International Journal of Research in Social Sciences
Vol. 8 Issue 12, December 2018,
ISSN: 2249-2496 Impact Factor: 7.081
Journal Homepage: http://www.ijmra.us, Email: editorijmie@gmail.com
Double-Blind Peer Reviewed Refereed Open Access International Journal - Included in the International Serial Directories Indexed & Listed at: Ulrich's Periodicals Directory ©, U.S.A., Open J-Gage as well as in Cabell's Directories of Publishing Opportunities, U.S.A

REDUCE IMPORT DEPENDENCY OF PETROLEUM

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Abstract

Petroleum is backbone of Indian economy. Oil and natural gas play a major role in country` s economic growth and development. Country`s GDP is influenced by the price and import quantity of petroleum from oil producing countries like Saudi Arabia, Iran Iraq .The oil and gas sector is among the six core industries in India and plays a major role in influencing decision making for all the other important sector of the economy.

India is now world's 3rd biggest oil consumer behind USA and China .India has a GDP growth rate of about 7% , thus the consumption of oil is increasing . India consumes nearly 4.13 million barrels of oil per day . Due to economic growth India's demand for oil and gas is going to increase in many fold in the near future . India is the fourth-largest Liquefied Natural Gas (LNG) importer after Japan, South Korea and China, and accounts for 5.8 per cent of the total global trade

The paper largely focuses upon the various alternatives sources of energy which is adopted by govt and some are being planning to adopted in future . The study also reveals the impact of increase and decrease of petroleum price in various aspect of country`s economic growth and development. At the same time what the measures has been taken by govt to reduce and save the per capita petrol and energy consumption of energy.

Key words: *bcm – Billion Cubic Metres, TMT – Thousand Metric Tonnes,,* (CMPDI), (USGS) (PPAC) petroleum planning and analyses cell. ,(MT) million tonnes

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Introduction

The Indian petroleum industry was sponsored completely by the government, and the management control of the petroleum industry and all its related activity was entirely with the government. The petroleum industry has the most significant role to play in changing the Indian economy from an agrarian economy to an industrial economy.

In 1997–98, the New Exploration Licensing Policy (NELP) was envisaged to fill the ever-increasing gap between India's gas demand and supply.

The Government of India has adopted several policies to fulfil the increasing demand. The government has allowed 100 per cent Foreign Direct Investment (FDI) in many segments of the sector, including natural gas, petroleum products, and refineries, among others. Today, it attracts both domestic and foreign investment, as attested by the presence of Reliance Industries Ltd (RIL) and Cairn India.

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India had imported 213.93 million tonnes (MT) of crude oil 2016-17 for USD 70.196 billion or Rs 4.7 lakh crore.

For 2017-18, the imports are pegged at 219.15 MT for USD 87.725 billion (Rs 5.65 lakh crore), according to the latest data available from oil ministry's Petroleum Planning and Analysis Cell (PPAC).

India relies more than 80 per cent on imports to meet its oil need

Oil price surged due to some reasons in recent past such as America-Iran issue, Syria war ,Saudi Yemen issue etc on international aspect. Due to such kind of issue the price of petroleum on international market rise and it leads to domestic price high. In this situation, the Govt and the people of country both have to suffer.

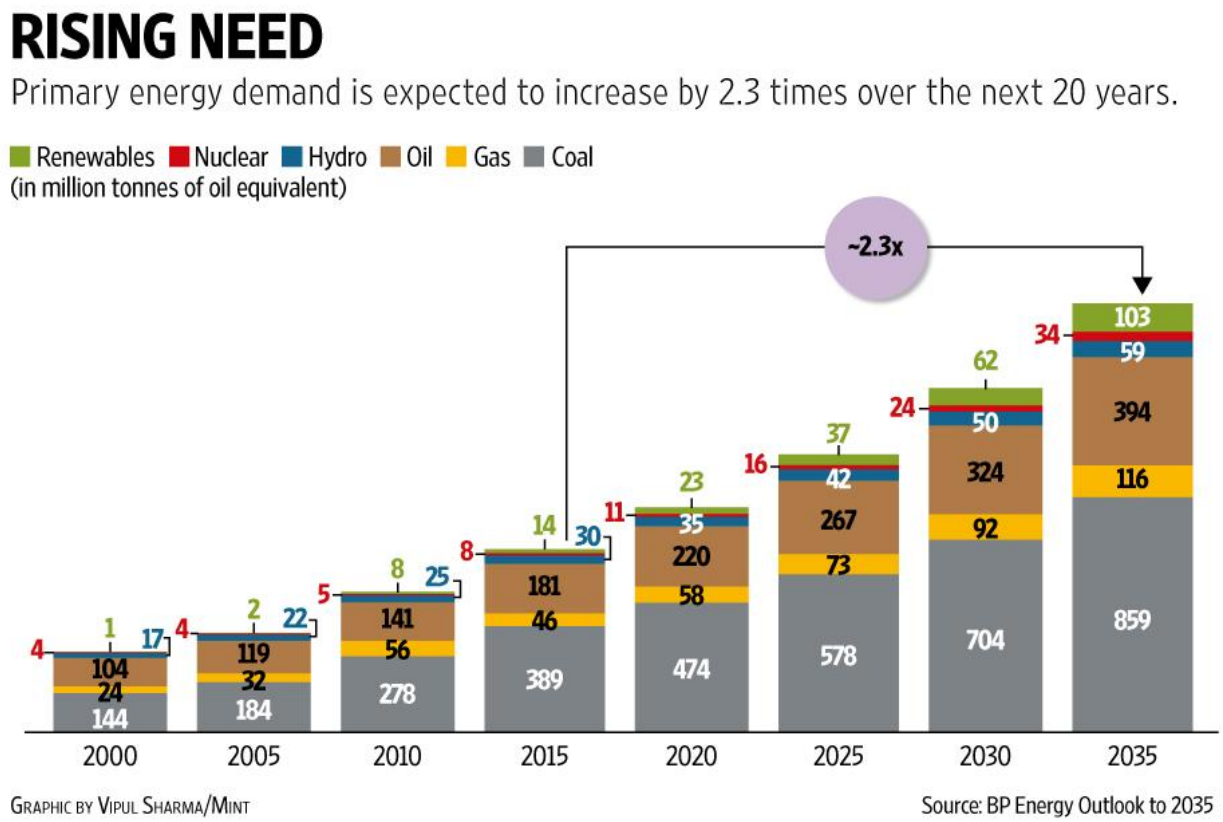
Objectives of the study

- To study the various alternative renewable source of energy to reduce import dependency on other county

- To provide basic understanding of volatility of oil and gas price and its impact on country`s economy
- To study the measures which has been taken by govt to reduce oil and gas consumption .
- To study the sectorwise consumption of energy.

Methodology

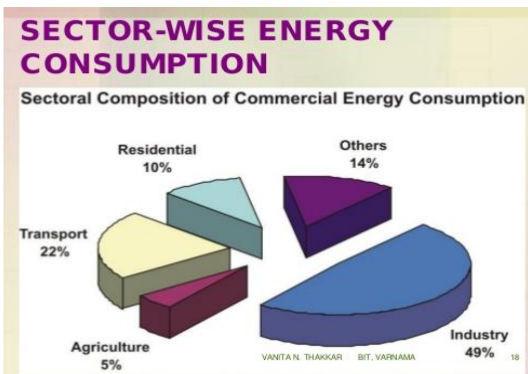
The nature of research is descriptive and analytical .The study is based on secondary data which has been taken from various newspaper, journals, websites etc.



year	Renewable	Nuclear	hydro	oil	Gas	coil
2000	1	4	17	104	24	144
2005	2	4	22	119	32	184

2010	8	5	25	141	56	278
2015	14	8	30	181	46	389
2020	23	11	35	220	58	474
2025	37	16	42	267	73	578
2030	62	24	50	324	92	704
2035	103	34	59	394	116	859
P.G	10200	750	247	278.84	383.33	496.52
A.P.G	1275	93.75	30.87	34.75	47.91	62.06

Sector wise consumption of energy



Energy consumption sector wise has shown here that industrial sector is a major largest sector for consumer of energy around 50 percent consumption done by this sect only. Second largest sector of consumption of energy is transport sector is around 22 percent rest of the consumption is done by residential and others around 10 percent and 14 percent respectively. The consumption of agriculture sector is very less around 5 percent of total consumption.

So the overall conclusion shows that our industrial sector is in need to search the other alternative to substitute energy and try to reduce the consumption as far as possible. The future plan of our Govt to introduce electric vehicle by the year 2022 hopefully reduce the consumption of energy in vehicle in future.

Ways to reduce oil import from other countries

1. **Provide Technical solution and Viable alternative**. Diversify Energy Fuels.
2. **Expedite and encourage Electric vehicles.**

Government is committed to switch all automobile sales in India to Electric Vehicles(EV) by 2030.

3. **Reduce overall crude consumption** by increasing percent of biofuel content in fuel. On implementation of effective organic waste management, Biogas can replace or reduce LPG consumption.
4. **Lower energy per capita consumption**
5. **Adopt advanced technology to reduce energy consumption** such as

Energy coal gasification. The development and commercialization of proprietary underground coal gasification technology. Produced gas was used for production of synthetic fuel through gas-to-liquid technology, and has been planned to be used for power generation.

6. **Taxation policy should be progressive in nature in oil and gas**

The Indian government violated market prices in the *opposite* direction, sharply raising the rate of petroleum taxes. This was done despite the demand slowdown in the economy. Heavy petroleum taxes no doubt help to meet fiscal deficit commitments and satisfy global investors. It also help to suppress an already faltering consumer demand

7. **Increase Investment in oil and gas sector in India**

Biomass, as a renewable energy source, refers to living and recently dead biological material that can be used as fuel or for industrial production Biomass may also include biodegradable wastes that can be burnt as fuel

8. **Encourage renewable source of energy to substitute oil and petroleum consumption. Such as :**

- Tidal energy can be generated in two ways, tidal stream generators or by barrage generation.
- Wave power is the transport of energy by ocean surface waves, and the capture of that energy to do useful work — for example for electricity generation, water desalination, or the pumping of water

- Photovoltaic (PV) Solar Power is harnessing the suns energy to produce electricity. One of the fastest growing energy sources, new technologies are developing at a rapid pace
- Wind power is the conversion of wind energy by wind turbines into a useful form, such as electricity or mechanical energy.
- Hydroelectricity is electricity generated by hydropower, i.e., the production of power through use of the gravitational force of falling or flowing water. It is the most widely used form of renewable energy.
- Geothermal energy is a very powerful and efficient way to extract a renewable energy from the earth through natural processes. This can be performed on a small scale to provide heat for a residential unit

9. Exploration of shale oil may end oil dependency on gulf countries. Shale oil can trigger the revolution in the global energy landscape. Shale oil is the best hope in energy sector. Rise in accessibility of shale oil driven by technology. Though the extraction is big challenge since its technology needs for this is very expensive. It is found in deep sedimentary rock. It is rich in organic waste formed by accumulation of silt, mud ,organic waste for millions of year . Due to heat and pressure it turn in to oil and the gas which is found surrounding is called shale gas.
(CMPDI) Central mine planning and designing institute estimated oil resource of 45.8 TCF(trillion cubic feet) in Gondwana basin .

(USGS) US geological survey estimated oil resource in India of 6.1 TCF at Cambay , KG (Krishna Godavari) and Kauvery basin .It has been estimated of around 62 million barrel of shale oil from Cambay basin alone.

Impact of higher oil prices

- Impact on India's economic growth

As per the economic survey, rising oil prices will pose a challenge to India's growth.

- Impact on Fiscal deficit & Current account deficit

Higher prices mean higher import bill, therefore, adverse impact on the fiscal deficit and current account deficit. Apart from that high prices will increase the subsidy burden on the government expenditures.

- Impact on exchange rate

Higher oil prices will increase the import bill, which may have a depreciating effect on the rupee.

- Impact on inflation

As high oil prices will increase the transportation cost, subsequently there will be an increase in the price of goods and services.

Impact of lower oil prices

- Impact on Fiscal deficit & Current account deficit

lower prices of crude oil will help in keeping fiscal deficit as well as current account deficit in check.

- On inflation

Since the low oil prices may reduce the transportation cost, so this can help in reducing inflation.

- On financial markets

Oil-rich countries invest the excess funds in other financial markets. However, in case of fall in prices, these countries tend to withdraw money from the global markets.

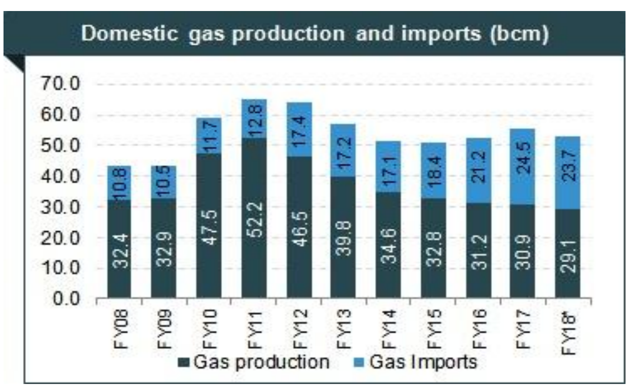
- On exports in general

India's various trade partners and buyers are net oil exporters. If the oil prices declines then this may impact their economy, and hamper demand for Indian products.

- On Remittances

Reduction in oil prices means fewer remittances from the middle east to India.

Comparison of gas production and its import



Notes: *bcm – Billion Cubic Metres, TMT – Thousand Metric Tonnes, Estimated Figures, FY181 – Gas production is up to February 2018 , * - gas production is from April 2017 to february 2018*

As per above data, we can conclude that Gas production from m the year 2008 has started from 32.4 bcm against gas import of 10.8 percent. Further in the year 2011 Gas production was highest pick at 52.2 bmc as against import little increase to 12.8 bmc .Thereafter the production of gas was in decreasing trend till the year 2018. Whereas the import of gas was in increasing trend till the year 2018.The import of gas increased up to 24.5 bmc in the year 2017 and little decline to 23.7 in the year 2018.

Government Initiatives

Some of the major initiatives taken by the Government of India to promote oil and gas sector are:

- State-run oil firms are planning investments worth Rs 723 crore in Uttar Pradesh to improve the liquefied petroleum gas (LPG) infrastructure in a bid to promote clean energy and generate employment,.
- A gas exchange is planned in order to bring market-driven pricing in the energy market of India.
- The Oil Ministry plans to set up bio-CNG (compressed natural gas) plants and allied infrastructure at a cost of Rs 7,000 crore to promote the use of clean fuel.

Investment

According to data released by the Department of Industrial Policy and Promotion (DIPP), the petroleum and natural gas sector attracted FDI worth US$ 6.86 billion between April 2000 and September 2017.

Following are some of the major investments and developments in the oil and gas sector:

World's largest oil exporter Saudi Aramco is planning to invest in refineries and petrochemicals in India as it looks to enter into a strategic partnership with the country.

Foreign investors will have opportunities to invest in projects worth US$ 300 billion in India, as the country looks to cut reliance on oil imports by 10 per cent by 2022, according to Mr Dharmendra Pradhan, Minister of Petroleum and Natural Gas, Government of India

Conclusion

State-owned Oil and Natural Gas Corporation (ONGC) has come up with the new blueprint to increase the crude oil production by 4 million tonnes and to double its natural gas production by 2020 to curb the country's import dependency by 10 percent. The company will raise its crude oil production from 22.6 million tonnes in 2017-2018 to 26.42 million tonnes in 2021- 2022. State-run oil firms are planning investments worth Rs 723 crore (US$ 111.30 million) in Uttar Pradesh to improve the liquefied petroleum gas (LPG) infrastructure in a bid to promote clean energy and generate employment, according to Mr Dharmendra Pradhan, Minister of Petroleum and Natural Gas, Government of India

A gas exchange is planned in order to bring market-driven pricing in the energy market of India. The Oil Ministry plans to set up bio-CNG (compressed natural gas) plants and allied infrastructure at a cost of Rs 7,000 crore (US$ 1.10 billion) to promote the use of clean fuel. Rising need of petroleum and gas along with country's growth and development can not be overlooked. This can be coincided with other renewable alternative sources. For this country need large investment in this sector with advance technology. To reduce import from middle Eastern countries Govt of India as shown readiness to import more oil and gas from United states decided in Asian summit. Govt recently permitted exploration and exploitation of all types of hydrocarbon including shale resources under existing coal bed methane contracts This can be the ways to reduce petroleum dependency on other Gulf countries. Our Indian budget can be controlled from going in deficit and consequently our Indian Rupees value will be retained and our economy will be on right track towards growth and development

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