

Can solar energy meet the energy requirements of the oil and gas industry?

The scope of this review is to highlight the potential contributions of solar energy in meeting the energy requirements of the oil and gas industry. It includes an assessment of the key factors that impact the world energy scene and the anticipated role of solar energy up to 2035.

Can wind-solar energy be used on offshore oil and gas platforms?

This research assesses the environmental feasibility of using wind-solar energy for offshore oil and gas platforms in the Caspian Sea. The amount of this renewable energy available in three basins of the Caspian Sea has been estimated.

What is the contribution of solar energy to oil and gas industry?

To sum up this section, we expect that the contribution of solar energy to the energy demand of the oil and gas industry reach around 5% of the total energy requirements of the industry up till 2035, and may reach 10% by 2050.

What is the difference between solar energy and wind energy?

The highest power output generated using single wind energy application is equal to 492 kW while for solar energy application is equal to 20 kW. Using the calculated data, the feasibility of renewable energy is then determined based on the platform energy demand. Average monthly solar radiation on SHELL Sabah water platform in 2008.

Can wind-solar energy be extracted around Caspian oil and gas platforms?

Extractable wind-solar energy around the Caspian oil and gas platforms was investigated using the Medium-range Weather Forecast database by applying a resolution of 0.125°; and a time step of 6 h for 10 years (2005-2014).

Can solar energy be used in oil-field water desalination?

Solar applications in oil-field water desalination and treatment Another important promising application of solar energy in the upstream industry is the desalination of brine water produced from oil and gas wells. The ratio of water to oil in some fields may reach as much as 10:1.

SA, with its extensive land area and abundant solar and wind resources, has the potential to emerge as a major player in the RE sector. The country has set ambitious targets ...

A comprehensive examination of the power output revealed that the co-location of offshore wind and wave energy farms results in a reduced level of variability in power ...

Renewable energy sources, such as wind and solar, emit little to no greenhouse gases, are readily available and

in most cases cheaper than coal, oil or gas. Renewable energy - powering a safer ...

Wind, water and solar technologies can provide 100 percent of the world's energy, eliminating all fossil fuels. Here's how. In December leaders from around the world will meet in Copenhagen to...

Energy supply and demand for 2010 was pictorially summarized by the International Energy Agency (IEA) in its World Energy Outlook 2012 [2] (Fig. 1).The figure shows that total ...

o Ocean energy technologies offer high predictability, making them suitable to provide a continuous supply of power. This can be further complemented by variable renewable energy ...

Considering the feasibility of the renewable energies of wind and solar radiation simultaneously at the location of the offshore oil and gas fields ...

Providing all global energy with wind, water, and solar power, part I: technologies, energy resources, quantities and areas of infrastructure, and materials Energy Policy. 2011; ...

As the world's appetite for energy skyrockets, offshore wind and oil and gas are in closer proximity than ever before in order to meet demand. Wind energy has steadily expanded beyond onshore projects into marine spaces ...

Up to 20% of the energy intensity improvements can be attributed to the increased use of renewable energy (Fig. 5). Hydro, solar PV and wind power are generated with 100% ...

Replacing world energy with wind, water, and sun (WWS) reduces world power demand 30%. WWS for world requires only 0.41% and 0.51% more world land for footprint ...

In this research, the environmental feasibility of a hybrid renewable source of wind-solar energy has been assessed and the amount of this energy on offshore oil and gas ...

We develop roadmaps to transform the all-purpose energy infrastructures (electricity, transportation, heating/cooling, industry, agriculture/forestry/fishing) of 139 ...

Oliveira-Pinto et al. [26] investigated the possibility of combining wave and PV solar energy at sea to supply energy to offshore oil and gas platforms. These authors also ...

A large-scale wind, water and solar energy system can reliably supply the world's needs, significantly benefiting climate, air quality, water quality, ecology and energy security.

Methanol production from CO₂ has gained prominence in recent years because of the significant effort in this

area due to the increase in carbon emissions in the atmosphere ...

The combustion of fossil fuels is largely responsible for the problems of climate change, air pollution, and energy insecurity. A combination of wind, water, and solar power is ...

Most people recognize wind and solar power as clean, zero-emissions energy generation sources, producing no additional greenhouse gases, NO_x, SO_x, or other toxic mineral solids. ... natural gas has usurped a larger share of the ...

As a necessary material input foundation, energy plays a decisive role in all aspects of economic and social development [[1], [2], [3]] om the data released in the World Energy ...

Moreover, it is possible to use offshore wind turbines to power supply oil and gas field. Korpås et al. (2012) studied the possibility of operating a 4 × 5 MW offshore wind farm in ...

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