המכון הישראלי לתכנון כלכלי (ע"ר)
The Israeli Institute for Economic Planning

What Should Israel Do With Its Natural Gas?

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Recommendations

The Israeli Institute for Economic Planning

- Do not allow any export until all local and regional uses have been implemented (up to 30 BCM)
- Replace most oil imports with Natural Gas ("NG") and its derivatives
- Reexamine the level of use of NG in the electricity sector
- Reorganize the water sector using NG resources

Electricity Market, 2010

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Fuel	2010 cost	Electricity Generated	Relative Cost	Replace oil with gas	All gas	All coal
	(million NIS)	(million kWh)	NIS/kWh	(million NIS)		
Coal	3,116	34,243	0.09	3,116	-	5,105
Natural Gas	2,874	20,527	0.14	3,060	7,855	-
Diesel	1,098	840	1.31	-	-	-
Fuel oil	236	492	0.48	-	-	-
Total	**7,324**	**56,102**		**6,177**	**7,855**	**5,105**
Savings				**1,147**	**(531)**	**2,219**

Electricity Market

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- Replacing the remaining oil use with Natural Gas will save Israel over 1 billion IS a year
- Reexamine the level of use of NG in the electricity sector
  - NG direct cost is higher than coal (up to 5 billion NIS a year in the next decade)
  - Limitations on long term storage, especially given the security situation
- Maintain dual fuel capability throughout most of the generation capacity

Export?

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- Israeli NG will be among the most expensive in the world
- The market trend for NG prices is downwards
- Competition with- pipes to Europe; shale from Poland; cheap NG from the Gulf and Australia
- Negligible added value to the Israeli economy. The benefits from alternative domestic use are much greater.

The Water Market

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- The cost of water from the National Water Carrier is (probably) greater than desalination costs (at least 4% of electricity consumption)
- Review the pumping level of the National Water Carrier and replace it with desalination by NG
- The surplus water in the “Kineret” could be exported (for $) to Jordan using the existing infrastructure

Oil for Transportation

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- In 2010 Israel (+PA) imported $8.6 billion ($7.2 net), more than 10% of the state budget - $4 billion of it to gasoline and diesel for transportation
- Replacing gasoline and diesel in land transportation by NG and its derivatives in 2010 represents NG cost of $1.4 billion (7.2 BCM) – savings of $2.65 billion a year
- In 2025, the cost of oil for land transportation could reach $10.3 billion
- The savings in 2025 could reach $8.47 billion

Natural Gas-Based Replacements for Oil

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- CNG – Compressed Natural Gas – implemented in many countries, particularly public transportation. The NG is cheap – the tanks are expensive and so is the conversion.

- Gas To Liquid – Old and new technologies. Used around the world. Expensive to produce, but cheaper than oil.
  Advantage – no infrastructure changes.
  Disadvantage – does not create competition.

- Methanol – the cheapest liquid fuel. Used in China. A successful experiment in California in the ‘80s and ‘90s. Cheap conversion of existing vehicles while maintaining fuel duality (gasoline and methanol)

Oil in Transportation Summary

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- The annual cost difference ($2.7 billion to $8.5 billion) creates a huge margin for increasing Natural Gas profitability and investing in the required infrastructure
- The government should open the transportation market for competition in order to create certainty for investors
- The result will be growth of GDP, an increase in available income and a rise in standard of living
- Replacing oil in Israel's transportation aligns with the government strategic program to encourage an Oil Alternatives technology industry

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