholders and independent third parties assist in finding solutions for complex and sensitive cases.

Example: Mozambique LNG Project

TotalEnergies EP Mozambique Area 1 (TEPMA1) has held since 2019 a participation of 26.5%⁽¹⁾ and is the operator of the Mozambique LNG Area 1 project. It is the first onshore development of a liquefied natural gas (LNG) plant in the country located on the Afungi Peninsula in the Cabo Delgado province.

The project faces significant social challenges with: the displacement of households cultivating lands within the area of construction of the LNG facilities (7,000 ha), which was underway when project activities were suspended in April 2021 (see below), as well as impact on fishers' economy due to the establishment of a Marine Exclusion Zone.

Local security situation

Incidentally, the Cabo Delgado province has experienced the surge of a "terrorist" movement leading to attacks against villages and large towns and causing the displacement of hundreds of thousands of people.

After taking the town of Mocimba do Praia, in the summer of 2020, located about 80 kilometers from the project site, the terrorist movement conducted attacks in the northeast Cabo Delgado Province by attacking populations. This situation reached a peak with the attack of the town of Palma located 6km away from the Afungi site on March 24th 2021. The intensity and duration of the attack prompted the evacuation of personnel from the site. This situation led TEPMA1 to declare force majeure. Since July 2021, the Mozambican government took military assistance from external partners (Southern African Development Community and Rwandese forces) to retake security control of Cabo Delgado.

Human rights due diligence and Human rights policy

Respect for human rights is a commitment and continuous focal area for TEPMA1 throughout the project.

A Human Rights Impact Assessment had been conducted in 2015 for the project which was then operated by Anadarko.

To update that assessment and complete it with assessments on the Voluntary Principles on Security and Human Rights (VPSHR) and social performance, a human rights due diligence was conducted in 2020 by LKL International Consulting. The due diligence resulted in an action plan addressing the following salient issues: Security (Community security and interaction with public security providers), Resettlement, Women's rights and gender equity, Workers' rights (Freedom of association), Information and consultation, Community health and safety, Project-induced in-migration (PIIM), Access to remedy.

TEPMA1 formalized the learnings from these studies and its approach regarding human rights by adopting its Human Rights Policy in March 2021.

The due diligence report, the action plan and the human rights policy have been made available at the project's website.

VPSRH implementation

TEPMA1 as operator of Area 1, and MRV, the operator of a LNG project located in another area designated as "Area 4" have signed a Security Memorandum Of Understanding (MOU), in March 2019, amended in July 2020, with the Mozambican Ministry of National Defense (MDN) and Ministry of the Interior (MINT). The MOU provides for the deployment of police and army personnel together designated as the Joint Task Force (JTF), and their logistical support with the aim of ensuring the security of Project operations and workforce and the communities residing in the broader project area of operations. The MOU requires adherence to key human rights guidelines including the VPSHR.

Despite the aggravation of the security situation and the suspension of the activities since April 2021, implementing the VPSHR remains a priority for TEPMA1. VPSHR training sessions have been systematically conducted for all JTF officers deployed to site. In 2021, 1,027 officers were trained by qualified personnel from the project's security team. To improve the sustainability and the ownership of the training courses, an intensive Train-the-Trainers session was also delivered by an accredited international expert (Watchman) to 16 of the JTF commanders in June 2021. The commanders left the course with a practical kit to be used in an operational context, which has since enabled 716 members of the JTF to be trained. Consequently, the members of the JTF can now be trained directly by their superiors. A new Train-the-Trainers session is planned in 2022.

⁽¹⁾ TEPMA1, operator, holds a share of 26.5% in the Mozambique LNG Area 1 project, and partners with ENH Rovuma Area Um. S.A. (15%), Mitsui E&P Mozambique Area1 Ltd. (20%), ONGC Videsh Ltd. (10%), Beas Rovuma Energy Mozambique Limited (10%), BPRL Ventures Mozambique B.V. (10%), and PTTEP Mozambique Area 1 Limited (8.5%).

In parallel, since June 2021 and in close cooperation with the project, the JTF command has appointed six officers in charge of relations with the local communities, involved in humanitarian and social activities. These efforts aim to build trust between local communities and the JTF, thereby contributing to a better resolution of any potential disputes.

Finally, TEPMA1 is also involved in the promotion of VPSHR at national level. TEPMA1 organized and sponsored a VPSHR awareness-raising day for 35 representatives of the civil society and the government in June 2021 and contributes to the national VPs Working Group created in November 2021.

VPSHR incident resolution

TEPMA1 has implemented a community grievance mechanism, managed remotely, supported notably by a 24h-toll-free telephone line to address any concerns or incidents.

When JTF-related incidents are reported, they are immediately investigated by TEPMA1, and referred to the JTF command for additional investigation and appropriate resolution.

In 2021, 18 grievances were raised against the JTF. Among those, 11 were investigation-confirmed VPSHR incidents (61%); they have been referred to the JTF command and were then monitored and, where needed, commented upon with that command to ensure their proper management. Also, one case was not a VPSHR incident (lawful detention of a suspected insurgent by security forces). Finally, on 6 occasions, the elements resulting from the investigations did not indicate conclusively whether the allegation was founded or not.

A monthly reporting is provided to the representatives of the Parties of the MOU and the VPSHR situation is regularly discussed with ministry authorities. VPSHR monitoring is the subject of constant attention of TEPMA1 which takes measures to preserve the confidentiality of complainants. Monthly meetings are organized with the Ministries of Defense and Interior, in particular to review the implementation of the VPSHR. In addition, TEPMA1 monitors VPSHR incidents on a case-by-case basis by alerting and communicating directly with the authorities and taking the appropriate measures.

Catalisa project with Communities

Despite the sanitary and security context and the suspension of the Project, TEPMA1 has maintained and adapted the Catalisa project for communities as part of TotalEnergies' willingness to contribute to restoration of social life in Cabo Delgado.

The Catalisa project is creating new opportunities for producers and youth in Cabo Delgado, through inclusive, private sector-led economic development. In the 5-year period (2018-2022), Catalisa project is working on agribusiness development to increase local investment in the horticulture and poultry value chains, and in employment opportunities for young people aimed at training them for formal employment or becoming entrepreneurs. Over the year 2021, the program supported 126 active farmers under horticulture program and, 20 youth were placed in full time jobs, 11 in part time jobs, and 8 previous Business Plan Competition (BPC) winners were refinanced to start their businesses again.

Information is available on the Catalisa project website.

Subsidiary self-assessment

In addition to Subsidiary and industrial project assessments, two types of **Subsidiary self-assessment** should be noted.

Regarding the implementation of **VPSHR**, the self-assessment and risk analysis tools were updated and made available on a secure digital platform in 2020. In 2021, these tools were deployed to Subsidiaries in 101 countries with a response rate of 87%. This evolution allowed the completion of their deployment within the countries in which the Company operates, as well as the strengthening of monitoring and increased traceability of results.

ACTIONS TO MITIGATE RISKS AND PREVENT IMPACTS

TotalEnergies has numerous tools for **raising employee awareness** of issues related to human rights. The Company held **training courses tailored to the challenges faced in the field** by employees who are particularly exposed to these issues.

In 2021, several training sessions were held as part of the implementation of the Human Rights training plan:

For all employees:

- An online module on human rights in the workplace with a focus on respecting the ILO's core conventions has been accessible to all

With regard to the implementation of the **societal approach**, the Subsidiaries must carry out an annual self-assessment in this area and **internal reporting** to identify the societal actions carried out locally. These self-assessments are analyzed by the HSE division in order to adapt the support it provides to Subsidiaries (offers of training, assistance). In 2021, more than 96% of the Subsidiaries within the One MAESTRO perimeter had completed their self-assessment.

Company employees since 2019 in all countries in which the Company operates. It is available in five languages. More than 35,000 management-level employees had taken this module at year-end 2021;

- The deployment of the series of conferences on non-discrimination in the workplace, which started in 2020, continued with a focus on the management of religious issues in the workplace. A second awareness-raising session was organized in partnership with Convivencia Conseil, a consulting firm specialized in religious issues.

For target groups:

Other specific training programs tailored to issues encountered on the ground were held throughout 2021, in particular:

- Annual training in ethics and human rights for newly appointed senior executives;
- A second session to raise awareness about crisis communication and management in relation to human rights, organized in partnership with the NGO SHIFT, for functions that are regularly involved in managing crises at headquarters (Communication, Public Affairs, Legal and Sustainability);
- A webinar on respect for human rights in the context of joint-ventures was held for employees in charge of managing associates in the Exploration-Production segment. It brought together 90 participants from around the world;
- An online training course on the salient risks and human rights issues in the Marketing & Services segment. Several online sessions were conducted in French and English and 60 employees (zone managers, network managers, network inspectors, etc.) representing some 60 countries attended.

In addition to the societal module incorporated into the HSE for Managers training program, remote training modules were developed for personnel of Subsidiaries in charge of societal issues. In 2021, eight sessions of the *HSE for Managers* training program including the societal module were delivered, with a total of 167 participants. Training on societal performance is also deployed in Exploration & Production to raise awareness among various lines of business about societal issues and the

WHISTLE-BLOWING MECHANISMS

TotalEnergies has set up several levels of whistle-blowing mechanisms that cover the entire Company, or are specific to certain projects.

In 2021, the **Ethics Committee** received close to 140 reports (internal, external, anonymous) regarding compliance with the Code of Conduct, and nearly 60% of these reports were about questions related to human resources. All reports received are dealt with and, when necessary, recommendations are made in order to lead to the implementation of corrective measures. Irrespective of whether the referral is well founded, mediation may be necessary. When the Ethics Committee observes a breach of the Code of Conduct, management draws the necessary conclusions and sanctions may be imposed in keeping with the applicable law and the procedures negotiated locally with staff representatives (examples include verbal reminders, written warnings, suspension or dismissal).

The “*Collection and processing of ethical complaints*” procedure published internally and on the TotalEnergies website since December 2020, formally sets out the existing approach for collecting and processing complaints sent to the Ethics Committee by internal or external stakeholders concerning behaviors or situations contrary to the Code of Conduct. It ensures that the identity of the person making the report is protected, rules out any reprisals against them or against those taking part in the processing of the complaint, and respects applicable laws and regulations in terms of protecting personal data.

MONITORING PROCEDURES

At regular intervals, a **human rights roadmap** is presented to the Executive Committee to support the ongoing efforts to implement the Code of Conduct and respect human rights. The roadmap for 2021-2022 has been constructed with the various business segments and Company entities concerned. The Human Rights Steering Committee monitors the implementation of this roadmap.

For each specialty or business segment, the roadmap addresses questions of governance (for example, an internal procedure to be updated), new trainings to be developed, the prioritization of salient

tools available. Six half-day sessions were conducted in 2021, with a total of 70 people trained. In 2021, the digital platform named Societal Academy, which makes the necessary educational resources accessible to Subsidiaries, such as rules, guides, training materials, feedback and best practices, was improved by the addition of new content. Webinars attended by nearly 190 participants were organized in October 2021 for the launch of the societal reporting campaign.

In certain situations, intervention by government security forces or private security companies is necessary to protect the Company Subsidiaries' staff and assets. TotalEnergies regularly organizes training sessions and awareness-raising activities for its employees on the risk of disproportionate use of force and, more specifically, on the VPSHR. In 2021, this awareness-raising work led the VPSHR specialists to revise the content of the training courses in order to make them more accessible and adapted to developments and issues related to human rights and security. This improvement is seen in particular in the introduction of a new online training module for Country Security Officers, who support Country Chairs in their role of being responsible for the Company's security in the country and who are the correspondents of the Company's Security division, charged among other things with implementing the VPSHR.

In addition, specific awareness-raising work on compliance with the VPSHR and their deployment in the entities considered most at risk is carried out annually. The contribution of the Subsidiaries to the annual ADRA (Auto-Diagnosis and Risk-Assessment) campaign enables the VPSHR teams of the Security division to assist them in improvement actions throughout the year.

The Subsidiaries have also developed **mechanisms to manage grievances raised by external stakeholders**. Deployment is gradual throughout the Company. An internal guide was published in 2020 detailing the methodology for designing and effectively managing the grievance mechanism process. This guide contains practical tools drawing on international recommendations (International Petroleum Industry Environmental Conservation Association (IPIECA), International Council on Mining and Metals (ICMM), International Finance Corporation (IFC)).

At year-end 2021, 100% of entities in the Exploration & Production, Refining & Chemicals and Marketing & Services segments of the One MAESTRO scope which had an operational activity in 2021, had implemented or improved their grievance management system (compared to 99% in 2020).

Grievances received by Subsidiaries in connection with the societal impact of their activities correspond to the following: access to land and habitat, economic losses/loss of livelihood, dangers for the environment and health, employment and value chain, road safety/logistics and transportation, adverse impact on culture and heritage, security and social conduct. Other grievances concern the quality of local dialogue and management of economic development projects.

In case of **incidents related to the implementation of the VPSHR**, a reporting is quickly made to the Security division, and a report is compiled after internal analysis to assess the facts and to determine the measures to be taken to reduce the risk of future incidents.

issues in a given specialty or segment, dialogue with stakeholders (for example, by appointing and training CLOs), risk assessment (for example, in the impact assessments of new projects), preventive and remediation actions, monitoring and communication. The Human Rights Department and the Ethics Committee rely on a network of more than 100 Ethics officers across the countries in which TotalEnergies operates. They are in charge of promoting the values set out in the Code of Conduct among employees working at Subsidiaries and ensuring that the Company's commitments are correctly implemented at a local level.

Regarding the **VPSHR**, TotalEnergies takes part in **follow-up meetings** with the other members of the initiative as part of the process of continuous improvement. In March 2021, TotalEnergies published its 2020 VPSHR report, which contains information on the implementation of VPSHR in Subsidiaries worldwide, and reviews progress made. This report is available on the TotalEnergies website. The information set out in the

report is based on annual reporting organized by the Security division that brings together the results of a VPSHR questionnaire, and of the risk and compliance analyses for each Subsidiary operating in a sensitive context. It contains examples of action taken to raise awareness and process incidents. The 2021 VPSHR report will be published in 2022.

3.6.8.2 HEALTH AND SAFETY

This section is primarily intended to present implementation of measures with respect to Subsidiaries, while the implementation of measures specific to Suppliers is described at point 3.6.8.5 of this chapter.

SUBSIDIARY ASSESSMENTS

In addition to the HSE self-assessments of the Subsidiaries at least every two years, the Subsidiaries operating the sites are audited every three to five years. The periodicity of HSE audits is defined according to a risk-based approach, which takes into account, among other things,

the results of previous HSE audits and the status of the corresponding action plans.

In 2021, 41 HSE audits were conducted.

ACTIONS TO MITIGATE RISKS AND PREVENT IMPACTS

In terms of HSE, **training intended for various target groups** (new arrivals, managers, senior executives and directors) is provided in order to establish a broad-based, consistent body of knowledge that is shared by all:

- *Safety Pass*: these safety induction courses were started on January 1, 2018 for new recruits. Various courses exist depending on the position and cover the Company's main HSE risks, the risks linked to the site activity as well as those linked to the workplace. The theoretical content is supplemented by practical life-saving actions training sessions;
- *HSE for Managers* is aimed at current or future operational or functional managers within one of the Company's entities. This training was delivered in virtual classroom mode as well as face-to-face in 8 sessions in 2021, in which about 200 managers took part.
- *Safety Leadership for Executives* is intended for the Company's senior executives. Its objective is to give senior executives the tools allowing them to communicate and develop a safety culture within their organization. Three sessions were held in 2021 to train around fifty Company executives.

As regards crisis management, the intervention teams at Subsidiaries and head office practice their crisis management activities regularly on the basis of scenarios identified by the risk analyses. These personnel may follow dedicated training depending on their specific functions. In 2021, in the context of the COVID-19 pandemic, the Company consolidated its resilience capacity by testing its procedures and methodologies in different formats through crisis management exercises: face-to-face, remote or hybrid. This was made possible in particular through the development of digital crisis units for the headquarters, business segments and Subsidiaries and the deployment of associated training. In order to maintain training capacity regardless of how the situation developed, training for internal crisis management individuals was delivered either face-to-face or remotely depending on countries' accessibility. In 2021, 416 individuals (compared to 187 in 2020) were thus trained in crisis management in Subsidiaries and at head office.

TotalEnergies also continued to roll out its *Incident Management System* (IMS) at Subsidiaries operating hydrocarbon or gas exploration and production sites within the Exploration & Production and Integrated Gas, Renewables & Power segments. The IMS is a harmonized system for the management of emergency situations. It is described in an IPIECA good practices guide and is being progressively adopted by the majors. In 2021, 240 employees have been trained in IMS. Seven Exploration-Production subsidiaries carried out a large-scale application exercise, bringing the total number of trained employees to 581 and the number of subsidiaries where the IMS is deployed to 14.

Return on experience (feedback) on HSE incidents is regularly collected. A return on experience document describes the HSE incident or the corresponding accident, includes an analysis and recommendations applicable to similar situations. 91 documents (feedback, best practices, alerts) were disseminated within the Company in 2021.

In order to ensure and reinforce knowledge of the reference framework, a knowledge evaluation tool containing over 3,000 multiple-choice questions was developed in 2018 for use by the HSE managers of Subsidiaries, operated sites and their teams. This tool can also be used to determine a suitable training plan, if necessary. More than 100 evaluations were carried out in 2021.

World Safety Day is held each year by the HSE division. The theme in 2021 was "The Golden Rules, everywhere, every day". In addition, TotalEnergies encourages and promotes its Subsidiaries' safety initiatives. Each year, a safety contest is held and a prize is awarded to the best HSE initiative by a Subsidiary.

MONITORING PROCEDURES

In the field of prevention of major accident risks, the Company monitors the number of Tier 1 and Tier 2 losses of containment as defined by the American Petroleum Institute (API) and the International Association of Oil & Gas Producers (IOGP). The Company set itself the target of having fewer than 70 Tier 1 and Tier 2 events in 2021. This target was not reached in 2021. The number of Tier 1 and Tier 2 events was lower than in 2020, although higher than in 2019. In addition to the 77 Tier 1 and Tier 2 operational events indicated in the table below, the Company recorded 4 Tier 1 or Tier 2 events due to acts of sabotage or theft in 2021.

Losses of containment ^(a)	2021	2020	2019
Losses of containment (Tier 1)	29	30	26
Losses of containment (Tier 2)	48	54	47
Losses of containment (Tier 1 and Tier 2)	77	84	73

(a) Tier 1 and Tier 2: indicator of the number of losses of primary containment with more or less significant consequences (fires, explosions, injuries, etc.), as defined by API 754 (for downstream) and IOGP 456 (for upstream). Excluding acts of sabotage and theft.

Tier 1 and 2 events had only moderate consequences such as lost time injuries, fires or pollution of limited extent or with no impact. The Company did not have any major industrial accidents in 2021.

In the field of road transportation, to measure the results of its policy, TotalEnergies has, for many years, been monitoring the number of severe road accidents involving its employees and those of contractors. The 50% reduction in the number of severe accidents between 2016 and 2021 is a testament to the efforts that have been made. In 2021, the number of severe road accidents involving light vehicles decreased significantly relative to 2020, confirming the progress recorded.

Based on the use of new technologies to prevent road accidents, TotalEnergies has made it mandatory for all new heavy trucks in the Marketing & Services segment to be equipped with certain driver assistance systems⁽¹⁾ wherever these technologies are offered by manufacturers. In Marketing & Services, the decision was also taken to deploy fatigue detection systems in countries with high road risk, after conclusive testing over several months. More than 3,200 transportation vehicles are expected to be equipped by the end of 2022, representing approximately 30% of the entire fleet under long-term contract. In addition, the second installment of the *SafeDriver* video campaign that began in 2019 is expected to continue into 2022, covering for example the topics of blind spots, fatigue and driving in difficult situations, distractions at the wheel and speed and safe distances.

Number of severe road accidents ^(a)	2021	2020	2019
Light vehicles and public transportation ^(b)	1	0	9
Heavy goods vehicles (trucks) ^(b)	20	27	24

(a) Overturned vehicle or other accident resulting in the injury of an occupant (declared accident).

(b) Vehicles under long-term contract (over 6 months) with TotalEnergies.

In the field of safety, in particular in the workplace, the indicators monitored by TotalEnergies include work-related accidents whether they occur at workplace, during transportation within the framework of long-term contracts, or during an industrial accident. In addition to its aim of zero fatalities in the exercise of its activities, TotalEnergies has set itself the target of continuously reducing the TRIR indicator and, for 2022, of reducing it below 0.70 for all personnel of the Company and its external contractors. The 2021 target was 0.75.

Safety indicators	2021	2020	2019
Millions of hours worked – All Personnel	389	389	467
Company Personnel	215	211	243
Contractors' employees ^(a)	174	178	224
Number of occupational fatalities – All Personnel	1	1	4
Company Personnel	1	0	0
Contractors' employees ^(a)	0	1	4
Number of occupational fatalities per hundred million hours worked – All Personnel	0.26	0.26	0.86
TRIR ^(b) : number of recorded incidents per million hours worked – All Personnel	0.73	0.74	0.81
Company Personnel	0.59	0.63	0.74
Contractors' employees ^(a)	0.91	0.87	0.87
LTIR ^(c) : (lost time injury rate) number of lost time accidents per million hours worked – All Personnel	0.48	0.48	0.48
Company Personnel	0.47	0.50	0.52
Contractors' employees ^(a)	0.48	0.46	0.43
SR ^(d) : number of days lost due to accidents at work per million hours worked	15	17	17

(a) As defined in point 5.11.4 of chapter 5.

(b) TRIR: Total Recordable Incident Rate.

(c) Lost Time Injury Rate.

(d) SR: Severity rate. It replaces the SIR (Serious Injury Rate) indicator previously disclosed.

In 2021, of the 285 occupational accidents reported, 273 related to accidents at the workplace. 76% of these occurred, in decreasing order of the number accidents, when handling loads or objects, walking, using portable tools or working with powered systems.

The Company's efforts on safety over a period of more than ten years have allowed it to reduce the TRIR by more than 70% between 2010 and 2021. This improvement is due to constant efforts in the field of safety and, in particular:

- the implementation of the HSE frameworks, which are regularly updated and audited;
- the prevention of specific risks such as handling loads (ergonomics), road transport, walking;
- training and general awareness raising with safety issues for all levels of management (world safety day, special training for managers);
- HSE communication efforts targeting all Company personnel;
- the introduction of HSE objectives into the remuneration policy for TotalEnergies employees (refer to point 5.6.1.2 of chapter 5).

Despite the measures implemented, there was regrettably one accidental fatality among the Company's personnel in 2021. It occurred during annual planned maintenance checks on an electrical transformer in Kazakhstan.

(1) Such as AEB (advanced emergency braking), LDW (lane departure warning) and EBS (electronic braking system) for motor vehicles and RSS (roll stability support) for semi-trailers.

In the field of occupational health, TotalEnergies uses the following indicators:

Health indicators (Global Workforce Analysis scope)	2021	2020	2019
Percentage of employees with specific occupational risks benefiting from regular medical monitoring	97%	97%	98%
Number of occupational illnesses recorded in the year (in accordance with local regulations)	158	136	128

3.6.8.3 ENVIRONMENT

This section is primarily intended to present implementation of measures with respect to subsidiaries, while the implementation of measures specific to Suppliers is described at point 3.6.8.5 of this chapter.

SUBSIDIARY ASSESSMENTS

HSE audits, which include a section on the environment, are described in point 3.6.8.2 of this chapter.

The One MAESTRO reference framework states that the environmental management systems of the sites operated by the Company that are

important for the environment⁽¹⁾ must be ISO14001 certified within two years of start-up of operations or acquisition: 100% of these 79 sites were compliant in 2021. In addition to this requirement, at year-end 2021, a total of 279 sites operated by the Company were ISO14001 certified. In 2021, 22 new sites received ISO14001 certification.

ACTIONS TO MITIGATE RISKS AND PREVENT IMPACTS AND MONITORING PROCEDURES

In terms of preventing the risk of accidental pollution, TotalEnergies monitors indicators that allow it to assess the preparedness of Company operated sites for oil spills.

Oil spill preparedness	2021	2020	2019
Number of sites whose risk analysis identified at least one risk of major accidental pollution to surface water	119	119 ^(a)	128
Proportion of those sites with an operational oil spill contingency plan	100%	100%	100%
Proportion of those sites that have performed an oil spill response exercise or whose exercise was prevented following a decision by the authorities	97%	88%	85% ^(b)

(a) The variation in the number of sites is due to changes in scope.

(b) The 2019 value was revised in order to account only for impediments following a decision by the authorities.

In accordance with industry best practices, TotalEnergies monitors accidental liquid hydrocarbon spills of more than one barrel. Spills that exceed a predetermined severity threshold are reviewed on a monthly basis and annual statistics are sent to the Company's Performance Management Committee. All spills are followed by corrective actions aimed at returning the environment to an acceptable state as quickly as possible.

Accidental liquid hydrocarbon spills of a volume of more than one barrel that affected the environment, excluding sabotage

	2021	2020	2019
Number of spills	65	50	57
Total volume of spills (<i>thousands of m³</i>)	2.0	1.0	1.2
Total volume recovered (<i>thousands of m³</i>)	1.7	–	–

The increase in the volume of spills between 2020 and 2021 is mainly related to a leak in a buried pipe at the Port Arthur refinery (United States).

As part of TotalEnergies' policy of avoiding, reducing and where necessary offsetting the environmental footprint of its operations, discharges of substances are identified and quantified by type of environment (water, air or soil) so that appropriate measures can be taken to better control them.

In 2015, SO₂ emissions reached 59 kt. TotalEnergies has set itself the target of reducing its emissions by 75% in 2030 (compared to 2015), which entails not exceeding 15 kt.

Chronic discharges into the atmosphere	2021	2020	2019
SO ₂ emissions (<i>in kt</i>)	16	34	39
NO _x emissions (<i>in kt</i>)	59	64	72
NM VOC emissions ^(a) (<i>in kt</i>)	58	69	83

(a) Non-methane volatile organic compounds.

SO₂ emissions that are likely to cause acid rain are regularly checked and reduced. In 2021, SO₂ emissions have significantly decreased due to the decrease in refinery activity (shutdowns, COVID-19 pandemic) and perimeter changes. Without conjonctural effects, those emissions would have reached 21 kt.

NO_x emissions mainly concern the hydrocarbon exploration and production activities. They are mostly located offshore, far from the coast.

(1) Production subsidiaries of the Exploration & Production segment, sites producing more than 250,000 t/y in the Refining & Chemicals and Marketing & Services segments, as well as gas-fired power plants in the Integrated Gas, Renewables & Power segment.

Quality of water discharged	2021	2020	2019
Hydrocarbon content of offshore continuous water discharges (in mg/l)	13.7	12.8	13.0
% of sites that meet the target for the quality of offshore discharges (30 mg/l)	92%	100% ^(a)	100% ^(a)
Hydrocarbon content of onshore continuous water discharges (in mg/l)	2.6	1.9	1.7
% of sites that meet the target for the quality of onshore discharges of:			
goal 2010-2020: 15 mg/l	100%	100%	100%
goal 2030: 1 mg/l	80%	—	—

(a) Alwynn and Gryphon sites (United Kingdom) excluded, as their produced water discharges only occur during the maintenance periods of the water reinjection system and are subject to a specific regulatory declaration.

3.6.8.4 CLIMATE

SCOPE OF REPORT

This part of the implementation report relates to greenhouse gas emissions resulting from the Company's Activities (Scope 1+2), in accordance with the provisions of Article L. 225-102-4 of the French Commercial Code. TotalEnergies also reports on indirect greenhouse

As part of the roll out of the **new biodiversity ambition** adopted by TotalEnergies in 2020, an overview of measures already taken and updated for 2021 under the four main areas of this new ambition is provided in point 5.5.4 of chapter 5.

GOVERNANCE

In order to contribute concrete responses to the issue of climate change, TotalEnergies relies on a structured organization and governance.

Climate issues are addressed at the highest level of the organization by the Board of Directors and the Executive Committee, which have fully committed to transforming TotalEnergies into a multi-energy company and a major player in the energy transition.

At the Shareholders' Meeting on May 28, 2021, for the first time, the Board of Directors decided to submit to the shareholders of TotalEnergies SE for their opinion the Corporation's ambition in terms of

Oversight by the Board of Directors

TotalEnergies Board of Directors endeavors to promote value creation by the business in the long term by taking into consideration the social and environmental challenges of its business activities. It determines the Company's strategic orientation and regularly reviews, in connection with this strategic orientation, the opportunities and risks such as financial, legal, operating, social and environmental risks, and the measures taken as a result. It thus ensures that climate-related issues are incorporated into the Company's strategy and the investment projects that are submitted to it. It examines climate change risks and opportunities during the annual strategic outlook review of the Company's business segments. It reviews performance each year.

The skills of the directors in the area of climate are presented in section 4.1.1.5 of chapter 4. A continuing training program relating to the climate for directors has been approved in 2021 and will be rolled out in 2022. It will include the Climate Fresco (a scientific, collaborative and creative workshop designed to raise awareness of climate change and in particular its causes and consequences), as well as various modules on the following themes: Energy, Climate Change and Environmental Risks; Energy and Climate; Climate Change and Financial Risks and Opportunities; Causes and issues of global warming.

To carry out its work, the Board of Directors relies on its Strategy & CSR Committee, whose internal rules were amended first in September 2017, and again in July 2018 in order to broaden its missions in the realm of CSR and in questions relating to the inclusion of climate-related issues in the Company's strategy. In this regard, the Strategy & CSR Committee

gas emissions related to the use by customers of energy products (Scope 3) and related actions, in accordance with Article L. 225-102-1 of the French Commercial Code, in its non-financial performance statement (refer to point 5.4 of chapter 5).

sustainable development and the energy transition towards carbon neutrality and its related targets by 2030. This resolution was approved by more than 90% of the votes cast.

In support of the Company's governance bodies, the Sustainability & Climate division shapes the approach to climate and accompanies the strategic and operational divisions of the Company's business segments. By defining and monitoring indicators, progress can be measured and the Company's actions can be adjusted (details of the indicators used are provided in point 5.4.4 of chapter 5).

met on October 26 and October 27, 2021, to review current climate issues and their consequences for the Corporation's strategy. On this occasion, the Board of Directors engaged in a dialogue with Mr. Fatih Birol, Executive Director of the International Energy Agency.

The Board of Directors has also been integrating climate issues into its compensation structures for several years. In 2021, the Board of Directors decided to change the criteria for determining the variable portion of the Chairman and Chief Executive Officer's compensation by introducing two new criteria to assess his personal contribution, weighing 25% of this variable portion, namely steering the strategy of transformation towards carbon neutrality and profitable growth in renewables and electricity. CSR performance is also a qualitative criterion for evaluating personal contribution. CSR performance is assessed by considering the extent to which climate issues are included in the Company's strategy, the Company's reputation in the field of CSR and the policy concerning all aspects of diversity. These criteria complement the quantitative HSE criteria and those introduced in 2019 relating to changes in GHG emissions (Scope 1+2).

The variable compensation of the Company's senior executives (approximately 300 people at the end of 2021) includes a criterion linked to the achievement of the GHG emissions reduction target (Scope 1+2).

Since 2020, the criteria for awarding performance shares to the Chairman and Chief Executive Officer and to all the Company's employees also include this target.

Role of management

TotalEnergies' Chairman and Chief Executive Officer, assisted by the Executive Committee, in accordance with the long-term strategic direction set by the Board of Directors, implements the strategy of the Company while making sure climate change challenges are taken into account and detailed in the operational road maps. The work is based in particular on risk mapping, which includes climate issues.

A Sustainability & Climate division, which reports to the President, Strategy & Sustainability, a member of the Executive Committee, coordinates the Company's actions in this area.

The Climate-Energy Steering Committee, chaired by the Vice President Climate which mainly includes representatives of Strategy and HSE management from the various business segments, is responsible for structuring the Company's approach to climate issues, and in particular for:

- proposing targets for reducing GHG emissions for the activities operated by the Company;
- proposing a strategy to reduce the carbon intensity of the energy products used by the Company's customers;
- monitoring existing or emerging CO₂ markets; and
- driving new technology initiatives, in particular with industrial partners, to reduce GHG emissions (energy efficiency, CO₂ capture and storage, for example).

STRATEGY: AN INTEGRATED MULTI-ENERGY COMPANY

A vision of a Net Zero TotalEnergies in 2050, together with society

The work carried out over the last year has produced a clearer picture of what a Net Zero TotalEnergies in 2050, together with society, and energy transition leader would look like, inspired in particular by the International Energy Agency's Net Zero vision. Reinvent in a net zero energy system means producing decarbonized electrons and molecules and developing carbon sinks to absorb the CO₂ from residual hydrocarbons (for producing chemicals, for example). This observation supplements the ambition presented to shareholders in May 2021.

In 2050:

- Around half of the energy produced by TotalEnergies would be renewable electricity with corresponding storage capacity, or around 500 TWh/year. This would require developing around 400 GW of renewable capacity.
- Decarbonized molecules would account for around 25% of the energy produced by TotalEnergies, equivalent to 50 Mt/year, in the form of biogas, hydrogen, or synthetic liquid fuels from the following circular reaction: H₂ + CO₂ → "e-fuels".
- TotalEnergies would produce around 1 Mb/d of hydrocarbons (or close to four times less than in 2030, in line with the reduction outlined in the IEA's Net Zero vision) made up primarily of liquefied natural gas (around 0.7 Mb/d, i.e., 25 to 30 Mt/y). Very low-cost oil would account for the rest. This oil would be used, in particular, by the petrochemicals industry to produce around 10 Mt/year of polymers - of which two-thirds from the circular economy.
- These hydrocarbons would represent around 10 Mt CO₂e/year of residual Scope 1 emissions, including methane emissions close to zero (below 0.1 Mt CO₂e/year), which would be fully offset by nature-based carbon sink solutions.

The Company will spend the next 10 years building the projects and skills needed to make TotalEnergies a net zero energy company by 2050, together with society.

Our multi-energy offering: ambition for 2030 and progress in 2021

To achieve carbon neutrality, the global energy mix will have to change considerably. Today, fossil energies still account for more than 80% of the mix⁽¹⁾. The markets for low carbon electricity and gas (natural gas,

biogas and hydrogen) will need to expand, while coal will have to be eliminated and demand for oil will need to stabilize and then decline.

TotalEnergies is already carving out a position in this energy offering of the future and diversifying its energy mix by reducing the share of petroleum products and increasing natural gas, as transition fuel, and renewable electricity.

The energy mix of the Company's sales will shift significantly as well, and could stand at 50% gas, 30% petroleum products, 15% majority-renewable electricity and 5% biomass and hydrogen by 2030.

This movement to lower-carbon products will allow the Company to reduce the lifecycle carbon intensity of energy products sold by at least 20% by 2030.

Our production

TotalEnergies aims at an oil production peak this decade and then decreasing to around 1.4 Mb/d in 2030. It aims to increase gas production by around 50% between 2015 and 2030 (from 1.3 Mboe/d to 2 Mboe/d) and raise electricity generation to 120 TWh in 2030 from 1.7 TWh in 2015.

In 2021, the Company's energy production increased by nearly a quarter in relation to 2015.

Our sales

The Company is reducing its sales of petroleum products to align with production by 2030, or around 1.4 Mb/d. Sales of gas and electricity will rise sharply, doubling for gas and by a factor of 20 for electricity over the 2015-2030 period.

The lifecycle carbon intensity of our products

In 2021, TotalEnergies continued to reshape its mix thanks to increased sales of LNG (up 10% at 42 Mt in 2021 vs. 2020) and electricity (up 20% at 57 TWh in 2021 vs. 2020) and a 10% decrease in petroleum product sales. The lifecycle carbon intensity of products sold continued to improve with a 2% decline (excluding the impact of COVID-19).

Levers to decarbonize the energy mix of the Company are the following.

Growth in electricity will account for nearly two-thirds of the decrease in carbon intensity between 2015 and 2030. The second lever involves reducing sales of petroleum products and increasing production of gas (especially LNG) and sales of products based on biomass. Lastly, carbon sinks and lower emissions from the Company's facilities will each contribute around 5% of the decrease in carbon intensity.

(1) Source: IEA Key World Energy Statistics 2021.

Electricity – Becoming a world leader in renewable electricity by integrating the value chain from production to sales

TotalEnergies wants to become one of the top five worldwide producers of renewable electricity (solar and wind). In 5 years, the Company has invested more than \$10 billion, primarily in photovoltaic electricity and offshore wind, for an average of \$2 billion per year. In 2021, TotalEnergies lifted its investments in electricity and renewables to more than \$3 billion, i.e., 25% of its net investments. It intends to finance investments of more than \$60 billion in renewable power generation capacity by 2030. The Company makes profitable investments, meaning projects with a return of more than 10%⁽¹⁾. The mix combines regulated markets with deregulated markets integrated across the entire electricity value chain. As a result, the Renewables & Electricity business's EBITDA⁽²⁾ exceeded \$1 billion in 2021.

In the past 4 years, the Company's gross installed capacity for renewable power grew from 0.7 GW in 2017 to more than 10 GW in 2021. The objective is to have **35 GW of gross capacity in 2025** and 100 GW in 2030. The 2025 figure is based on **projects that have been identified or are in development**. TotalEnergies' goal is to increase electricity production from 21 TWh in 2021 to 120 TWh in 2030.

TotalEnergies' broad international footprint gives it a competitive advantage for identifying and developing profitable renewables projects. For that reason, TotalEnergies created a "Renewable Explorers" network in 2021 in some 60 host countries.

Since 2015, TotalEnergies has been building a portfolio of flexible power generation using combined-cycle gas turbine (CCGT) plants, with a capacity of 4 GW at year-end 2021. These plants complement the development of renewables by supporting the grid during periods of peak demand or when there is not enough sunshine or wind. Ultimately, the CCGT units are targeted for decarbonization, either by changing from gas to biomethane or hydrogen or by sequestering their emissions through carbon capture and storage (CCS).

Further accelerating our positions in photovoltaic solar energy in 2021

TotalEnergies' solar portfolio expanded rapidly in 2020 and again in 2021, notably in India and the United States. This growth will continue, as solar energy accounts for three-quarters of the 35 GW the Company wants to develop by 2025.

Continued scaling up in offshore wind in 2021

Offshore wind offers high utilization rates with significant development potential and better acceptability than onshore wind, notably in Europe. TotalEnergies sees strong growth potential in offshore wind energy, especially since it can leverage its teams' expertise in managing and operating offshore megaprojects.

The offshore wind projects portfolio's total capacity exceeds 10 GW, **of which two-thirds fixed-bottom and one-third floating**.

Launch in 2021 of several stationary electricity storage projects to support renewables

Electricity storage solutions are necessary to offset the intermittence of solar and wind projects, make the most of daily volatility in the electricity markets and ensure grid stability. In this segment, TotalEnergies benefits from the technological expertise of Saft, which also aims to make the most of this fast-growing market.

Natural Gas, Transition Fuel

For TotalEnergies, natural gas is a key transition energy. It plays a major role in power generation thanks to its flexibility and capacity for

responding to the strong growth in demand fueled by the electrification of uses. Natural gas releases half the greenhouse gas emissions of coal in power generation and, when used as a substitute, makes it possible to achieve substantial reductions as is already in the case in the United States and United Kingdom. Obviously, for gas to play this role, all the participants in the value chain – businesses and States – must pull together to fight methane emissions, as was underlined at the COP26 meeting in Glasgow with the commitment from 105 States to reduce methane emissions by 30% by 2030. TotalEnergies has committed to reducing methane emissions by 80% by 2030⁽³⁾.

Main strengths of gas

- Widely available resources, well redistributed worldwide thanks to LNG.
- A simple and immediate solution for decarbonizing electricity and industry, especially in high energy consuming sectors like steel and cement manufacturing.
- An ideal partner for renewables, which are intermittent and seasonable by nature.
- A core component of numerous coal-consuming countries' roadmaps for getting to net zero.
- A source for massively developing blue hydrogen with carbon capture and storage (CCS) technologies.

TotalEnergies' strategy

- Increase the share of natural gas in the sales mix to 50% by 2030.
- Strengthen the Company's position among the Top 3 in LNG.
- Cover the entire gas value chain, from production and trading to gas-fired power plants and retailing.
- Reduce the gas value chain's emissions and eliminate methane emissions.
- Work with local partners to promote the shift from coal to natural gas.

Ranking among the top three worldwide in low carbon LNG by 2030

Once liquefied, natural gas can be transported and delivered to places of use. Global demand for liquefied natural gas (LNG) has seen strong growth, rising by 9% a year between 2015 and 2021. With 42 Mt sold in 2021, TotalEnergies is the world's second largest non-state-owned LNG company. It aims to sell 50 Mt per year by 2025, i.e. to maintain a stable global market share of 10%. In 2021, 99% of the Company's LNG sales went to countries that have committed to carbon neutrality.

Reducing our LNG value chain's emissions intensity

This growth requires an exemplary strategy for greenhouse gas emissions. In reducing emissions across the LNG chain, the priority is on methane. The Company is also working on improving liquefaction plant performance, notably in the United States, Qatar and Russia, with energy efficiency projects, electrification using renewable solar and wind energy, and native carbon capture and storage. Lastly, TotalEnergies is renewing its fleet of LNG carriers with new vessels that emit on average 40% less CO₂ than older ships.

Petroleum products: adapting to demand

Demand for petroleum products is expected to stagnate and then decline between now and 2030 thanks to technological progress and evolving uses. By 2050, demand will have dropped significantly. Petroleum products will have to meet increasingly stringent requirements on limiting the emissions related to their extraction and use.

(1) Return on equity, including partial divestments.

(2) Adjusted EBITDA (Earnings Before Interest, Tax, Depreciation and Amortization) corresponds to the adjusted earnings before depreciation, depletion and impairment of tangible and intangible assets and mineral interests, income tax expense and cost of net debt, i.e., all operating income and contribution of equity affiliates to net income.

(3) Refer to "Eliminating our Methane emissions" later in this chapter.

TotalEnergies is reducing the share of petroleum products in its sales mix, from 65% in 2015 to 44% in 2021, with a targeted 30% in 2030. The objective is for the Company's petroleum product sales not to exceed its oil production, which itself will peak during the decade before declining, or around 1.4 Mb/d in 2030.

Investments remain necessary to satisfy demand, given the natural decline in field output. The Company gives priority to oil projects with low technical costs (typically below \$20/b) and a low breakeven point (typically below \$30/b). All new projects are assessed for their contribution to the average carbon intensity of their category in the Upstream portfolio. All approved projects must help to reduce this intensity. New hydrocarbon developments are limited to the least emitting fields. In 2021, for example, TotalEnergies decided to exit Venezuela, considering that production of the Orinoco Belt's heavy oils did not meet its greenhouse gas emissions objectives.

The Tilenga and EACOP projects in Uganda were approved with a low technical cost of \$11 per barrel and CO₂ emissions significantly below those of the current portfolio (13 kg CO₂ per barrel vs. 18 kg CO₂ per barrel).

Late 2021, the Company broadened its presence in Brazil's offshore Atapu and Sépia fields, which represent low-cost, low-emissions reserves.

In addition, TotalEnergies respects exclusion zones and good environmental practices. TotalEnergies will not explore for oil in the Arctic Sea ice and will not approve any capacity increases in Canada's oil sands.

In September 2021, TotalEnergies signed major multi-energy agreements in Iraq covering the construction of a new gas network and treatment units, the construction of a large-scale seawater treatment unit and the construction of a 1 GW photovoltaic power plant.

Promoting circular management of resources

TotalEnergies joined the Platform for Accelerating the Circular Economy (PACE) in 2022. This initiative launched by the World Economic Forum and now hosted by the World Resources Institute aims to speed the transition to a more circular economy. The Company pledges to double the circularity of its businesses within the next ten years. It contributes to the circular economy at different points in the value chain: through purchasing, sales and production, as well as through the management of its own waste.

Biofuels

Over their lifecycle, biofuels emit over 50% less CO₂e than their fossil equivalents (in accordance with European standards), making them a key element in the decarbonization of liquid fuels. TotalEnergies currently has a biofuel production capacity of 500 kt/year, primarily at the La Mède refinery in France. Its goal is to increase that to **2 Mt by 2025 and 5 Mt by 2030, sustainably produced**.

Today, more than 90% of the biofuels in the market are first generation, meaning they are made from virgin vegetable oils or sugar. TotalEnergies is investing in advanced biofuels projects based on animal fat or used oils, thereby limiting the competition for and impact on arable land. These advanced biofuels will add to the range of first-generation biofuels. Looking further out, the Company is investing in R&D into so-called second- and third-generation biofuels based on micro-algae, but they still raise numerous technological challenges.

TotalEnergies has converted its La Mède refinery in France into a world-class biorefinery to meet its ambition of being a biofuel market leader. The facility produces hydrotreated vegetable oil (HVO - a precursor for

renewable diesel and sustainable aviation fuel), bionaphtha (a precursor for renewable polymers) and bioLPG (renewable liquefied gas) for use in mobility or heating.

The agricultural feedstock used to make these products complies with sustainability and traceability requirements concerning carbon footprint, non-deforestation and land use. The Company has made a commitment to stop sourcing palm oil in 2023 and aims to increase the share of used cooking oil and animal fat in feedstock to 50% by 2025. TotalEnergies' future Grandpuits zero-crude complex will also produce biofuel.

Biogas

Biogas, produced from the anaerobic digestion of organic waste, is a renewable gas comprised primarily of methane. Compatible with existing transportation and storage infrastructure, it has a key role to play in decarbonizing gas products and reducing greenhouse gas emissions through the development of a circular economy. The Company aims to produce **2 TWh/year of biomethane starting in 2025 and more than 5 TWh/year by 2030 worldwide**.

In early 2021, TotalEnergies became a major player in biogas in France by acquiring Fonroche Biogaz, with 500 GWh/year of installed capacity. In late 2021, TotalEnergies and Clean Energy Fuel Corp.⁽¹⁾ broke ground for their first biomethane production unit in Frioña, Texas. The output will be used as an alternative fuel for mobility, thereby helping to decarbonize road transportation. The facility will use livestock manure to produce more than 40 GWh/year of biomethane; as a result, 45 kt CO₂e/year emissions will be avoided.

In early 2022, TotalEnergies and Veolia joined forces to produce biomethane from Veolia waste and water treatment facilities operating in more than 15 countries, with the goal of producing up to 1.5 TWh of biomethane a year by 2025.

Hydrogen

Hydrogen is an energy carrier between primary energy source and final application that does not generate any CO₂ during its lifecycle if it was produced in a decarbonized process. Growing generation of decarbonized electricity is creating opportunities to produce green hydrogen via electrolysis of water using decarbonized electricity. In addition, the development of carbon storage is paving the way for the development of blue hydrogen using natural gas.

The European Union's objectives - more than 40 GW of electrolyzers powered by renewable electricity to produce up to 10 Mt of renewable hydrogen a year by 2030⁽²⁾ - help accelerate decarbonized hydrogen projects, particularly for industries where decarbonization and/or electrification are difficult. TotalEnergies is working with its suppliers and partners to decarbonize all of the hydrogen used in its European refineries by 2030. This represents a reduction in CO₂ emissions of 3 Mt/year. Further out, the Company aims to pioneer mass production of clean and low carbon hydrogen to serve demand for hydrogen fuel as soon as the market takes off.

TotalEnergies, working with Engie, is developing the Masshylia green hydrogen project at the La Mède biorefinery. The project will be powered by solar and wind farms with an overall capacity of close to 300 MW. Its 125 MW electrolyzer will produce more than 10 kt/y of green hydrogen to meet the needs of the biorefinery and help reduce its emissions by 140 kt CO₂/year.

At the Zeeland refinery, the Company plans to capture carbon from the steam methane reforming unit (SMR) that produces hydrogen from natural gas. It is also developing a 150 MW electrolyzer intended to be linked to an offshore wind field. In all the Company has six projects in progress in Europe.

(1) TotalEnergies holds a capital share of 19.09% of Clean Energy Fuels Corp., U.S. Company listed on NASDAQ (as of 31 December 2021).

(2) Source: *A hydrogen strategy for a climate-neutral Europe*, European Commission, 2020

Synthetic or e-fuels

The production of synthetic fuels from renewable hydrogen and captured CO₂ is a promising avenue for decarbonizing transportation. The pace at which these e-fuels scale up will depend on the development of green hydrogen. Besides being low carbon themselves, they offer the advantage of recycling CO₂. E-fuels are one of the solutions for getting to net zero via carbon capture and utilization technologies.

TotalEnergies is staking out a position in this market, notably to help decarbonize the aviation industry with sustainable aviation fuel. In early 2022, TotalEnergies joined a Masdar and Siemens initiative in the United Arab Emirates to build a pilot unit for producing green hydrogen that will be used to convert CO₂ into sustainable aviation fuel.

Bioplastics and recycled plastics

The circular economy for plastics is based on three axes:

- Axis 1. **Mechanical recycling**, which is the most mature technology in the market. Mechanical recycling processes materials from selective sorting and collection centers and is suited to the needs of industries such as automobile manufacturing and construction. The Company's Synova subsidiary, with a production capacity of 45 kt at year-end

2021, is involved in this part of the value chain. It aims to produce 100 kt as from 2025.

- Axis 2. **Advanced recycling**, which can process waste that cannot be recycled mechanically and serve other markets, such as food-grade plastics. TotalEnergies currently produces polymers from advanced recycling at the Antwerp complex using TACoil produced by partner Plastic Energy, with which the Company has joined forces to build a production unit at Grandpuits. TotalEnergies is also partnering with Honeywell to promote advanced recycling of plastics in Europe and the United States.
- Axis 3. **Bioplastics**. The Company provides customers with biopolymers made from biofeedstocks based on vegetable oils or used cooking oils processed at the La Mède biorefinery (and Grandpuits tomorrow), as well as polylactic acid (PLA), a fully recyclable and compostable bioplastic based on starch or sugar produced by its joint venture with Corbion at the PLA plant in Rayong, Thailand and future unit at Grandpuits in France.

In 2021, the Company produced 60 kt of recycled and bioplastic. It aims to produce 30% recycled or biopolymers by 2030, or one million tons.

OUR CLIMATE AMBITION: NET ZERO EMISSIONS BY 2050, TOGETHER WITH SOCIETY

The world's energy mix needs to change if the objectives of the Paris Agreement are to be achieved. As a broad energy company, therefore, TotalEnergies has factored this development into its strategy and set itself the ambition of achieving carbon neutrality (net zero emissions) by 2050, together with society.

TotalEnergies promotes a policy of reducing GHG emissions based on the following principles in order of priority:

- avoid emissions;
- reduce them by using the best available technologies;
- offset the residual emissions thus minimized.

Our levers to achieve our ambition of net zero emissions:

To meet its ambition of carbon neutrality in 2050, TotalEnergies is transforming into a multi-energy company and deploying specific action plans to reduce its emissions and achieve its short and medium-term objectives. In particular, the Company is taking action to reduce emissions from its operated industrial facilities (Scope 1+2) by over 40% by 2030.

1) Reducing emissions by using the best available technologies

Our objectives

TotalEnergies' primary responsibility as an industrial operator is to reduce the emissions resulting from its operations.

In early 2019, TotalEnergies announced its aim to reduce emissions from its operated facilities to less than 40 million tons by 2025 and set itself the target of cutting Scope 1+2 net emissions (including carbon sinks) for its operated activities by at least 40% in 2030 relative to 2015.

These objectives for operated emissions include emissions related to the growth strategy in electricity deployed since 2015, which led to the development of a flexible power generation portfolio based on CCGT plants. These CCGT emissions, virtually nil in 2015, stood at 4 Mt in 2021 and could amount to more than 6 Mt in 2025.

The main driver for achieving these objectives is to develop emissions-reduction projects at the Company's industrial sites using best available technologies. This means improving energy efficiency, reducing flaring and methane emissions, supplying sites with renewable electricity and deploying carbon capture and storage for residual emissions. To achieve the net emissions objective, nature-based projects (NBS - Nature Based Solutions) will help offset a limited share (5 to 10 Mt CO₂e/year) of emissions by 2030.

Since late 2018, a dedicated team for reducing greenhouse gas emissions, known as the CO₂ Fighters, has been tracking GHG emissions across the Company. It's tasked with encouraging a low-carbon mindset within the Company, initiating energy efficiency projects, accelerating the electrification process at facilities and helping to introduce greener forms of energy consumption. The team has overseen more than 400 emissions reduction projects, most of which have cost less than \$10 per ton of CO₂. By 2025, 160 upstream projects and more than 200 downstream projects will yield reductions in Scope 1+2 emissions of 2.5 Mt CO₂ and 4.5 Mt CO₂ respectively.

A reduction target for 2030 in step with the 2030 objectives of Net Zero 2050 countries

TotalEnergies set its target of a **40% reduction in net emissions** (Scope 1+2) from its operated facilities between 2015 and 2030 with an eye to the European Union's objectives for 2030 and the objectives of countries with a net zero by 2050 pledge as part of the Paris Agreement.

To qualify the level of this ambition, the Company called on two independent third parties known for their expertise in energy and decarbonization to analyze the greenhouse gas emissions reduction objectives for 2030 of countries committed to net zero by 2050 as of COP26 in Glasgow: **Carbone 4**, a consultancy specialized in low-carbon strategy in France and the **Center on Global Energy Policy** at Columbia University in the United States.

These objectives, taken from each country's nationally determined contributions (NDCs), cover direct emissions on their territory, comparable to Scope 1 for businesses.

Carbone 4 makes a distinction between 2 scopes:

- Countries that explicitly mention their net zero by 2050 ambition in their NDC, having set a 2030 target consistent with that ambition.
- All countries that have publicly announced their net zero by 2050 ambition, notably at COP26, including those that have not updated their NDC since then.

The more restricted scope includes the 35 most ambitious countries⁽¹⁾, which have committed to reducing the net emissions⁽²⁾ by **39 to 40%** between 2015 and 2030. The broader scope includes 43 countries⁽³⁾

committed to a **28 to 31%** reduction over the same period.

In its study⁽⁴⁾, Columbia University's Center on Global Energy Policy puts the reduction commitment for all countries with a net zero by 2050 pledge at **27% between 2015 and 2030**.

The European Union's "Fit for 55" objective of a 55% decrease between 1990 and 2030 corresponds to a **37% decrease between 2015 and 2030**⁽⁵⁾.

The IEA's NZE scenario

In its 1.5 °C scenario, the IEA is aiming for carbon neutrality by 2050, which requires a **39% reduction in net emissions from energy** between 2015 and 2030 (from 34 to 21 billion tons of CO₂e).

Our progress in 2021

Scope 1+2 emissions decreased from 41.5 Mt in 2020 to **37.0 Mt** (excluding COVID-19 effect) in 2021 thanks to 120 emissions-reduction initiatives carried out across the Company and portfolio management aligned with our strategy (divestment of the Lindsey refinery in the United Kingdom and the halt of Grandpuits in France).

These data include the commissioning of two combined cycle gas turbine plants.

Improving the efficiency of the Company's facilities

A portion of the direct emissions from the Company's facilities corresponds to energy losses through flaring, venting⁽⁶⁾, etc. or fugitive emissions. This part is a minority (about 15%) but should be reduced as a priority. The second, more important part (about 85%) corresponds to energy use, either by combustion, for example to generate electricity, or within industrial processes, and is the subject of the Company's energy efficiency improvement projects.

• Reducing flaring

Restricting routine flaring is a priority for reducing GHG emissions. Since 2000, TotalEnergies has made a commitment to discontinue routine flaring on its new projects. As a founding member of the World Bank's "Zero Routine Flaring by 2030" initiative since 2014, the Company has pledged to end the practice altogether by 2030. Routine flaring has been reduced by 90% since 2010, and the Company has set a new target to bring the level below 0.1 million cubic meters per day as from 2025.

Occasional, or non-routine, flaring connected with operational issues or the start-up of facilities has also been addressed with action plans, as has safety flaring, which is used to protect facilities. In Argentina and Bolivia, for example, the Company has reduced safety flaring by half, thanks to continuous monitoring of gas flows and optimized flaring parameters.

• Using less energy

Improving energy efficiency means reducing the quantity of energy used to produce a given amount of energy, so emissions are reduced as well.

Exploration & Production is enhancing energy efficiency through projects to reduce the quantity of gas its facilities use to produce the energy they need.

Refining & Chemicals, for which energy consumption is a key factor in production costs, is continuing its efforts of recent years to improve energy efficiency as part of an investment plan totaling \$450 million over the period 2018-2025.

Improving energy efficiency also entails finding new ways to use waste heat from units. Several refineries, including Leuna in Germany, have mapped and quantified their sources of waste heat. Research is underway to see how heat from nearby industrial and municipal ecosystems can be put to use.

The Company has made a firm commitment to embracing digital technology at its sites as a driver in improving energy performance. As of the end of 2021, 26 out of the 46 operated sites using more than 50,000 toe/year were equipped with an auditable energy management system using for instance ISO 50001 certification for their energy management system⁽⁷⁾.

• Decarbonizing electricity purchases (Scope 2)

In 2020, with its "Go-Green" project, TotalEnergies decided to aim for net zero emissions for all electricity purchases at its operated sites in Europe by 2025. All electricity needs at the Company's industrial and commercial sites, as well as its offices, will be met by renewable power obtained through the Company's regional generation capacity in Europe; a similar strategy has been adopted in the United States. Taken together, this will represent around 7 TWh/year.

- In Europe, electricity will be provided by solar farms acquired in Spain in 2020, offering capacity of 5 GW and production of 10 TWh/year by 2025. 6 TWh/year will be routed to European sites under a PPA⁽⁸⁾. The Electricity Trading teams will manage the contract with Refining & Chemicals and excess production will be sold to third parties.
- For the United States, in 2021 the Company acquired a portfolio of 2.2 GW in solar projects and 0.6 GW in battery storage projects to cover 100% of electricity needs at operated industrial sites, including the Port Arthur refining and petrochemical complex and the La Porte and Carville petrochemical sites.

As a result, the Company is on track to reduce Scope 2 emissions across its operated scope by more than 2 Mt CO₂/year as of 2025.

(1) EU-27, United States, Japan, Canada, Australia, United Kingdom, South Korea, Argentina and South Africa.

(2) Including sequestration capacity of forests.

(3) Restricted scope + Brazil, Colombia, Israel, United Arab Emirates, Peru, Thailand, Malaysia and Vietnam.

(4) "Tallying updated NDCs to gauge emissions reductions in 2030 and progress toward Net Zero" published on March 2, 2022

(5) EU-27. Adding in Norway, the United Kingdom and Switzerland, the reduction ambition is 39% between 2015 and 2030.

(6) Venting: emissions associated with the venting of gases, on an occasional or continuous basis, at certain facilities, such as water treatment, hydrocarbon loading and unloading, glycol dehydrators and pneumatic devices fueled by natural gas.

(7) The ISO 50001 standard accompanies the implementation in companies of an energy management system that allows a better use of energy.

(8) Power Purchasing Agreement.

Tend towards zero methane emissions

Methane is a greenhouse gas with a global warming potential 25 times higher than that of CO₂ over 100 years. In 2021, the IPCC assessed methane's contribution to current warming at 0.5 °C since pre-industrial times. COP26 highlighted the major role that methane emissions reduction must play in limiting global warming, both in its final conclusion (the Glasgow Climate Pact) and through the Global Methane Pledge, a commitment by 105 countries, led by the United States and the European Union⁽¹⁾, to reduce their methane emissions by 30% from 2020 levels by 2030.

- **New objectives**

The Company has been working on reducing its methane emissions for several years. It halved its operated methane emissions between 2010 and 2020. In line with the Glasgow agreements, the Company is setting new targets for the decade to come: reductions from 2020 levels of **50% by 2025 and 80% by 2030**.

The Company is also maintaining its target of keeping methane intensity⁽²⁾ below 0.1% across its operated gas facilities.

Achieving those objectives requires improved measuring capability and redoubled efforts on emissions sources.

- **Measuring methane emissions more accurately**

Methane emissions have numerous and dispersed sources. TotalEnergies is a pioneer in detecting and quantifying emissions across the entire value chain.

The Company operates a site for testing methane emissions measurement technology. Known as the TADI complex⁽³⁾, it is unparalleled in Europe; only one comparable site exists worldwide, in the United States⁽⁴⁾.

In addition, TotalEnergies is speeding up deployment of its drone-mounted methane detection technology, AUSEA⁽⁵⁾, at all of its operated sites starting in 2022.

The Company is also enhancing its reporting as part of OGMP 2.0, the second phase of the United Nations Development Programme's Oil & Gas Methane Partnership. OGMP 2.0 outlines a reporting framework that encompasses the entire gas value chain and non-operated scope, including a breakdown of emissions by source, information on inventory methodologies and the use of airborne measurement campaigns.

In late 2021, TotalEnergies was awarded Gold Standard⁽⁶⁾ status by the OGMP. It will implement the necessary continuous improvement measures to maintain this level for methane emissions measurement and reporting.

- **Abating emissions at each source**

Methane emissions are primarily attributable to venting (more than half the total) and flaring⁽⁷⁾ (a quarter of the total); the rest are fugitive emissions (i.e., leaks at valves, flanges and couplings) or the product of incomplete gas combustion at our facilities (turbines, furnaces, boilers, etc.).

In order to tend towards zero methane emissions, stronger action will be taken on each of these emission sources:

- Reductions in venting: projects to reroute vents to the gas export system or the flare and to reduce instrument gas on producing assets. In 2021, the decline from the year before linked to reductions in venting came to 6 kt per year (projects in Gabon and the United Kingdom).
- Reductions in flaring: In 2021, the decrease in flaring from 2020 reduced emissions by 1.8 kt/year.

- Leak reduction: annual campaigns to identify and repair leaks at all operated sites will be deployed starting in 2022. In 2021, emissions declined by 4 kt as a result of leak reduction efforts, including a significant upgrade to the OML 58 facility in Nigeria.

Moreover, all new projects include strict design criteria for preventing methane emissions: no instrument gas, no continuous cold venting and the systematic use of closed flares. All of these practices have been implemented at the CLOV site in Angola, Moho-Nord in the Republic of the Congo and Egina in Nigeria.

Capturing and storing carbon at our facilities

Reducing emissions at the facilities also means developing industrial processes for carbon capture, transport and storage (CCS⁽⁸⁾), a field in which TotalEnergies yields critical expertise in large-scale project management, gas treatment and geoscience.

The Company has been contributing to the development of CCS solutions in the Norwegian Sea since 1996 to reduce emissions from the Sleipner⁽⁹⁾ and Snøhvit natural gas fields. The CO₂ associated with that natural gas, known as native CO₂, is isolated and injected into the subsurface. From 2010 to 2013, TotalEnergies developed a pilot project in Lacq, France, involving a complete CCS chain, in which carbon from a steam generator was captured using oxy-combustion technology (a European first) and then transported and stored in an depleted reservoir.

This experience in CCS opens the door to large-scale projects for reducing carbon emissions resulting from hydrogen production at the Company's refineries in Europe. Current CO₂ storage projects are located in the North Sea to take advantage of its significant potential, particularly in depleted fields operated by TotalEnergies. Moreover, the regulatory environment within the E.U. is favorable to such projects. Not only will they provide a way to reduce the Company's own emissions, but thanks to additional capacity, it can also offer CO₂ emissions storage to its customers to reduce their Scope 1 and the Scope 3 emissions of the Company.

The 2021 budget for the entire CCS system was \$100 million and TotalEnergies is now aiming to expanding storage capacity of about **10 Mt CO₂/year by 2030**.

- In Norway, the Company, together with Equinor and Shell, launched Northern Lights, the first large-scale carbon transport and storage project. Approved by the Norwegian government in 2020, the project is currently in the construction phase. It will allow industrial emitters in Norway and elsewhere in Europe to store their emissions.
- In the Netherlands, TotalEnergies and its partners are studying the Aramis project designed to develop a logistics chain and hub in the port of Rotterdam to transport CO₂ to depleted offshore fields, some of which are operated by TotalEnergies.
- In the United Kingdom, the Company is working with its partners on the Northern Endurance Partnership transport and storage project, which aims to decarbonize the Teesside and Humberside industrial regions.

Offsetting residual emissions with natural carbon sinks

In addition to taking action to prevent and reduce greenhouse gas emissions, it will be necessary to offset residual carbon emissions if TotalEnergies is to achieve net zero emissions together with society. For that reason, it is investing in natural carbon sinks, such as forests, regenerative agriculture and wetlands.

(1) These 105 countries represent 70% of the global economy and account for nearly half of the planet's anthropogenic methane emissions.

(2) The intensity of methane emissions in relation to the commercial gas produced, expressed in a volume/volume ratio.

(3) TotalEnergies Anomaly Detection Initiative.

(4) METEC, Colorado State University.

(5) Airborne Ultra-light Spectrometer for Environmental Applications.

(6) International Methane Emissions Observatory (IMEO) report under OGMP2.0

(7) Emissions associated with incomplete gas combustion, based on a standardized estimate of 2% of volumes flared.

(8) Carbon capture and storage.

(9) TotalEnergies sold its interest in this field in 2016.

The model for managing areas must be integrated and shared with the local population. Within this framework, operations may comprise a variety of techniques (conservation, afforestation-forestation, agroforestry, agricultural transition, blue carbon, etc.) and appropriate types of contracts (purchase contract, sustainable financing mechanism, impact funds, financed project, etc.). The goal is to combine and balance the value of agricultural and forestry revenues with the value of co-benefits for the population, soil, biodiversity, and the water cycle and that of carbon credits. When this is done, the local standard of living improves and the causes of degradation and deforestation, which are major sources of greenhouse gas emissions, recede. The Company works with experienced partners to manage the long-term approach required and the risks involved in these complex projects. The projects are certified in accordance with the highest standards, including Vera VCS and CCB.

Backed by an average annual budget of \$100 million between 2020 and 2030, TotalEnergies aims to build up a stock of 100 million credits⁽¹⁾ and develop the annual capacity to produce at least five million credits a year

as from 2030. The Company does not intend to trade these carbon credits but rather to gradually use its stock and annual production to neutralize its residual Scope 1+2 emissions as from 2030. As of end-2021, TotalEnergies' stock stood a little under 7 million certified credits. The cumulative budget for all of the signed operations amounts to nearly \$350 million over their lifetime, for an anticipated aggregate volume of credits of 23 million in 2030 and 31 million in 2050.

2) Progress in 2021

The credibility of the Company's ambition for 2050 hinges on its ability to show the progress it has made so far, and it is firmly committed to doing that by publishing its 2021 results in meeting its targets online, often in advance:

- Emissions from operated facilities have declined by **approximately 20% since 2015**. This includes 4 Mt of emissions from CCGT power plants following on the implementation of the Company's new strategy in electricity to have flexible generation capacity ; the decline for operated oil & gas activities thus actually came to 30%.

OBJECTIVES AND INDICATORS RELATED TO CLIMATE CHANGE

TotalEnergies has set targets and introduced a number of indicators to steer its performance.

The Company's climate targets include among others the following:

2030 targets for operated facilities worldwide (Scope 1+2)

- Reduce GHG emissions (**Scope 1+2**) on operated facilities from 46 Mt CO₂e in 2015 to less than 40 Mt CO₂e by 2025. By 2030, the target is a reduction of at least 40% of net emissions⁽²⁾ compared to 2015 for its operated activities, thus bringing them to between 25 Mt and 30 Mt CO₂e
- Improve the **energy efficiency** of operated facilities by 1% per year from 2010
- Reduce **methane emissions** of operated facilities by 50% between 2020 and 2025, and by 80% between 2020 and 2030
- Maintain **methane emissions intensity** below 0.1% of commercial gas produced at operated gas facilities
- Reduce **routine flaring**⁽⁴⁾ to less than 0.1 Mm³/d by 2025, with the goal of eliminating it by 2030

In facts

- A reduction in GHG emissions (Scope 1+2) of operated facilities from 46 Mt CO₂e to **37.0 Mt CO₂e** excluding the effect of COVID-19⁽³⁾ between 2015 and 2021
- 13% improvement in energy efficiency between 2010 and 2021
- Methane emissions already reduced by **50%** between 2010 and 2020 and by 23% between 2020 and 2021
- Methane intensity of Upstream hydrocarbon activities of less than **0.1%** for operated gas facilities
- More than **90%** reduction in routine flaring between 2010 and 2021

(1) One credit corresponds to one ton of sequestered CO₂.

(2) The calculation of net emissions takes into account negative emissions from natural sinks like forests, regenerative agriculture and wetlands.

(3) Refer to point 5.11 of chapter 5 for the assessment of the COVID-19 effect.

(4) Routine flaring, as defined by the working group of the Global Gas Flaring Reduction program within the framework of the World Bank's Zero Routine Flaring initiative.

It should be noted that the decrease in the Company's GHG emissions in 2020, and to a lesser extent in 2021, is partly related to the impact of the COVID-19 pandemic on TotalEnergies's activities, hence the reference to estimates excluding the COVID-19 effect.

Indicators related to climate change⁽¹⁾

GHG emissions	Mt CO ₂ e	Operated emissions				
		2021	2020	2019	2015	
SCOPE 1						
Direct GHG emissions						
BREAKDOWN BY SEGMENT						
Upstream oil & gas activities	Mt CO ₂ e	14	16	18	19	
Integrated Gas, Renewables & Power, excluding upstream gas operations	Mt CO ₂ e	5	3	3	—	
Refining & Chemicals	Mt CO ₂ e	15* (14)	17	20	22	
Marketing & Services	Mt CO ₂ e	<1	<1	<1	<1	
BREAKDOWN BY GEOGRAPHY						
Europe: EU 27 + Norway + UK + Switzerland	Mt CO ₂ e	20* (19)	22* (21)	24	22	
Eurasia (incl. Russia) / Oceania	Mt CO ₂ e	1	1	1	5	
Africa	Mt CO ₂ e	9	10	11	12	
Americas	Mt CO ₂ e	5	4	4	4	
BREAKDOWN BY TYPE OF GAS						
CO ₂	Mt CO ₂ e	32	34	39	39	
CH ₄	Mt CO ₂ e	1	2	2	2	
N ₂ O	Mt CO ₂ e	<1	<1	<1	<1	
SCOPE 2						
Indirect emissions from energy use						
Of which Europe: EU 27+ Norway + UK + Switzerland	Mt CO ₂ e	1* (1)	2* (2)	2	2	
SCOPE 1+2	Mt CO ₂ e	37* (35.7)	41* (38)	44	46	
Intensity of GHG emissions (Scope 1+2) of Upstream oil & gas activities ^(a)	kg CO ₂ e/boe	17	18	19	21	

Methane emissions	kt CH ₄	Operated emissions				
		2021	2020	2019	2015	
Methane emissions						
BREAKDOWN BY SEGMENT						
Upstream oil & gas activities	kt CH ₄	48	62	66	92	
Integrated Gas, Renewables & Power, excluding upstream gas operations	kt CH ₄	<1	<1	<1	0	
Refining & Chemicals	kt CH ₄	1	1	1	1	
Marketing & Services	kt CH ₄	0	0	0	0	
BREAKDOWN BY GEOGRAPHY						
Europe: EU 27 + Norway + UK + Switzerland	kt CH ₄	7	12	15	9	
Eurasia (incl. Russia) / Oceania	kt CH ₄	1	3	3	33	
Africa	kt CH ₄	23	31	39	49	
Americas	kt CH ₄	18	18	10	3	
Intensity of methane emissions from operated oil & gas facilities (Upstream)	%	0.13	0.15	0.16	0.23	
Intensity of methane emissions from operated gas facilities	%	<0.1	<0.1	<0.1	<0.1	

(1) Refer to point 5.11 of chapter 5 for the reporting perimeter.

Other indicators		Operated emissions			
		2021	2020	2019	2015
Net primary energy consumption (operated scope)	TWh	148	147	160	153
Global energy efficiency indicator (GEEI)	Base 100 in 2010	87.0	90.2	88.0	90.8
Flared gas (Upstream oil & gas activities operated scope) (including safety flaring, routine flaring and non-routine flaring)	Mm ³ /d	3.6	4.2	5.7	7.2
Of which routine flaring	Mm ³ /d	0.7	0.6	0.9	2.3 ^(b)

* Valuation of these indicators excluding the COVID-19 effect.

(a) This indicator doesn't include integrated LNG assets in its perimeter.

(b) Volumes estimated upon historical data.

3.6.8.5 SUPPLIERS

SUPPLIER ASSESSMENT

The supplier qualification process

The IT Supplier qualification tool developed in 2019, gradually rolled out, is designed to automate and document the supplier qualification process. More than 15,000 Suppliers have been integrated in this qualification

tool, representing about 15% of the Company's suppliers base and almost 25% of the Suppliers with a spend over 50k\$. Deployment slowed during the COVID-19 pandemic in 2020 and 2021, and is resuming in 2022.

The Supplier assessment process

Since 2016, the Company has conducted audits on working conditions among suppliers. A targeted audit plan is defined each year and includes at-risk Suppliers. In 2021, 83 audits were conducted in the context of the COVID-19 pandemic, below the annual objective of 100 audits. Action plans are developed to remedy the non-conformities identified during these audits. In 2021, these audits covered more than 25,000 suppliers' workers.

In addition, the Company plans to implement and pilot innovative systems such as "workers' voice surveys" to gather live feedback from workers on their working conditions in major operated projects, including EACOP and Tilenga in Tanzania and Uganda.

A dedicated committee monitoring human rights audits of suppliers was also created in 2021 and meets every two months with the participation of the Company's human rights teams, members of the TotalEnergies Global Procurement Management Committee and the sustainable Procurement Department.

For example, TotalEnergies launched an industry initiative in 2018 with BP, Equinor and Shell to implement a platform allowing to mutualize suppliers' human rights audits. These founding members were joined by new members such as Wintershall, AkerBP, ConocoPhilips and Var Energy. The platform, which has been operational since 2020, should be extended to other interested corporations in the sector. The objective of this initiative is to promote better practices regarding respect for human rights at work in the industry, while trying to reduce the suppliers' "audit fatigue". In 2021, nearly 150 assessments were conducted through this platform.

The Company plans to audit 100% of priority suppliers in terms of human rights (800 suppliers) via on-site and documentary audits by 2024.

platform for establishing and collaborating on a sustainable battery value chain.

Specific initiatives are in place for certain categories of procurement.

Thus, projects aimed at improving the transparency of the Company's supply chain, including traceability audits of the photovoltaic panel supply chain, were initiated in 2021 and will continue in 2022.

Finally, pursuant to Rule 13p-1 of the U.S. Securities Exchange Act of 1934, as amended, which implemented certain provisions of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, since 2014, TotalEnergies has filed with the United States Securities and Exchange Commission (SEC) an annual document relating to "conflict minerals"⁽¹⁾ sourced from the Democratic Republic of the Congo or neighboring countries. The document indicates whether, during the preceding calendar year, any such minerals were necessary to the functionality or production of a product manufactured by TotalEnergies SE or one of its consolidated entities (or contracted to be manufactured). The purpose of this regulation is to prevent the direct or indirect funding of armed groups in central Africa. For more information, please refer to TotalEnergies' most recent publication, available on the TotalEnergies website or sec.gov.

Similarly, in 2021, in addition to its annual campaign to collect data from its suppliers about conflict minerals, Saft Groupe (Saft) launched a new campaign to obtain information from its suppliers about their cobalt supplies and compiled a new Cobalt Reporting Template (CRT) for Saft's specific activity in 2020 based on the Reporting Templates provided by the Responsible Minerals Initiative® (RMI®). This tool enables the transfer of information via the supply chain about foundries/refineries and helps to determine the cobalt's country of origin. As part of a progress-led approach, Saft Groupe is also a member of the Global Battery Alliance (GBA), within the World Economic Forum (WEF), a global

(1) Rule 13p-1 defines "conflict minerals" (irrespective of their geographical origin) as: columbite-tantalite (coltan), cassiterite, gold and wolframite as well as their derivatives, which are limited to tantalum, tin and tungsten.

MITIGATION AND PREVENTIVE ACTIONS

In 2020, TotalEnergies updated its Fundamental Principles of Purchasing that Suppliers are required to comply with. The purpose of this update is to align the principles with the latest version of the Code of Conduct and provide more detail about the necessity of upholding human rights. It is specified in particular that Suppliers must ensure that their own suppliers and subcontractors respect applicable laws, as well as principles equivalent to those set out in the Universal Declaration of Human Rights, the Fundamental Conventions of the International Labor Organization (ILO), the United Nations Guiding Principles on Business and Human Rights, the United Nations Global Compact, Voluntary Principles on Security and Human Rights and the OECD Guidelines for Multinational Enterprises. Clarification was provided about the details of effective

Training of buyers

TotalEnergies has set up a number of channels of communication to raise employees' awareness of risks and concerns relating to its supply chain. Training modules explaining the Company's ethical commitments and the Fundamental Principles of Purchasing have been developed for and made available to buyers of the Company. All new employees of TotalEnergies Global Procurement receive training which includes a section on sustainable procurement, presenting the Fundamental Principles of Purchasing and the sustainable procurement roadmap. Awareness-raising sessions are held regularly on specific topics. For example, in 2021, 91% of TotalEnergies Global Procurement buyers completed the online human rights module. Finally, sustainable

Awareness-raising and training of suppliers

Awareness-raising activities are carried out during meetings with suppliers, in particular during the *Suppliers Day*, which is held every two years and brings together the Company's strategic Suppliers and provides an opportunity for communicating with participants on the Fundamental Principles of Purchasing. Given the health context of the last two years, it was not possible to hold this event. However in 2021 TotalEnergies' International Procurement Office (IPO) in Shanghai,

Progress with other companies

Since 2018 TotalEnergies has been a member of the Action Platform on Decent Work in Global Supply Chains organized by the United Nations Global Compact, and in that capacity it takes part in various workshops that aim to help the Global Compact member companies make progress in that area. In December 2018, the Company committed to pursuing its efforts with regard to decent work and respect for human rights in its supply chain by signing six commitments contained in the United Nations

policies and procedures to be implemented by Suppliers, such as: the prohibition and prevention of child labor, prohibition and prevention of forced labor, working conditions, remuneration and compensation; protection of health and safety; prohibition and prevention of any discrimination and harassment in the workplace; freedom of speech, association and collective bargaining, freedom of thought, conscience and religion and grievances. Following this update, in 2021, an awareness campaign was conducted among the Company's buyers and purchasing lawyers to remind them of good practices. In addition, and in order to help Suppliers implement these Principles correctly, a Practical Guide on Human Rights at Work was prepared in 2021 for distribution to Suppliers in 2022.

procurement and sustainable development aspects are now systematically integrated into all purchasing events, such as the International Procurement Day in June 2021, which brought together 452 participants (buyers and procurement support functions) with a session dedicated to sustainable procurement as well as two spotlight sessions, on human rights and the climate.

A set of communication tools intended to help procurement representatives initiate discussions on the Fundamental Principles of Purchasing is also circulated within TotalEnergies Global Procurement. The materials used in the annual performance review include a section on human rights.

China, was able to organize two supplier days, attended by some 260 people, during which human rights, the environment and safety were discussed. The subsidiaries also organize events on these subjects, such as the supplier forum held by the Exploration-Production subsidiary in Mozambique, which brought together 107 suppliers and focused on respect for human rights in the workplace.

Global Compact. The Company's buyers also take part in international working groups on responsible procurement. TotalEnergies is also a member of the IPIECA Supply Chain Working Group. As an extension of the workshops held since 2015, TotalEnergies continued to take part in the *Operationalization of the U.N Guiding Principles* work organized by the IPIECA, aimed at both oil and gas companies and engineering, procurement and construction (EPC) contractors.

available to all Company employees. In parallel with this, an email address (mediation.fournisseurs@totalenergies.com) is available on the TotalEnergies website to enable the Company's suppliers to contact the dedicated internal mediator. Its mission is to facilitate relations between the Company and its French and international suppliers. The general purchasing terms and conditions also mention the possibility of recourse to mediation.

chain. The objectives of the roadmap were reviewed by the Executive Committee and its implementation is monitored by the Responsible Purchasing Committee, which brings together the Management Committee of TotalEnergies Global Procurement and, in particular, representatives of the Human Rights department and the HSE division.

MONITORING PROCEDURES

The Responsible Purchasing department, created in 2020, within TotalEnergies Global Procurement (whose functions were previously performed by the Supplier Relations department), further developed the Responsible Purchasing roadmap in 2021, particularly with regard to respect for human rights, health, safety and the environment in the supply