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**“Just as the stories of humankind and energy have been intimately intertwined over the centuries, so have the chronicles of environmental impact and degradation”**

# THE OUTLOOK FOR OIL: IS A SUSTAINABLE FUTURE POSSIBLE?

Since prehistoric times, humans have needed resources to survive. By the very definition of existence, we consume and emit, and with every subsequent century, our inflows and outflows are becoming ever more complex. ‘Sustainability’ is the ability of society to continuously function and to continue a varied and fruitful existence. In order to progress, the world needs economic growth to provide acceptable living conditions, ensure global security, and focus on mitigation as opposed to adaptation to adverse environmental conditions down the line. According to the International Energy Agency, fossil fuels currently constitute about 80% of the global energy mix, and no revolutionary changes in source distribution are projected in the near future. Thus, as one of the major energy sources today, the oil and gas industry carries the responsibility for the world’s future growth to be environmentally responsible.

Just as the stories of humankind and energy have intimately been intertwined over the centuries, so have the chronicles of environmental impact and degradation. Prior to the invention and successful implementation of high-volume transport in the second half of the 20th century, the effects of oil procurement and usage have been relatively localised. However, due to swift technology development and rapid globalisation, pollution and detriment have matched the massive growth of energy consumption around the globe, with oil and gas being a major contributing factor. Such challenges as exhaust fumes, acid rain, and oil spills,



Oil spill clean-up at Koh Samet, Thailand

to name a few, have been well documented and closely scrutinised, by both governments and the people, putting public pressure on the sustainability aspect of the industry.

As energy constitutes a strategic priority, governments have been exploring opportunities and options for high-efficiency, low-impact, low-cost energy sources, driven by a combination of energy security, costs, and public pressure to meet the growing global energy demand. Although nothing, as yet, competes with petroleum products in the realm of energy density. In the past decade, renewable resources have attracted an unprecedented amount of public attention. This makes them the world's fastest-growing energy sources, growing from 9 to 12% of the global energy mix over the past decade. This type of energy would significantly minimise adverse effects on both our immediate local and global environments, as well as diminishing costs and providing much needed energy security.

The tarnished image and adverse environmental impacts of the business, coupled with developments in renewable energy and energy storage may constitute strong drivers for significant and permanent alteration of the energy landscape. These changes may not be limited to the power business, an early adopter of renewable energy sources, but even in sectors that have historically been dominated by oil, such as the transportation sector which consumes 70% of the crude oil produced. Both industries are investing heavily in energy storage, aiming to solve the intermittency

and reliability issues, thereby increasing the competitiveness of renewable energy sources

What are the future opportunities for the petroleum sector in the face of increased competition? In anticipation of this increased competition, the oil and gas industry should improve its financial and environmental performance by addressing the gaps between effectiveness and safety, demonstrating palpable results and a tangible commitment to sustainability through additional investment in the necessary infrastructure to prevent operational leaks and malfunctions currently. In addition, the industry has a higher mortality rate than all other industries combined, and this is just on a North American scale, so a significantly amplified attention to safety practices is needed.

However, the largest opportunities could be found by diversifying the business, and investing into the branches that have not received sufficient attention so far. Plastics, particularly with biodegradable additives, constitute an enormous market potential, both on the production and waste management side, and it's something that should be closely investigated by the research and development departments within the industry. Plastic should remain a pliable, strong, and robust material, but its impact on the environment could be diminished, and the change profited from. While there would be a need for more government regulations, recycling standards, and customer education, it is a new field with virtually limitless opportunities and capitalisation potential. ■