

Corporate Social Responsibility in the Algerian Petroleum Industry: Case Study SONATRACH

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Abstract

The study highlighted the key dimensions of social responsibility adopted by SONATRACH as one of the leading companies in the Algerian petroleum industry. It is characterized by economic and environmental responsibility through building a crisis and emergency management system, reducing greenhouse gas emissions, reducing gas flaring to less than 19%, and decreasing the number of fuel leaks by 21%. In terms of cooperative social responsibility towards the external environment, SONATRACH has contributed in various areas: in the health sector, by providing donations in the form of financial assistance and medical equipment to health institutions; in the sports sector by sponsoring sports clubs; and in the educational sector, by rehabilitating primary schools and installing solar panels. Additionally, SONATRACH has financed significant projects in remote areas and connected neighborhoods to electricity.

Keywords: Social Responsibility, Petroleum Industry, Public Economic Enterprise, SONATRACH.

JEL classification codes: Q01, Q56, L71, M14.



المسؤولية الاجتماعية للشركات في الصناعة البترولية الجزائرية- دراسة حالة

سوناطراك

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Introduction:

In light of the emergence of social, economic, and environmental issues worldwide, many of which were exacerbated by the activities of international organizations, these institutions have faced significant challenges in fulfilling their obligations and responsibilities and in rectifying their irresponsible practices. This context gave rise to the concept of social responsibility. Consequently, many organizations began to shift their policies toward society and the environment in an effort to improve their public image.

Recently, numerous studies have examined corporate social responsibility (CSR) from an economic perspective, greatly enriching this concept and embedding CSR as a culture and commitment towards society. Therefore, it is essential for organizations to integrate social responsibility as a crucial element of their strategies. CSR now aims to enhance the lives of individuals and communities by contributing to the resolution of specific issues. The evaluation of an economic enterprise is no longer based solely on profits, nor does its reputation rely only on financial standings. Thus, organizations must adopt modern concepts that foster a dynamic work environment capable of adapting to rapid developments in economic, technological, and administrative aspects. Among the most prominent of these concepts is social responsibility.

Study problem:

In light of the presented information, the study revolves around a fundamental problem which can be formulated as follows:

What is the reality and future of social responsibility in the Algerian petroleum industry, specifically through a case study of SONATRACH?

To address and analyze the studied problem, we can pose a set of questions:

Sub-questions:

- What is meant by social responsibility in petroleum economic companies?
- What are the mechanisms of social responsibility in the Algerian petroleum industry?
- What is the reality and future of social responsibility in SONATRACH?

Study hypothesis:

To answer these posed questions, we present the following hypotheses:

- The importance of social responsibility in petroleum economic institutions falls within the annual executive strategy.
- Social responsibility is practiced as a tool reflecting the degree of SONATRACH's citizenship.
- Social responsibility is considered as a strategic commitment towards both the internal and external environment.

Study objectives:

- The scientific desire to understand the key dimensions of social responsibility in the Algerian petroleum industry.
- Understanding the reality of social responsibility and the goals it achieves in the professional and social context.
- Highlighting the importance of social responsibility in the Algerian petroleum industry.
- Clarifying the key dimensions of social responsibility performed by SONATRACH towards the environment in which it operates.

Research Methodology:

To achieve the study's objectives and answer the posed questions, we will rely on the descriptive-analytical method. This method is suitable for the nature and objectives of the research by providing an in-depth description of the research topic, analyzing its data, and giving a clear picture through an analytical presentation of various figures. The tools used in the research include numerous books and references in both Arabic and foreign languages related to the topic, along with statistics pertaining to the fieldwork. Additionally, reliance was placed on annual reports issued by SONATRACH.

Study Limitations:

Temporal Limitations:

The temporal boundaries of this study cover the period from 2020 to 2022.

Spatial Limitations:

The empirical study was conducted on one of the most prominent Algerian public institutions in the petroleum industry, SONATRACH.

Literary review:

Our research is based on the findings and conclusions of previous scientific studies that addressed the research problem. The studies selected are related to the topic of this study. Below is a summary of each study:

Study by (Al-Juwarin, 2018)

The research aims to clarify the effect of social responsibility on sustainable development in Basra province. Due to the oil licensing rounds conducted by the central government, some foreign oil companies have shown interest in the province, yielding both positive and negative outcomes. The study found a clear economic impact through the development of oil fields in Basra, but no positive environmental effect was observed. Instead, there was an increase in destructive environmental effects due to the exploitation of major roads for transporting oil materials and equipment necessary for field development without any developmental work on this infrastructure, except for sporadic projects. Routine administrative procedures between government entities, the provincial council, and local committees have significantly hindered the completion of these projects. It's not surprising that these projects have entered political and electoral bidding.

Study by (Hebri, 2014-2015)

The study illustrates the nature of the exchange between the economic institution and various internal and external stakeholders to maintain general activity balances towards society, the environment, and general economic sustainability requirements. The study confirmed a significant correlation between the application of social responsibility practices and the overall efficiency of the institution, provided that there is positive engagement with stakeholders as per global standardization criteria. The dynamic and consistent approach of SONATRACH, which includes new additions and investments each year, has contributed to the development of health, safety, and environmental security. This includes applications of social responsibility, focusing on reducing disaster curves and accidents affecting work sites and employees. The recent period has seen a decline in injury severity and accident frequency due to the implementation of the health, safety, and environment (HSE) system, reinforcing the

overall policy towards stakeholders and strengthening leadership based on sustainable development considerations.

Study by (Mujahid Said Ahmed, 2021)

This research paper seeks to illuminate corporate social responsibility (CSR) due to its significant importance. CSR is considered one of the prominent features serving the societal context of entities and organizations and is a self-regulation mechanism ensuring adherence to laws and international ethical standards. The Saudi Electricity Company has managed to enter into strong competition with many well-known companies through its efforts and ambitious programs, winning with merit and establishing a new customer service system in a short period. This has helped enhance the dependability of the electrical system in Saudi Arabia.

Study by (Qadri, 2015)

This study focuses on social and environmental responsibility, its importance, and its impact on society. It examines the contribution of Arab oil companies, represented by SONATRACH and Qatar Gas, to their countries through developmental, charitable, social, and environmental programs that help achieve local development. Using various data, official reports, and statistics, the study concluded that both companies support various social, educational, cultural, and sports activities to varying degrees. The companies also focus on developing competencies through scheduled training programs, setting an annual budget for this purpose, and establishing training institutes and centers. They provide social protection, have a code of conduct, create a suitable work environment, and have established health, safety, and environment (HSE) functions to ensure the well-being of workers and environmental protection. They also sponsor many cultural, sports, educational events, and charitable initiatives.

Study by (Droubal, 2018-2019)

This study aimed to clarify the various motivations for Algerian economic institutions' commitment to social responsibility using a sample of 52 Algerian economic institutions during the period 2017-2018. The study employed a descriptive-analytical method appropriate to its purposes, using a questionnaire as the main data collection tool. SPSS was used

for data analysis and hypothesis testing. Social responsibility was identified through five main dimensions: local community involvement, environmental preservation, employee care, protecting owners and/or shareholders, and social behavior with customers. The study examined personal motivations related to managers' behavior, internal motivations from organizational behavior, and external motivations from the institution's interaction with its external environment. The study concluded that managers have a high level of understanding of the concept of social responsibility and have built a general model concluding the different motivations encouraging Algerian economic institutions to adopt social responsibility.

1- Theoretical and Conceptual Framework of Social Responsibility:

1-1 Concept of Social Responsibility:

There are many definitions of Corporate Social Responsibility (CSR), particularly those developed from an international perspective, the following lists some of the most prominent definitions recognized in academic literature:

In 1971, the **Committee for Economic Development of the United States** defined CSR as “a business function to serve constructively the needs of society”. (Tran, Nguyen, & Luu, 2020, p. 329)

The year 2001, in the green book of the European Commission, to promote a European framework for CSR, they define it as a set of voluntary approaches that apply beyond what is expected by law, and that is likely to confer a strategic interest for companies. (Marie-Hélène & Cécile, 2014, p. 80)

In 2003, **CSR Europe** issued a statement stating, “Corporate Social responsibility is the way in which a company manages and improves its social and environmental impact to generate value for both its shareholders and its stakeholders by innovating its strategy, organization and operations”. (Mohammed, 2020, p. 40)

Also, in 2003 The **World Business Council for Sustainable Development (WBCSD)** describes CSR as; the continual commitment of business to act ethically and contribute at large to achieve economic

development while improving the quality of life for the employees, their families, and the society. (Hussein Abdel-Muttalib Al-Asraj, 2018, p. 20). This encompasses aspects such as human rights, labor rights, philanthropy, corporate governance, and environmental protection. (Al-Asimi, p. 10)

On the other hand, over several decades, scholars and practitioners have also strived to formulate a universally accepted definition of corporate social responsibility concepts, including the following:

Bowen (1953) was the first who defined CSR as “the obligations of businessmen to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values of our society” (Pavlo & Nehme, 2019, p. 9)

In 1960, **Keith Davis** suggested that social responsibility refers to “businesses’ decisions and actions taken for reasons at least partially beyond the firm's direct economic or technical interest”. The idea of social responsibilities supposes that the corporation has not only economic and legal obligations but also certain responsibilities to society which extend beyond these obligations. (Mohammed, 2020, p. 39)

Peter Drucker (1977) defined it as the ongoing commitment of institutions towards the society in which they operate (Al-Sayrafi, 2007, p. 15). However, this definition has been criticized for its vagueness regarding the degree of commitment, its dimensions, controls, benefits, and potential risks of non-compliance. Despite its generality, the definition has merits by opening the field to extensive efforts and successive attempts to define the dimensions of this commitment.

Strier (1979) defined social responsibility as a response to societal expectations from the institution, which it should proactively address in a manner that complies with the law, does not harm the institution's interests, and ensures a suitable return on investments. Some have extended this definition to suggest that the social responsibility of business organizations involves decision-makers adopting practices that ensure the protection and well-being of society while also achieving their own benefits (Falaq, 2019, p. 37)

Economist **Milton Friedman** (1970) defined the corporate social responsibility

institutions as using materials and taking part in events directed towards increasing profits over the long term. (Wahiba, 2014, p. 71) In doing so, Friedman adopted a different concept of CSR as advanced by his predecessors. He argued that a company's social responsibility is about generating profit for its shareholders "The social responsibility of business is to increase its profits". (Tran, Nguyen, & Luu, 2020, p. 329)

Broadly speaking CSR refers to the Social Responsibility of businesses; It is a management concept in which companies strive to collaborate economic, social, and environmental issues and coordinate with all the stakeholders through their business activities. It aims to maintain stability in economic, social and environment spheres by meeting the expectations of all its stakeholders. In short, any behavior aimed at enhancing and improving social well-being can be termed as CSR. (Vishwakarma, 2019, p. 37)

1-2 Importance of Social Responsibility:

The importance of corporate social responsibility can be summarized in the following elements:

- Increasing societal pressures and evolving demands with the expansion and complexity of institutions' relationships.
- Greater contribution by institutions in enhancing and improving the quality of life.
- Necessity for institutions to promote human and social values.
- Importance of societal satisfaction and acceptance of institutions' goals and means of operation.
- Significant growth in societal awareness and self-perception.
- Substantial interest demonstrated by both institutions and society.

Mohamed Ibrahim (2005) outlines the importance of social responsibility by presenting several reasons supporting its adoption: (Behlouli, 2015, p. 78)

- It is in the institution's interest to enhance its status within the community it operates.
- Increases opportunities for the institution's growth and development.
- Social and charitable activities may lead to profitability.
- Maintains current customers.
- Helps attract new clients.
- Improves the institution's image and reputation.

- Strengthens the capacity of the business or industrial system to grow and sustain by providing returns to society.
- Contributes to the long-term value of the institution's shares.
- Allows the institution to collaborate in solving social problems that the government has failed to address.
- Utilizes the financial and human resources of institutions to solve community problems (El-Nasr, 2015, p. 37)

1-3 Dimensions of Social Responsibility:

Several authors and researchers have tried to identify the dimensions of social responsibility, each from different perspectives and with varying terminologies. The significant leap in enriching and expanding the concept was in Carroll's pioneering research, which identified four main dimensions:

- **Economic Responsibility:** This involves achieving profits for owners, management, employees, and shareholders. Drucker noted that the social responsibility of an institution primarily lies in generating economic profits that enable future cost coverage.
- **Legal Responsibility:** This dimension includes the conscious and voluntary adherence to laws and regulations governing various societal aspects. It also implies providing balanced job opportunities for all without discrimination based on gender, nationality, or other reasons (Al-Ghweil, 2016, p. 4)
- **Ethical Responsibility:** Institutions must consider ethics and respect them in all decisions, ensuring actions are just, fair, and avoid harming different societal groups.
- **Philanthropic Responsibility:** This reflects the institution's interest and appreciation for the needs of its environment, actively participating in addressing them.

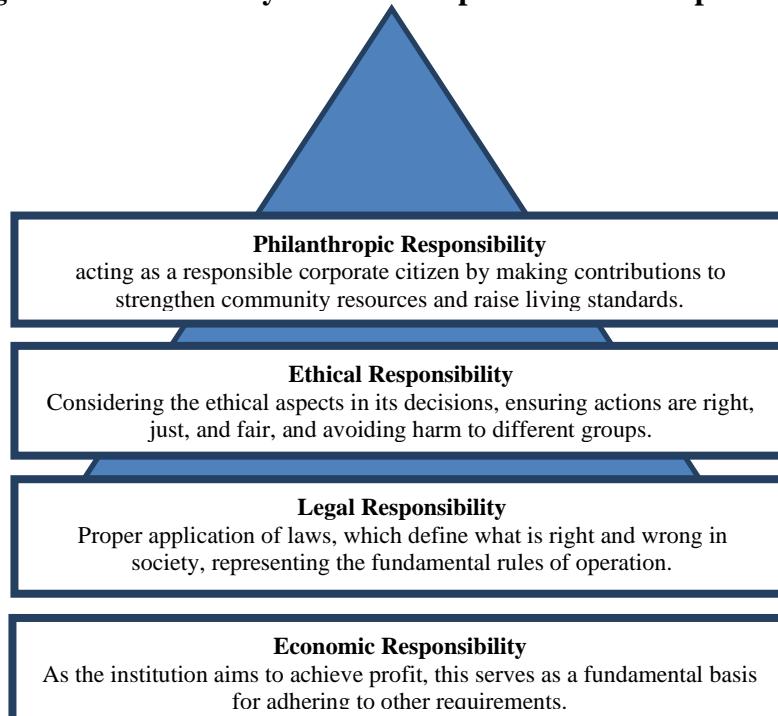
Based on Carroll's work, which has focused on research for over 25 years, researchers have tried to identify the dimensions of social responsibility. Among them are Pride & Ferrel (2006), who adopted the same dimensions established by Carroll (Bekhouche, 2018, p. 4). Wood (2000) defined the dimensions of social

responsibility through the CSR program implemented at MHC Global Institution in levels: the first level represents the principles of social responsibility on which the institution's commitments to its community are built, and the second level represents social responsibility operations, which denote the institution's ability

to respond to social pressures (Shafia, 2018, p. 68).

These responsibilities were represented in the form of a pyramid known as Carroll's Pyramid, as illustrated in the following figure.

Figure 01: Carroll's Pyramid of Corporate Social Responsibility



Source: (Ariche B. Carroll: , 1991, p. 41)

1-4 Objectives and Impact of Social Responsibility:

Integrating corporate social responsibility (CSR) within an organization's operations and strategies achieves several objectives, including:

- Developing sales and increasing market share.
- Strengthening brand value.
- Enhancing the corporate image among consumers and qualified workforce.
- Enhancing the capacity to draw in, inspire, and retain staff members.
- Lowering operational expenses.
- CSR and voluntary initiatives are effective in building trust and avoiding conflicts of interest between owners and other stakeholders.
- CSR serves as preventive measures to avoid complex social problems that will arise sooner or later (Najm, 2006, p. 114)

Kumar et al. (2022) identified that corporate social responsibility (CSR) impacts a company's ability to attract top personnel, job satisfaction, and staff retention beyond the potential loss of socially conscious clients. People just now getting ready to enter the workforce are looking for companies with a corporate social responsibility (CSR) strategy that is both well-defined and effective. In addition, it significantly improves corporate business sustainability. Strengthens the corporate capability in attracting investors, and enhancing employee's recruitment. Moreover, CSR contributes to corporate stability through improved cash flow. (KUMAR, KUMAR, & BEHURA, 2022, pp. 218-220)

2- The Reality of Social Responsibility in the Algerian Petroleum Industry: A Case Study of SONATRACH

We decided to apply this study to the SONATRACH Company because of its

distinctive characteristics, as its production operations have a significant impact on the economy and the environment. It also employs the largest workforce, with over 200,000 employees, indicating its significant impact on society. This facilitates understanding its environmental and social performance through the various measures taken in this regard.

2-1 Introducing SONATRACH:

SONATRACH was founded on December 31, in the wake of Algeria's independence; it is a national oil and gas company, operating across the entire hydrocarbon value chain, from exploration and production to pipeline transport, refining, and marketing.

SONATRACH plays a pivotal role in the Algeria's economy, ensuring national energy security. It contributes 26% to the country's GDP and 50% of national fiscal revenues, making it the main source of income. Its sales represent about 95% of Algeria's total exports, which amounted to \$23.8 billion in 2020. SONATRACH Group includes more than 150 subsidiaries and affiliates companies and employs nearly 200,000 workers across the entire group.

According to the latest statistics on SONATRACH's regional and international rankings, the company is ranked first in Africa, the leading gas supplier in the Mediterranean region, the third largest supplier of natural gas to Europe, the tenth largest producer of natural gas worldwide, and also the thirteenth largest globally in the oil and gas sector.

In general, SONATRACH works to meet the domestic market's hydrocarbon needs, ensuring maximum revenue for the country in the short, medium, and long term, and also aims to contribute to the nation's economic development.

The company further aims to strengthen its position as a key driver of the national economy, maintain its market presence, enhance its international competitiveness, and successfully transform into a fully integrated energy company (Sonatrach, 2022).

SONATRACH plays a vital role in the national economy by supplying society with a diverse range of petroleum products and derivatives. Its operations clearly have environmental and social impacts, necessitating measures to mitigate them. Otherwise, these imbalances could lead to

uncontrollable environmental consequences. To this end, SONATRACH has launched a series of projects aimed at protecting the environment and supporting society (CHORFI, 2018), as follows:

2-2 Health, Safety, and Environmental Dimension:

SONATRACH is committed to achieving and maintaining the highest standards of health, safety, and environmental performance. The 2021 Health, Safety, and Environmental Policy Statement reaffirm SONATRACH's dedication to excellence in health, safety, and environmental protection, aiming to create added value and meet stakeholder's expectations.

SONATRACH also affirms its commitment to complying with all applicable legal and regulatory requirements in the field of health, safety, and environmental protection at all its operating sites, and pledges to allocate and provide the necessary resources for this purpose. (report, 2022, p. 70)

SONATRACH has developed a concrete action plan to achieve excellence in this field, adopting a series of specific commitments outlined in the document whereby the company undertakes the following:

- Prioritize the health and safety of workers and environmental protection.
- Establish a system for the continuous identification and assessment of risks and the implementation of mitigation measures.
- Ensure the integrity of its assets and that all risk management systems are consistently operational and effective.
- Develop a leadership approach and ensure the commitment of all managers to improving its performance in terms of the HSE component.
- Engage all its users by developing a culture of HSE protection based on information, training, and feedback.
- Comply with all health, safety, environmental, legal, and regulatory requirements across all its locations.

❖ Workplace accident prevention is a top priority:

SONATRACH places the health and safety of its employees at the forefront of its priorities by establishing a workplace accident prevention system for its own employees, as well as

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employees of its partner and subcontracting companies working at its sites. This includes subjecting hydrocarbon facilities and infrastructure to regulatory standards, leveraging acquired experience, implementing an occupational risk assessment system, and managing road hazards. ([Annual Report, 2021, p. 61](#))

SONATRACH has implemented a traffic safety system aimed at reducing road-related accidents. For several years, SONATRACH has monitored the number of traffic accidents involving its employees and contractors. The 39% decrease in traffic accidents from 2016 to 2020 demonstrates the effectiveness of the efforts made. ([report, 2022, p. 38](#))

SONATRACH utilizes a crisis and emergency management system that mandates regular review, testing, and updating of intervention plans through exercises and drills. In 2020, SONATRACH's field structures conducted over 2100 simulation exercises.

SONATRACH is aware of and concerned about the issues of greenhouse gas emissions and global warming. Recognizing the challenges posed by climate change and its impact on the company, SONATRACH has taken measures to reduce greenhouse gas emissions for years. Initial measures focused on reducing the volume of gas flared and improving energy efficiency, which allowed for a 97% gas recovery rate. Energy use control programs were implemented across operational sites.

In 2020 fiscal year, the extension of the framework agreement with the National Agency for the Promotion and Rationalization of Energy Use (APRUE) ensured the conduct of systematic energy audits and the generalization of energy-saving programs. Additionally, four operational sites in exploration and production activities

adopted the ISO 50001 energy management system ([Annual report, 2022, p. 40](#))

SONATRACH prioritizes enhancing and improving transparency in addressing climate issues by using the greenhouse gas inventory system (GES) to reach compliance with SONATRACH's reference GES inventory system. A measurement, reporting, and verification (MRV) system was also established to reduce gases, allowing for the recognition, measurement, and assessment of important mitigating measures of benefits gained from gas avoidance. This initiative enabled strategic planning for reducing carbon emissions at SONATRACH by 2030.

2-3 Environmental Management and Conservation Dimension:

SONATRACH is committed to its social responsibility and integrates its activities within the framework of sustainable development, ensuring the rational and responsible use of natural energy resources. In this context, SONATRACH adheres to the highest environmental standards, ensures community acceptance of any new projects, and remains open to its surrounding environment through ongoing dialogue and communication with local residents. ([Annual report, 2022, p. 74](#)) The following are some of its efforts related to the environmental dimension:

2-3-1 Slight Decline in the Quantity of Flared Gas:

In 2021, the quantity of flared gas showed a slightly decline compared with the year 2020.

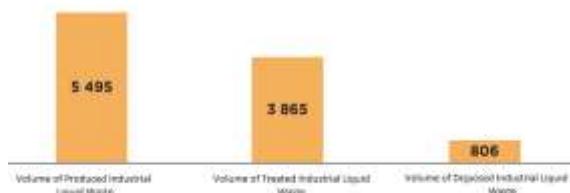
Figure 02: Evolution of the Amount of Flared Gas



Source: ([report, 2022, p. 62](#))

Although the doubling of associated gas production over the period 2000 and 2021, the flaring rate declined substantially, reduced from 15% in 2000 to 3.8% in 2021. This achievement indicated SONATRACH's sustained efforts to recover associated gases through various completed projects, achieving a recovery rate of 96% ([Annual report, 2022, p. 63](#)).

Figure 03: Industrial Liquid Waste Treatment (Thousands of Cubic Meters)



Source: ([Annual report, 2022, p. 63](#))

SONATRACH continues its efforts to reduce greenhouse gas emissions by improving energy efficiency, halting gas flaring and gas collection, reducing leaks, and launching reforestation projects to absorb greenhouse gases. The goal is to reduce gas flaring to less than 1% and stop routine gas flaring by 2030 ([Annual report, 2022, p. 75](#))

New gas recovery units have been commissioned in several production areas, particularly Hassi Messaoud and Ohanet. A total reduction of over 20% in the flaring rate of associated gases has been recorded since 2017. These efforts continued in 2022 with the following achievements:

- Launching an environmental monitoring program for polluted sites and lands in the industrial areas of Skikda and Arzew, including a well monitoring system to check groundwater quality.
- Launching a contract program in liquefaction and separation activities, in collaboration with environmental sanitation and hazardous waste disposal service companies.
- A reforestation project to develop carbon wells in collaboration with the General Directorate of Forests ([Annual report, 2022, p. 73](#)).
- Holding a workshop to explore opportunities for carbon capture, utilization, and storage (CCS and CCUS) projects.

Gas flaring volume in Algeria grew from 7.6 billion to 8.6 billion cubic meters cubic meters between 2012 and 2022, with gas flaring intensity remaining elevated in 2022 after reaching its peak level in 2020 ([worldbank.org](#))

2.3.2 Industrial Liquid Waste Treatment:

The results for the year 2021 show the following achievements:

2-3-3 Emission Measurement System

- Implementing a pilot project in the regions of Gued El Dous and Ber Rabah Nord, aimed at establishing a Measurement, Reporting, and Verification (MRV) system for emissions, as well as mitigation measures for greenhouse gases.

2-3-4 Energy Efficiency Audit:

- Energy efficiency audit was conducted on 70% of the operational sites subject to the provisions of Decree No. 05-495 on energy efficiency auditing for large energy-consuming enterprises. This audit identified 866 actions to be implemented, with 311 already executed, 242 in progress, and 313 pending launch.

2-3-5 Environmental Protection and Site Cleanup:

- Launching the MED Programme - UNEP project aimed at eliminating Persistent Organic Pollutants (POPs) and Polychlorinated Biphenyl (PCB) transformers and electrical equipment in the Skikda industrial area ([Annual report, 2022, p. 75](#))

- In 2022, there was a 2% decrease in the number of reported material and environmental incidents, with 392 incidents compared to 2021. This improvement is particularly attributed to a 21% reduction in hydrocarbon leaks.

2-3-6 Process Safety Management Project:

- Launching the Process Safety Management Project to provide SONATRACH site

operators with standards to continuously enhance and improve performance, facility integrity, and operational management, as well as to prevent industrial accidents. In 2022, the first phase of the project, which involved diagnostics and benchmarking, was completed. The project's elements were prepared.

2-3-7 Regulatory Compliance and Simplification:

- Continuing regulatory compliance work and conducting four campaigns to simplify and disseminate the implementing texts of Law No. 13-19 on hydrocarbon activities, focusing on the Skikda, Algiers, and Hassi Messaoud hubs.
- The pipeline transport infrastructure was strengthened through the rehabilitation of the GZ2, OH1, OD1, and GG1 pipelines and inspection of operational stations, interruptions, and service routes.

2-4 The Social Dimension of Human Resources:

SONATRACH has implemented a professional Evaluation of risk process and guarantees that it is used correctly. This system analyzes chemical, physical, biological risks, and all work environment-related factors. When necessary, it allows for the development and implementation of action and intervention plans. Risk assessments are conducted at each site by a diverse group that has undergone previous instruction during the year 2020.

2-4-1 Occupational Safety in 2020: (report, 2020, p. 57)

- All SONATRACH structures have their risks updated in accordance with the company's process
- The frequency rate of accidents (TF), estimated at 1.27, decreased by 34%.
- The severity rate of accidents (TG), estimated at 0.12, decreased by 29%.

What makes these results even more significant is that they were achieved during a period marked by the emergence of additional risks, most notably:

- The psychological stress resulting from the COVID-19 crisis.
- Increased activity due to the reduced workforce, especially during the first three months, in addition to extended

working hours at the sites (more than four consecutive weeks).

- The suspension of the shift system for workers in the southern units.

- Establishing a system to prevent workplace accidents, targeting all SONATRACH employees and those of collaborating and subcontracting companies operating at its sites.

2-4-2 Occupational Safety in 2022:

- SONATRACH recorded 442 workplace accidents in 2022, compared to 373 in 2021. The company also reported one fatality in 2022, compared to two in 2021.
- SONATRACH maintained the fatality rate at less than 2 since 2019, thanks to the following measures:
 - Establishing an accident investigation system, considering the actual or potential severity level.
 - Launching a project to review the work permit system and the development of "Golden Safety Rules" to prevent workplace accidents (report, 2022, p. 77).

2-4-3 Occupational Health and Social Services:

- The Social Affairs Directorate provides occupational and social health services to employees, retirees, and their families.
- 39 Social Medical Centers (CMS) offer consultations and medical examinations for workers, retirees, and their dependents nationwide. In some remote areas, SONATRACH also provides healthcare services to local residents, adhering to its principle as a corporate citizen (Annual report, 2022, p. 40).

2-4-4 Combating the COVID-19 Pandemic:

- Managing the COVID-19 pandemic: 110,000 doses administered in 2021, with 6053 positive cases reported across SONATRACH sites, including 650 contractors.
- Procurement of medical equipment, notably laboratory equipment and tools for Social Affairs structures (Annual report, 2022, p. 40)
- 2410 out of 3562 children were examined by doctors in kindergartens in the first quarter of

2020 to teach them health measures before entering classrooms and other facilities.

- Despite pandemic-related obstacles, financial aid was provided to beneficiaries on time. The 2021 report highlights:

- A 77% overall completion rate, with a 100% increase in death assistance (COVID-19 retirees and/or their spouses).
- Satisfactory performance of sanatoriums (1170 retirees and widows benefited from convalescence) ([Annual report, 2022, p. 40](#))

2-4-5 COVID-19 Measures in 2022:

- Continuation of preventive and control measures against COVID-19, including screening and vaccination campaigns, and the continuation of the health protocol at airports for special flights of replacement staff, until November 14, 2022.

2-5 Social Protection Dimension:

Despite COVID-19-related challenges, financial aid was provided for social cases, including:

- Treatment-related assistance.
- Annual financial assistance for dependents of deceased workers.
- Distribution of school bags and supplies.
- For preschoolers in kindergartens, preventive measures against the pandemic were maintained and strengthened in 2021.
- Five new educational sections were opened in Arzew, three in Algiers, and one each in Adrar, Skikda, and Hassi R'Mel ([report, 2022, p. 42](#)).
- The annual medical check-up coverage reached a respectable level (86%) for a workforce of 65283 employees. Key actions taken in the social and leisure activity areas included breast cancer awareness campaigns, influenza vaccinations, and blood donation drives.
- In October, SONATRACH conducted awareness and prevention campaigns for Breast Cancer Awareness Month, targeting its female employees ([Annual report, 2022, p. 75](#)).

2-6 Social Care and Investment:

As a corporate citizen, SONATRACH works nationwide to promote community ties and support wealth and job creation. With direct and indirect contribution to local development in areas where its activities are present through sponsorships, donations, and social investments.

2-6-1 Sponsorship and Donations:

- SONATRACH places a high priority on sports promotion, based on the human values and health benefits of sports. It is also committed to promoting culture and arts, providing strong support for academic and scientific activities as drivers of national economic development. Also the group participated in organising economic events.
- Regarding donations, SONATRACH often contributes financial aid, medical equipment to public health institutions, and food donations to needy populations.
- SONATRACH fulfills its social responsibility by paying special attention to social investment aimed at breaking the isolation of remote populations through the construction of various facilities and public amenities ([Annual report, 2022, p. 76](#)).

2-6-2 Sponsorship of Sports Activities :

- Actively supported of USM Alger and MC Alger football clubs in 2022.
- Sponsorship and support for the organization of the 19th Mediterranean Games held in Oran.
- Sponsorship of the International Conference of Mediterranean News Agencies aimed at enhancing and promoting sports across in the Mediterranean region.
- Providing financial assistance to facilitate the transportation of national team supporters of Algeria to Cameroon on March 25, 2022.
- Sponsorship of the Arab Handball Club Championship.
- Sponsorship of sports clubs in southern provinces (Béchar, Illizi, Tamanrasset, Adrar, Ghardaïa).

2-6-3 Cultural and Scientific Activities:

([report, 2021, p. 71](#))

SONATRACH has always invested in promoting culture and the arts, and demonstrated this commitment in 2021 through several initiatives:

- Sponsoring the National Tourism Promotion Competition held on July 5, 2021, in Algiers.

- Sponsoring two concerts honoring legendary voices of Algerian song, presented by the Algiers Opera House from December 10 to 16, 2021.
- Sponsoring several historical documentaries.

In support of scientific activities, the following can be mentioned:

- Sponsorship of the closing ceremony of the "Project-Innovation" event held on July 19, 2021, at the University of Science and Technology of Oran.
- Sponsorship by the Algerian Nuclear Research Center (CRNA) of the first national meeting on new methods of radiotherapy in Algeria, "Nuclear Magnetic Resonance Imaging" (NMR), held in October 2021.
- Sponsorship of numerous scientific events (conferences, study days, competitions, end-of-year celebrations) organized by various universities and institutes across the country.

2-6-4 Economic Events:

- Sponsorship of the World Day for the Use of Liquefied Natural Gas as a Marine Fuel.
- Sponsorship of the 34th International Technical Conference on Fertilizer Industry Technology.
- Sponsorship of the Algerian-French Economic Forum.
- Sponsorship of the first edition of the National Exhibition for Innovation, Training, and Vocational Education in Algeria.
- Sponsorship of the fifth edition of the National Forum on Energy Economy and Energy Efficiency (SNEE5).
- Sponsorship of the Algerian-Libyan Business Forum and Trade Fair, May 2021.
- Sponsorship of the Forum on the Contribution of Algerian Women to Economic Development, December 2021.
- Sponsorship of the second International Salon for Industrial Maintenance, December 2021. ([report, 2021, p. 71](#))

2-6-5 Donations and Social Investment:

SONATRACH has funded significant projects in remote and isolated areas, particularly connecting neighborhoods to electricity, rehabilitating primary schools, acquiring and installing solar panels, and drilling wells equipped with solar pumps. These efforts covered several provinces, especially those in the far south of the country

Signing agreements with the health sector to fund:

- Ten (10) medical oxygen production stations for hospitals in Blida, Tlemcen, Sétif, Algiers (Bab El Oued), Adrar, Ghardaïa, and Sidi Bel Abbès.
- Establishing facilities with accelerators and patient reception areas for cancer treatment at Tizi Ouzou University Hospital and Rouiba University Hospital.
- Renovation of the Neurosurgery Department at Blida University Hospital.
- Equipping an animal farm to international standards for vaccine and serum production for the Pasteur Institute of Algeria ([report, 2022, p. 79](#)).

In 2021, SONATRACH also contributed to the financing of the following:

- The acquisition of medical equipment for an RT-PCR Unit at the public hospital in Relizane.
- The donation of two (2) hemodialysis machines to the health services in the municipality of Debdeb, Illizi Province.
- The acquisition of ten (10) oxygen generators for healthcare facilities. ([report, 2021, p. 72](#))

2-6-6 Education:

- Equipping 50 digital classrooms in primary schools with educational digital tools to support the state's efforts in school digitization.

2-6-7 Solidarity:

- Donating food parcels to needy families during Ramadan in various provinces.
- Financial assistance for the solidarity initiative launched by the General Union of Algerian Workers for the Palestinian people.

CONCLUSION:

The level of social responsibility in the Algerian petroleum industry varies from one institution to another. However, our case study on SONATRACH reveals its significant social role both internally towards its employees and externally towards the community. SONATRACH contributes in numerous areas, such as environmental preservation, providing assistance during the COVID-19 pandemic, and meeting the needs of isolated and remote areas. This highlights the importance and expected impact of SONATRACH's social responsibility. The main findings of the study are as follows:

3- Study Results:

- Establishment of a crisis and emergency management system through exercises and drills. More than 2100 simulation exercises were conducted by SONATRACH's field structures.
- Reduction of greenhouse gas emissions by decreasing the volume of gas flaring and improving energy efficiency, leading to a gas recovery rate of 97%.
- Significant decrease in flaring rate, from 15% in 2000 to less than 19% in 2021, reflecting SONATRACH's efforts.
- Launch of an environmental monitoring program for polluted sites and lands in the industrial areas of Skikda and Arzew, including a well monitoring system for groundwater quality.
- 21% reduction in hydrocarbon leaks.
- Launch of the Process Safety Management Project to enhance safety in operations and prevent industrial accidents.
- Establishment of a system to prevent workplace accidents, targeting all SONATRACH employees and those of collaborating and subcontracting companies operating at its sites.
- 39 Social Medical Centers (CMS) provide consultations and medical examinations for workers, retirees, and their dependents nationwide.
- During the COVID-19 pandemic, financial aid was provided for social cases, including treatment-related assistance. Agreements were signed with the health sector to fund ten medical oxygen production stations for hospitals.
- 2410 out of 3562 children were examined by doctors in kindergartens.
- Annual celebration of Pink October, the month dedicated to breast cancer awareness, with awareness and prevention campaigns for SONATRACH employees.
- SONATRACH prioritizes sports promotion, supporting the human values and health benefits of sports.
- Provision of donations in the form of financial aid, medical equipment for public health institutions, and food donations for needy populations.
- SONATRACH fully embraces its social responsibility by focusing on social investment aimed at breaking the isolation of remote populations through the construction of various facilities and public amenities.
- Distribution of food parcels to needy families during Ramadan across several provinces.
- Funding significant projects in remote and isolated areas, particularly connecting neighborhoods to electricity, rehabilitating primary schools, acquiring and installing solar panels, and drilling wells equipped with solar pumps. These efforts covered several provinces, especially those in the far south of the country.

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