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Facing a Gas Monopoly: The Power Game

Orit Farkash-Hacohen

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Facing a Gas Monopoly: The Power Game

Orit Farkash-Hacohen¹

| | |
|--|----|
| <u>I. Introduction</u> | 2 |
| <u>II. The Israeli Energy Market</u> | 4 |
| <u>III. Facing a Gas Monopoly</u> | 11 |
| The First Encounter: The 2012 Gas Crisis | 11 |
| The Second Encounter: 2014–2015..... | 20 |
| <u>Blowing the Whistle</u> | 23 |
| <u>The Power Game Unfolds</u> | 28 |
| <u>The Gas Deal Draft and Approval</u> | 35 |
| <u>The Dissolution of the PUA</u> | 42 |
| <u>Concluding the Story</u> | 48 |
| <u>IV. The Economic Perspective</u> | 51 |
| Getting the Structure Right: The Case of the Israeli Electricity Market..... | 51 |
| The Gas Deal Provisions Regarding Gas Prices | 55 |
| The Cost of the Gas Deal to the Public: The PUA's 2015 Opinion..... | 56 |
| <u>The First Comparison: To the LOI</u> | 58 |
| <u>The Second Comparison: To PUA's 2012 Rulings</u> | 59 |
| <u>The Third Comparison: To Market-Based Gas Prices</u> | 60 |
| <u>The Fourth Comparison: To Cost-Based Gas Prices</u> | 61 |
| <u>Additional Inefficiencies—Excessive Take-or-Pay Quantities</u> | 62 |
| <u>A Retrospective Update since 2014</u> | 65 |
| <u>V. Conclusion</u> | 68 |
| <u>Acknowledgements</u> | 71 |
| <u>Appendix A: Gas Deal Supporting Memos</u> | 73 |
| <u>Appendix B. Gas Deal Price Provisions</u> | 76 |

¹ **Orit Farkash-Hacohen** is a graduate of Harvard Kennedy School (HKS) and was a visiting fellow at the HKS Harvard Energy Policy Group (HEPG) from 2016 to 2017. She is the first woman to be appointed by the Israeli Cabinet as Chairperson of the Israeli Public Utilities Authority, a position she held from 2011 to January 2016. This paper was written while she was a fellow at HEPG.

I. Introduction

In 2015, the Israeli government approved a controversial deal with a US–Israeli partnership that controlled virtually all the natural gas supply in Israel—at great cost to the Israeli public. Central to the controversy was the political decision not to interfere with a provision—in the most significant gas agreement to the Israeli public to date—that sets artificially high gas prices and represents excess costs of billions of shekels over the 17-year lifetime of the deal.

The development of the gas monopoly—a partnership mainly between Israel-based Delek Drilling LP and Houston-based Noble Energy, Inc.—and its influence on the policy-making process occurred without much public notice or oversight. My interaction with these forces took place between 2012 and 2015, in my capacity as the Chairperson of the Israeli Public Utilities Authority (PUA).

Established in 1996, the PUA consists of a five-member, Cabinet-appointed Board of Commissioners and holds the sole authority to regulate the state-owned Israel Electric Corporation (IEC), review its costs, and set all electricity tariffs borne on the public by the IEC. It regulates all electricity market players and advises the Israeli Cabinet, Parliament (or “Knesset”), and Minister of Energy on various energy policy issues.

In this capacity, I had a professional duty to publicly voice my concern over inflated prices and harmful effects to the public, the electricity market players, and the economy. When no other government ministry or agency intervened, the PUA advised Prime Minister Benjamin Netanyahu and other Knesset players to address the pricing issue and additionally published a resolution refusing to approve three new gas contracts and pass their undue costs on to consumers’ electricity bills.

These actions triggered a snowballing political process to negotiate a compromise with the monopoly, characterized by the silencing of professional gatekeepers. Despite the ensuing public outrage, the high-profile resignation of the Israeli Antitrust Authority’s General Director in protest, and additional resignations of two Cabinet ministers, a deal was struck with the gas companies that overlooked

the pricing problems. The explanation given at the time was that the deal was justified by foreign policy and national security considerations. In addition, legislation was passed to restructure the PUA as a non-independent body and dismiss its Board of Commissioners, ending my 18-year career in public service.

The story of the Delek–Noble gas deal is an extreme illustration of how professional considerations, when ignored, result in a costly burden on consumers and the economy. It is a striking example of why institutional integrity is so important, why policy makers should value transparent and professional regulatory oversight, and why professional and politically detached voices are crucial in decision making in order to prevent political capture.

There are significant lessons to be learned from this power game that took place in the Israeli electricity industry. A key lesson addresses the proper interplay between political policy makers and professional regulators. A solid governmental structure should be inclusive of independent regulatory oversight and transparency in decision making. For the long-term benefit of its nation, a government cannot on one hand advocate support of free markets and anti-concentration laws and on the other hand create unequal rules of game favoring certain players with a monopolistic standing. Market developments, and the associated benefits to the public, rely on objective rules applied to all market participants to keep a level playing field. This is especially true in monopolistic markets where the dangers of political capture are particularly acute—and when actions are taken in the name of “security and foreign affairs considerations,” to which the Israeli public is so sensitive.

Energy and politics are often tied together. Energy issues are affected by geopolitics and vice versa, and decision-making processes naturally involve political compromises. However, when decision making becomes solely political, it comes with a cost—in this case, billions of shekels worth. Economic considerations and market signals should not and cannot be ignored in the long run, even if policy makers wish to do so. This power game story is a striking illustration of that.

On a personal level, the events I went through pushed me to the limit of my mental strength and have changed me forever—terminating old friendships, putting

to test my loyalties, shattering my beliefs in the ethos of true public service and integrity, and exposing me to the depth of the slippery slope created in face of weak gatekeepers.

This story is far from over, and its implications will continue unfolding over the next decades. As time has passed since this writing, the red flags raised by this story are becoming more evident, transcending the gas deal and the energy market. Its negative implications for the state of public service in Israel are also evident. As much as the public has the right to freely choose its political leaders, this same public has the right to demand its leaders act in the public interest and maintain professional standards to avoid becoming prone to corruption.

II. The Israeli Energy Market

Israel's electricity market has experienced great transformation over the past decade, with growing demand, a rapid shift in the mix of fuels, and the introduction of independent power producers (IPPs) as significant players in a market previously dominated by the state-owned utility.

The country's electricity market in 2016 consisted of 17,000 megawatts (MW) of installed capacity and an additional nearly 1,000 MW of renewable energy (with much more renewable investment under way). Peak production that year was 13,000 MW. The demand for electricity has steadily grown at an annual rate of 1.8%, on average.² The ratio between peak and off-peak production during the day has been between 1.7 and 1.8. The average regulated cost of electricity generation was 26 agorot per kilowatt hours (KWh), or US\$0.07.

The Israeli electricity market is affected by Israel's challenging geopolitical environment. It is an "economic island" market due to the political isolation of Israel from its Arab neighbors. Thus, the country's electricity market is not connected to any other country. This forced isolation prompted a decision by the Israeli Minister

² In previous years, the yearly demand growth was almost 4% a year on average. However, demand growth between 2013 and 2015 was unexpectedly volatile: in 2013, the rate was -2.7%; in 2014, it was 0%; and in 2015, it was 6.5%. More recently, the yearly assumption has been updated, based on Bank of Israel research to a yearly 2.7% growth in demand on average for the future. See Public Utilities Authority, *Electricity Sector Status Report for the Year 2016* (2017), page 8.

of Energy to maintain at all times a 20% reserve margin level (available capacity above annual peak demand) to minimize any risk of electricity shortages.

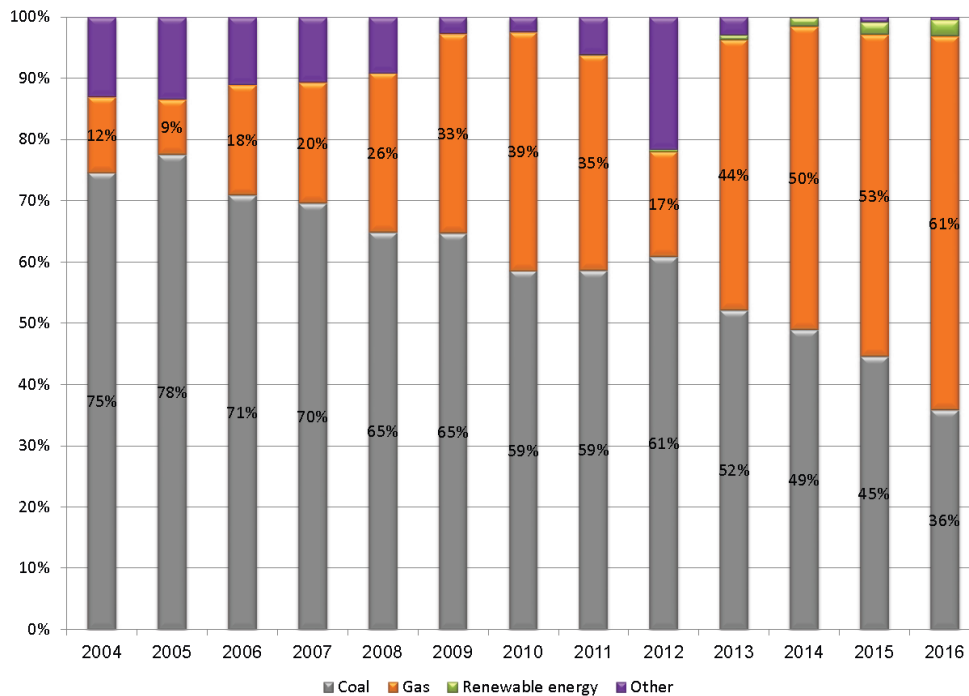
Israel is heavily dependent on natural gas, and gas is on the fast track for becoming Israel's main electricity resource (Figure 1). In 2016, the fuel mix of the Israeli electricity market consisted of coal (36%), natural gas (61%), and crude oil (less than 1%), much more gas than expected. Coal plants are gradually being closed according to environmentally motivated policy, and the Israeli electricity market is becoming mostly reliant on gas-fired power plants. By 2017, expected gas usage in the electricity market will be further upward of 60% and rising. Due to this growing dependency, Israel's demand for natural gas has steadily increased from 5 billion cubic meters (bcm) per year in 2011 to 9.7 bcm in 2016—and is expected to exceed 10 bcm per year in the following years, rising steadily.

Because natural gas for domestic consumption is used in Israel almost solely for electricity production,³ its price significantly affects electricity prices and the public's costs of living in general.⁴ Israeli gas-based factories and industries are also a major consumer, and thus, it has great implications for the country's international competitiveness.

³ The gas infrastructure for residential use (such as heating) is still underdeveloped. There have been several delays in the implementation of the policy plan to connect all of Israel residential cities to gas. See Avi Bar-Eli, "The Best Investment Was Missed—and the Market Loses 1.6 Billion NIS a Year," *The Marker*, November 14, 2016, <http://www.themarker.com/dynamo/1.3121237>.

⁴ About 80% of the gas in Israel is consumed by the electricity sector. Israeli electricity consumers pay more than 5 billion new Israeli shekels (NIS, or US\$1.5 billion) a year for gas expenditures, while each electricity-consuming household in Israel spends, on average, more than 4,000 NIS (US\$1,200) on his or her electricity bill per year. According to a 2012 opinion published by PUA (and later elaborated in this paper), this cost is equivalent to 20% of the total expenditure on electricity. These numbers will grow dramatically in future years, as governmental policy will cause gas usage for electricity to increase. An Israeli household's electricity bill stands for roughly 5% of its average monthly expenditures. The electricity price is also a factor in Israel's yearly Consumer Price Index.

Figure 1. Israel's Electricity Market Is Moving toward Gas Dependency



Source: PUA 2016⁵

The natural gas onshore infrastructure is an unbundled distribution gas pipeline grid, including transmission (540 km of lines) and distribution (130 km). The grid is arranged through a bidding process, under six regional distribution companies. The transmission and distribution gas systems are regulated both for quality of service and tariff setting.

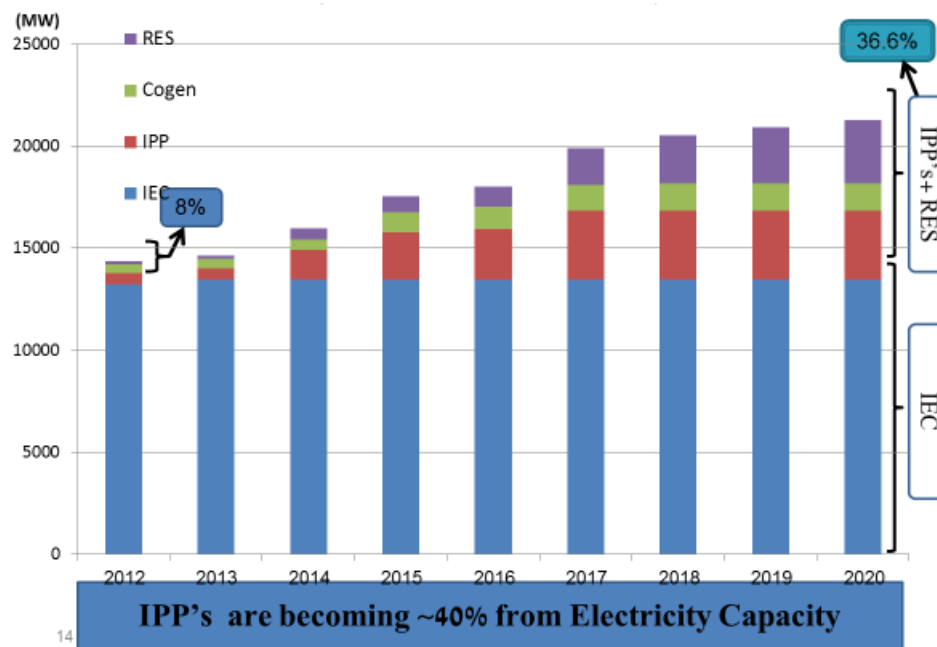
Renewable energy has also emerged as a rapidly growing sector. The Israeli government recently set a minimum goal of 17% renewable energy by 2030, updating the previous 10% target, and I believe the renewable energy policy target will further increase in the long run. This market is comprised of solar and wind energy. Photovoltaics currently make up less than 1,000 MW installed but are

⁵ See the PUA's 2016 report available at https://pua.gov.il/English/Documents/english_report2016.pdf, slide 37, and the accompanying text: "The share of coal production in the electricity economy stands at just 36%. The use of coal reached a peak of 61% during the 2012 gas crisis. However, use of coal declined in 2013 when production began at the Tamar gas reservoir. In 2016, a decision was made to reduce the use of coal, due to the delay in installation of the scrubbers. This decrease is expected to continue over the coming years" [translated from the original Hebrew by the author].

growing extremely rapidly, and an additional 250 MW is from thermo-solar generation. Wind accounts for less than 50 MW at the present but will potentially rise up to a quota of 800 MW and more.

At the same time that the mix of fuels has shifted, the Israeli electricity market has undergone a notable transformation in terms of its players. After decades of fruitless attempts by the Israeli government to bring private players into the market, significant volumes of private power producers have been integrated into the electricity grid, and a private renewable energy industry—mostly solar—has been established (Figure 2).⁶

Figure 2. IPPs’ Growing Share of Generation Capacity



Source: PUA’s 2015 presentations.

For 90 years, electricity generation, transmission, and distribution had been in the hands of the IEC—the Israel Electric Corporation, the state-owned fully integrated utility. The IEC employs roughly 12,000 workers, and its labor union is among the strongest politically connected union in Israel, with ties to most parties in Israel. Although it holds great political power, the IEC is extremely inefficient and

⁶ In 2016, IPPs represented about 1,200 MW of cogeneration and 2,800 MW conventional capacity, compared to the IEC’s capacity of 13,600 MW. The renewable industry started with a regulated feed-in tariffs system and now is moving forward to a competitive bidding process. The first bidding process handled by the PUA took place on March 14, 2017.

suffers from a poor financial situation, exemplified by above 70% financial leverage (ratio of equity to loans) in recent years.⁷

In a relatively short period since 2012, the IEC has rapidly lost market power due to a law prohibiting it from building new power plants coupled with strong determination by the PUA to challenge the old distribution of powers. These actions were taken as a result of government frustration by the refusal of IEC and its labor union to comply with a 2003 amendment to the 1996 Electricity Market Law that obligated the IEC to unbundle into separate subsidiaries with limited market shares in the different segments of the electricity market, coherent with international best practices. Year after year, the Knesset kept postponing the implementation of this law. Finally, the government decided to stop waiting, and in 2007, it amended the law once again, creating a rule prohibiting IEC from building any new power plants as of 2009 and allowing only private producers to fill in the growing demand for electricity.⁸ The amendment was coupled with policy decisions ordering the PUA to expedite financially supportive regulation for private players.

These actions gradually challenged the old distribution of powers, and by 2012 a significant amount of conventional private producers had reached financial closing and penetrated the 90-year-old monopolistic electricity market (see Table 1).

Table 1. The First IPPs Enter the Market

| Name | Type | Capacity (MW) | Start of commercial operations |
|---------------|--------------|---------------|--------------------------------|
| OPC Rotem | Conventional | 440 | July 2013 |
| Dorad | Conventional | 832 | May 2014 |
| Dalia | Conventional | 900 | July 2015 |
| Ashdod Energy | Cogeneration | 55 | December 2015 |
| Ramat Negev | Cogeneration | 120 | January 2016 |

By the year 2020, IPPs will be responsible for close to 40% of production capacity (and more than 40% including renewable energy production), at the

⁷ See, for example, Navigant Consulting, *Review of the Electricity Tariffs for the Israel Electric Company*, prepared for the PUA (Chicago, IL: Navigant Consulting, Inc., 2014), <https://pua.gov.il/publications/documents/final%20report%20navigant%2019%2010%2015.pdf>.

⁸ See 1996 Electricity Market Law, section 60 (9D), amendment no. 2085, March 1, 2007.

expense of the IEC's market share (although this might change if a reform agreement with IEC is struck). Their power is purchased both by IEC (in its capacity as the system operator) as well as by bilateral consumers, according to a highly protective regulation set up by the PUA.

The opening of the market to competition created significant tension between the state-owned, vertically integrated utility and private producers. It also elevated to an extreme the natural tension between the PUA and the IEC and its strongest labor union.⁹ And amidst all these growing pains, a major disruption to the gas supply changed the game even further.

Up until 2011, Israel's gas supply originated from two separately owned reservoirs: Yam Tetis, an Israeli reservoir, and an Egyptian reservoir owned by the East Mediterranean Gas Company (EMG). Each reservoir supplied about 2 bcm per year. However, by the end of 2011 Yam Tetis had gradually gone dry, and supply from Egypt had stopped due to the Arab Spring riots. These riots were accompanied by repeated explosions of the Sinai gas pipelines connected to Israel until all gas supply to Israel ceased. As a result, Israel experienced its most severe energy crisis ever, with a shortage of gas supply between 2011 to mid-2013. This crisis cost 9 billion new Israeli shekels (NIS), or roughly US\$2.36 billion, borne by the public in electricity bills, due to the need to use more expensive fuels.

These events created the conditions in which a private partnership between Israel-based Delek Drilling and Houston-based Noble Energy became—and remains—the only gas supplier to the Israeli energy market, holding control over four proven gas reservoirs:¹⁰ Tamar (with some 300 bcm), Leviathan (more than 500 bcm), and two additional small reservoirs, Karish and Tanin (accumulating to

⁹ In 2013, the IEC labor union charged me personally with “contempt of court,” and its attorneys argued that my actions as the PUA' chair, were violating IEC employees' labor rights and damaging their job security. This charge was dismissed, but only after a lengthy investigation at the Labor Courthouse, where I had to defend my actions as the chairperson of the PUA for bringing private players into the market (SK 15455-07-14 Labor Court (Hi), *New Gen. Fed'n of Laborers v. State of Israel* (July 17, 2014)).

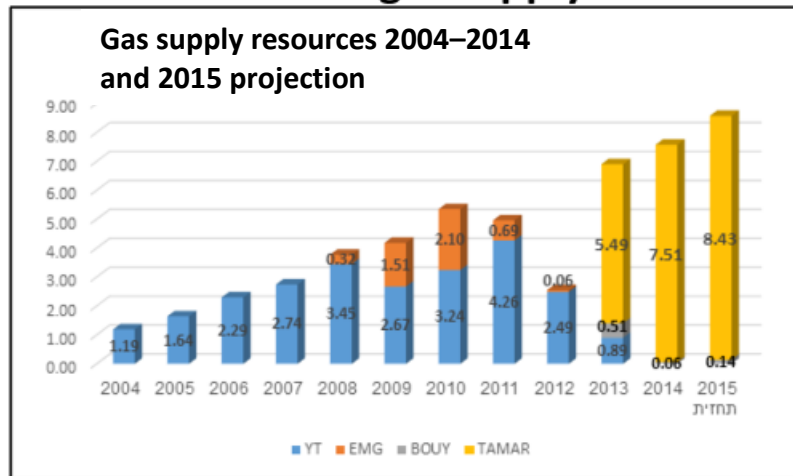
¹⁰ Between 2011 and 2014, there was still hope of other gas reservoir findings offshore of Israeli waters. However, by 2014 all other drillings had failed to find gas. During the year 2015, Tamar produced 8.1 bcm out of a total of 8.4 bcm of natural gas consumption by the electricity market in Israel. The rest was liquefied natural gas supply.

roughly 60 bcm gas supply at the time, see Figure 3). Drilling licenses for those four reservoirs are owned by this same partnership, in different variations, and were given by the Ministry of Energy to the Delek–Noble partnership without a tender process.¹¹ Other drilling in Israel has failed in the last four years.

This challenging setting—a single monopoly dominating the production of a crucial, strategic resource in Israel—is at the center of the unfolding events that I document in this paper. This gas monopoly presented the Israeli government leadership with what many would argue to be the biggest economic and public policy test of the last decade, involving great powers and extraordinary sums of money—and impacting a key factor in Israel's economy and cost of living.

Figure 3. The Creation of a Monopolistic Market in Israel’s Nature Gas Supply

The creation of an additional monopolistic market in gas supply-



Note: In 2011–2012, the Arab Spring riots in Egypt created a historic gas crisis, which cost the public 9 billion NIS. The development of Tamar reservoir in 2013 replaced EMG supply
Source: PUA staff presentations from 2014.

¹¹ Ownership distribution in Tamar and Leviathan reservoirs is the following: Tamar—Noble Energy (36%), Isramco (28.75%), Avner Oil Exploration and Delek Drilling., which are both subsidiaries of the Delek group (15.625% each), Alon Natural Gas Exploration (4%); Leviathan—Noble Energy (39.66%), Delek Drilling (22.67%), Avner Oil Exploration (22.67%), Ratio Oil Exploration (15%).

III. Facing a Gas Monopoly

The First Encounter: The 2012 Gas Crisis

My first interaction with the gas deal players took place in 2012, just a few months after my appointment to the position of the PUA chairperson by the Israeli Cabinet.

In the years leading up to this initial confrontation, the first IPPs in the Israeli electricity market were struggling to progress with their financial closings and gas contracts, and this continuous delay had led to severely low electricity reserves heading into the hot Israeli summer.

The PUA was busy putting in place urgent incentives to encourage market players and consumers to cut electricity consumption while also finalizing additional protective regulations to expedite the IPPs' penetration into the market. The PUA was also involved in an intense and high-priority project of issuing as many licenses as possible for a brand-new renewable energy private industry.

In the midst of the commotion, Israel was unexpectedly exposed to the biggest gas crisis it has ever experienced.

During September 2011, as the Arab Spring Riots erupted in Egypt, reports began pouring into the PUA of repeated and deliberate explosions in the Sinai gas pipelines, which connected East Mediterranean Gas Company pipelines to Israel. As a result, EMG—Israel's major gas supplier in Egypt at the time—had to cease all gas supply. By late 2011, the Egyptian authorities had disassembled the pipeline, after failing to block these repeated attacks. Israel was left with no gas supply and full dependence on the development of the Tamar gas reservoir—which was not expected to be ready for operation before mid-2013.¹²

The resulting energy crisis in Israel lasted 18 months. A 40% increase in consumers electricity bills was expected to take place. This tariff increase was reflective of the 9 billion NIS cost of polluting crude oils the IEC was forced to purchase in place of the missing gas.¹³ Each month without gas supply resulted in an

¹² Mira & Sara were other gas explorations under way offshore of Israel's territorial waters, but neither were in progressed stages of validity for finding significant gas for commercial drilling.

¹³ See State Comptroller, *IEC—The Gas Agreement*, Report No. 67B (2017). For perspective, IEC's total cost of fuel in the year 2012 was 9 billion NIS (see

extra cost of roughly 300 million NIS in oil borne by the IEC and passed on to the public in their electricity tariffs.

To prevent extreme spikes in Israeli electricity bills—which would cause high volatility in the Israeli Consumer Price Index (CPI) and harm Israel’s economic stability—the PUA, together with the Ministry of Finance staff, publicly announced and initiated a plan to spread out the reimbursement of the cost of this crisis to the IEC over a period of three years, promising to pay back in three rounds of tariff increases the full economic costs of the gas crisis to the IEC. In a rare step, the Minister of Finance gave the IEC governmental guarantees to support its growing debt due to the gas crisis cost.¹⁴ This guarantee helped the IEC get cheap bridge loans to address its cash flow gap during 2011–2012—and to sail through the crisis without any harm to its financial rating.¹⁵

http://www.mevaker.gov.il/he/Reports/Report_587/b247e2f4-52a7-4b09-a203-fb1c3618774d/N303-iec.pdf).

¹⁴ The governmental plan to address the gas crisis consisted of additional elements, including an 80% tax reduction on crude oil for that period of time in order to minimize the cost to the public and various exemptions from the environmental enforcement rules regarding emissions due to the excessive use of crude oil.

¹⁵ On December 24, 2014, the whole cost was paid back to the IEC, and the PUA decided on a tariff reduction. See “On January First, Electricity Prices Are Going Down by 11.1% on Average,” *Tashtiot Portal*, December 24, 2014, <http://www.tashtiot.co.il/2014/12/24/%D7%97%D7%91%D7%A8%D7%AA-%D7%94%D7%97%D7%A9%D7%9E%D7%9C-36>. It should be mentioned that the IEC had filed an arbitration proceeding for compensation against EMG for the damages and breach of its gas contract before an international arbitration. The ruling was handed down in December 2015, rewarding the IEC compensation of US\$1.76 billion in worth. However, due to political relations between the two countries, the enforcement is unclear. See Ari Rabinovitch et al., “Egypt to Appeal \$1.76 Billion Award to Israel in Gas Dispute, Freeze Gas Import Talks,” *Reuters*, December 6, 2015, <http://www.reuters.com/article/us-iec-egypt-natgas-appeal-idUSKBN0TP0HL20151206>. Also see the following PUA rulings and hearings regarding the gas crisis: PUA, Ruling No. 1—A Hearing “Principles to Spreading Out the Electricity Tariff Increase to Years 2012-2014 due to the Gas Crisis in the Energy Market” (January 26, 2012), <https://pua.gov.il/hearings/documents/2223.pdf>; and PUA, Ruling No. 1 of Meeting 367—“The Spreading Out of the Electricity Tariff Increase of 2012–2014 due to the Gas Crisis in the Israeli Market” (March 22, 2012), <https://pua.gov.il/decisions/documents/2438.pdf>. For the appendixes to the ruling, see <https://pua.gov.il/decisions/documents/2894.pdf>; <https://pua.gov.il/decisions/documents/2274.pdf>; <https://pua.gov.il/decisions/documents/2277.pdf>; <https://pua.gov.il/decisions/documents/2275.pdf>; and <https://pua.gov.il/decisions/documents/2276.pdf>. For the second round of tariff increases, see Public Hearing by the PUA—“An Update in the Spreading Out of the Electricity Tariffs—2013” (March 20, 2013), <https://pua.gov.il/hearings/documents/2886.pdf>; and PUA Ruling No. 2 of Meeting No. 400—“The Yearly Tariff Update 2012–2013: A Summary Ruling and the Spreading Out of the Increase of the

During this fragile situation, the Delek–Noble partnership started signing the first gas contracts for the Tamar gas reservoir with its clients. In January 2012, Tamar signed long-overdue gas contracts with two new IPPs: Dalia and Dorad. Then, on March 14, 2012, Tamar signed its largest-ever gas contract with the IEC. Soon after, IEC forwarded the contract to the PUA with an urgent request for an immediate preapproval of *all* costs related its gas contract, stating that it was already approved by its board of directors.

Hanging on by a thread, these first IPPs had also approached the PUA for approval of all costs related to their gas contracts. The private players emphasized that unless the IEC's gas contract costs were fully approved, the financial closing of those IPPs would not be approved by the banks, as the financing of Tamar depended fully on approving the IEC gas contract as its “anchor buyer.”¹⁶

The IEC gas purchase agreement (GPA) with Tamar was the result of years of negotiation between these two monopolies, which surprisingly materialized into an agreement in the middle of the gas crisis, of all times. It was a 17-year contract, US\$18.5 billion–\$24 billion in value and 77 to 99 bcm of gas in scope. It consisted of two parts: a “basic” GPA and “optional” additional gas quantities. The IEC GPA included a strict obligation regarding IEC's gas minimum consumption, known as the Take-or-Pay (TOP) per year requirement. According to the GPA basic deal, the IEC's TOP obligation for an initial period of five years was 3.5 bcm per year, with the option of dropping it to 2.5 bcm in the remaining years of the contract. (In the case that IEC exercised its right for the full additional gas purchase according to the

Electricity Tariff in the Year 2013" (May 6, 2013), <https://pua.gov.il/decisions/documents/2975.pdf>. Appendixes available at <https://pua.gov.il/decisions/documents/2916.pdf> and <https://pua.gov.il/decisions/documents/2917.pdf>.

For the third round of tariff increases see PUA, Ruling No. 3 of Meeting 431—"A Delay in the Tariff Updated due to the Ending of the Collection of the Gas Crisis Cost" (July 10, 2014), https://pua.gov.il/decisions/documents/886_431_7_30_07_14.pdf; PUA, "A Yearly Update 2014—Summary Tariff Ruling to the Electricity Consumers in the Year 2015" (December 30, 2014), https://pua.gov.il/decisions/documents/idkun2015_annual_dec2_new.pdf; and PUA, Ruling No. 4 of Meeting 452—"2014–2015 Yearly Tariff" (January 21, 2015), https://pua.gov.il/decisions/documents/930_nnn_4_452_21012015.pdf.

¹⁶ The use of the term "anchor buyer" was incorporated by the parties to the contract after the Israeli Antitrust Authority did not approve incorporating a clause into the gas contract promising the IEC the best gas price due to its being the most dominant purchaser of Tamar. The anchor buyer clause was a replacement, emphasizing that the IEC is the largest purchaser of Tamar, enabling it to get funding for its development.

optional deal, the TOP would rise to between 3.5–5 bcm depending on the amount of IPP purchases).¹⁷ Under the GPA, the IEC had no exit points throughout the years of the contract regarding its gas quantities; the contract did allow, however, for the IEC to renegotiate its gas prices in 2021, if not reflective of the IEC's special standing as the “anchor buyer” of the Tamar reservoir, in a limited way.

The gas prices in this contract were expressed in US currency and indexed to the US CPI plus 1% per year until 2019, and to the US CPI minus 1% per year for remaining years. This indexation formula had never been seen in gas contracts in Israel and not in line with international practices. It was explained by the IEC as one that ensures “stability” in the gas prices.¹⁸

The IEC informed the PUA that Tamar had insisted on this clause in the contract, even though it deviated from a letter of intention (LOI) presented to the IEC in December 2009. The earlier LOI included a standard IEC price formula that indexes gas to mix of fuels and only partly to the US CPI. Additionally, it had a restraining formula on the increase in prices, protecting consumers in case oil prices per barrel reached a very high level.

Tamar annulled this LOI in the face of the gas crisis and 2010 legislation to adjust the way the government taxed natural gas reservoirs. Intended to address excess profits or rents, the so-called Sheshinski Tax Law, named after the gas tax committee head Professor Eytan Sheshinski, raised the standard tax rate (of 12.5%) after Tamar's revenue reached double the amount of investments,¹⁹ first to 20% and gradually up to 50% according to the level of excess profits.²⁰

¹⁷ Depending of the usage of the optional gas deal included in this contract. See State Comptroller 2017, note 13 above, page 1244.

¹⁸ The PUA requested that the IEC explain to the Board of Commissioners why it supported the unusual indexation. IEC wrote a letter to the PUA saying it preferred certainty in face of very high fuel costs at the time. Additionally, my recollection of reading protocols of the IEC's Board of Directors while approving the deal is that they were pressured to sign the contract or the gas quantity be sold to IPPs, leaving IEC without enough guaranteed gas quantities.

¹⁹ See State Comptroller 2017, note 13 above, footnote 12.

²⁰ The 50% tax rate is 10% lower than originally proposed (20% raised to 60%). For the final conclusions of the Sheshinski Committee on Oil and Gas Resources in Israel, see <http://www.financeisrael.mof.gov.il/FinanceIsrael/Pages/en/News/20110112.aspx>

Tamar's refusal to continue negotiating their original gas contract with IEC and the new US CPI + 1%/-1% pricing mechanism was an illustration of the new power game by Tamar, using the gas crisis in Israel to its advantage.²¹

The IEC gave the PUA 45 days to review the contract—while stressing that any delay in this contract's approval might compromise or delay the return of gas to Israel by Tamar reservoir in the midst of the gas crisis. The deal's financing involved three different shareholders and three consortiums that signed financing agreements with these shareholders—a total of about 14 different financing institutions. Therefore, in the perspective of the government based on Tamar's arguments, any intervention in the gas contracts might have reopened or interfere with the financial agreements of Tamar, at a time when every month-long delay in the completion of the Tamar's drilling—and thus, the return of gas to Israel—resulted in great air pollution and cost the public and IEC roughly 300 million NIS in electricity bills.

As much as the PUA took into consideration the sensitivity of the situation, it could not overlook the effect of this gas contract on the electricity market and consumers for the following two decades. Israel was moving rapidly into a gas-dependent energy market; the fuel represented almost 70% of generation costs and about 50% of overall electricity retail prices. Further, the gas crisis had severely impacted the IEC's negotiating power, as it put Tamar in a monopolistic position, holding all gas supply options to Israel—and thus, all the cards.

In addition, Tamar's connection to the shore had created an artificial shortage of gas to the Israeli market because its capacity was insufficient.²² This further weakened the IEC's bargaining power.

So although the PUA would never perform scrutiny over a gas contract in a business-as-usual scenario, the circumstances this time put IEC in a disadvantageous negotiating position. I therefore approached the Israeli Antitrust Authority (IAA) General Director, Professor David Gilo, and asked for his

²¹ See State Comptroller 2017, note 13 above.

²² The capacity of the gas pipeline installed by Tamar was 40,000 MMBTU per hour, while peak consumption was much higher. Israel found itself with a shortage of hourly supply due to the fact that the maximum supply from Tamar was not sufficient.

cooperation in creating a collaborative task force of professionals from both the IAA and the PUA.

I saw great importance in the two agencies joining forces. In the face of the gas crisis, this cooperation, I believed, would create an effective legal structure of scrutiny over both parties to the gas contracts. The IAA had broad legal authority over the Tamar monopoly (including the approval of its GPAs), while the PUA had sole authority over the IEC's costs (and no direct legal authority over Tamar).

Indeed, the IAA at that time was conducting an investigation of the Delek-Noble Energy partnership as owners of Tamar over an alleged violation of the antitrust laws of Israel. This investigation was focused on the circumstances by which this partnership acquired its monopoly over the Israeli gas exploration market without the IAA's prior approval, as required by the law.²³ The IAA was considering its next step, including the breakup of this joint ownership over certain reservoirs, while a dialogue was taking place with the partnership's representatives.

After intense deliberation, the PUA and IAA task force agreed on the following main principles and priorities that should guide the collaborative overview of the GPAs:

- to maintain as its highest priority the urgent return of the gas supply to Israel by Tamar;
- to make the fewest possible modifications to the “basic” gas contract of the IEC in order not to endanger or delay in any way the financing of Tamar;
- to give competitors a chance to operate in the Israeli market by creating an environment that supported the development of competition in the gas exploration market—either with pending gas reservoirs that were under

²³ On September 6, 2011, the IAA announced that Delek and Noble might be part of a restrictive trade practice, in violation of Israeli antitrust law, and the companies began negotiations with IAA. See Avi Bar-Eli, “Director General of the Israeli Antitrust Authority: Delek and Noble Energy Will Be Proclaimed a Monopoly in the Gas Sector,” *The Marker*, September 6, 2011, <http://www.themarker.com/markets/1.1409634>. It should be mentioned that the Israeli antitrust law enforcement system is an ex-ante one, meaning that the players should seek the IAA's approval prior to the completion of transactions that might be in violation of the antitrust laws. This stands in contrast to the American system, which puts the burden on the Federal Trade Commission to actively prevent a transaction in violation with the antitrust laws.

- way, or by the IAA's final ruling regarding the breakup of the Delek–Noble monopoly;
- to set price controls over the gas supply, only as a last resort, in case the hope for competition failed—that is, if all other pending gas explorations held by competitors failed or the IAA was unsuccessful in restructuring the monopolistic gas market;
 - to acknowledge the importance of the first IPPs in the electricity market as the pioneers in opening the monopolistic electricity market to private players; and
 - to be committed to an urgent and expedited GPA examination process.

The review of the contract by the two authorities raised several concerns:

- The gas price indexation formula (US CPI + 1%/-1%) in the IEC's gas contract created a mechanism in which gas prices would increase steadily over the next two decades with no correlation to the international markets in fuel, oil, and gas.
- The IEC could not reduce its gas quantities during the contract period below 3.5 bcm in the first five years of the contract, following the same minimum quantity if it decided to exercise the option to increase its gas quantities, and below 2.5 bcm per year after 5 years if it decided not to exercise its option to increase quantities.
- IEC received an option to exercise its right for additional gas contracts (the “optional deal”) only for a limited time of one year after signing the agreement, jeopardizing the ability of a new gas supplier—if in place—to compete with Tamar over IEC according to this right.
- In the IPPs’ contracts, the TOP obligations left no room for future gas suppliers, damaging potential competition in the gas market.²⁴ The IPPs had

²⁴ For an initial period of 15 years, Tamar locked the IEC into buying quantities of gas at levels of 2.5–3.5 bcm and the whole industry into at least 50% of quantity. Taking into consideration the size of the relevant IPPs, this meant that Tamar was to supply 70–80% of the nation’s gas consumption for that period.

a window of only several years to reduce their overall total yearly contractual quantities (TCQ) by 50%, which translated to keeping about 60% of their TOP over the entire gas contract period. The overall TCQ was supposed to be calculated as the average of three years of consumption prior to the decision to reduce quantities.

On June 14, 2012, the resolutions of the PUA's Board of Commissioners and the IAA were published.²⁵ According to these deliberately similar documents, the gas contracts would be approved and the PUA agreed to pass the cost on to the public, subject to the following modifications:

- The IPPs would be given the option to cut their TOP obligation by up to 50% without allowing Tamar any other change in the contracts. IPPs could have a window of several years to reduce their overall gas obligations quantities by 50%, which translated to keeping about 60% of their TOP over the 20-year contract period.²⁶
- The IEC would get two additional time frames in which it would be able to decide whether to exercise its right to buy more gas and put into effect the optional deal.
- The PUA criticized the CPI +1%/-1% indexation as unacceptable and ruled that the optional deal would change its pricing mechanism from the CPI +1%/-1% indexation formula to a restrained formula of only 30% indexed to the CPI throughout the years.

This last modification was intended to offset part of the surplus cost to the public of the basic deal while additionally setting a benchmark for additional cheaper gas prices going forward in future competing gas deals. At the same time, the PUA public

²⁵ The PUA hearing is available at <https://pua.gov.il/hearings/documents/2329.pdf>. For the PUA final ruling, see PUA, Ruling No. 1 of Meeting 377—“Principles of Recognizing the Costs of Gas Purchase Agreements 2012” (June 14, 2012), <https://pua.gov.il/decisions/documents/2558.pdf>. For the matching IAA ruling with regard to the IEC gas contract, see IAA, “Conditions for Approval of Gas Agreement between Tamar Gas Partnership and IEC” (June 14, 2012), <http://www.antitrust.gov.il/files/11351/8893.pdf>. These rulings are similar, based on the two authorities’ collaboration. However, the IAA did not want to address the issue of gas prices before the final competitive picture of the gas market was clear.

²⁶ The overall TCQ would be calculated as the average of three years of consumption prior to the decision to reduce quantities.

hearing and resolution clearly stated that it viewed the indexation formula as an unlawful attempt to inflate prices with no economic justification. However, taking into consideration the special circumstances of the market at the time of its decision (the gas crisis), the PUA had decided to not touch the “basic” gas deal directly, as to not halt the return of gas to Israel due to opening this contract. Rather, it chose to interfere with the additional, “optional” gas deal and to wait for competing gas players (which will reflect eventually on the basic deal as well). To stress this, the PUA clarified in an additional ruling that it would not accept such an indexation formula in future or alternative IEC gas deals at all, even in cases of other gas suppliers.²⁷

This solution was strongly supported in real time by both the Ministry of Finance budget department and the IAA, in writing. It corresponded with the governmental priority to end the gas crisis and to interfere with the gas pricing only as a last resort, if the gas market does not become more competitive and if Tamar was to remain a monopoly in the long run. The idea was to wait for future drillings or for the IAA's final decision with regards to the divestment of this monopoly as the optimum solution for the price problem. In the case where Tamar retained its dominant position in the market, the thought was that the pricing problem would be dealt with by the Price Control Committee—a four-member committee appointed by the Ministers of Finance and Energy that holds the authority to decide on a variety of price control mechanisms for natural gas.²⁸

On November 13, 2012, Gilo declared that the Tamar partnership constituted a monopoly, according to the Israeli Antitrust Law.²⁹

²⁷ PUA, Ruling No. 3 of Meeting 386—“An Update of PUAs Ruling 377 of June 14, 2012, Regarding Principles for Recognizing Costs of 2012 GPAs” (May 11, 2012), <https://pua.gov.il/decisions/documents/3167.pdf>.

²⁸ The PUA's ruling with regards to IEC contract explicitly states, in paragraph 16 to the ruling, the following: “The PUA wishes to stress that creating conditions for future competition and the prevention of eternalizing the existence of a monopoly in the area of the natural gas supply are the best tools in the long run to minimize cost to the electricity consumers, and the PUA sees great importance in ensuring certainty and future competitive market conditions. However, it is clear that this ruling does not derogate the authority of the Price Control Committee.” See note 25 above.

²⁹ Monopoly Proclamation, Delek Drilling together with Avner Oil & Gas Exploration, Noble Energy Mediterranean Ltd., Isramco Negev 2 and Dor Oil Exploration—Hold a Monopoly over Supplying Natural Gas to Israel Starting at the Second Half of 2013 (November 13, 2012).

On April 22, 2013, the Price Control Committee decided to require the Tamar partnership to start reporting to the committee their income details and margins. However, other than reporting obligations, the committee did not put any further limitation on the gas prices. In fact, as of this writing, no further effective steps have been taken.

In May 2013, Tamar modified its contracts according to the PUA and IAA rulings, and gas from Tamar started flowing to Israel.³⁰

This was my first encounter with the gas monopoly. The PUA as well as the government bodies prepared for other gas reservoirs and a more competitive drilling market to emerge. All eyes were now on future developments in the Israeli gas exploration market. The anticipation was that other gas sites in the Mediterranean waters would succeed, or that the IAA would reach a consent decree with the Tamar partnership, forcing them to sell out and breaking their monopolistic standing.

The Second Encounter: 2014–2015

The second series of events unfolded in 2014–2015. By that time, I had been the PUA Chair for nearly four years. These were years of great challenge and change. I had the privilege of leading the authority through a time of historic breakthroughs in the energy market. Private conventional power producers were entering the market with significant force and were on a fast track to holding 40% of Israel's growing electricity production market.³¹ In addition, a nascent solar power industry was rapidly emerging, while the PUA was simultaneously cutting tariffs due to the international sharp drop in photovoltaic solar modules costs. Tension with IEC and its labor union was growing due to the rapid penetration of private industry, and, lastly, gas supply to Israel from the Tamar reservoir was flowing steadily.

³⁰ By this time, Tamar's reservoir gas was sold out, and therefore it started signing IPPs on "interruptible" GPAs—a gas contract promising to supply gas only when there is free space in the pipeline. The gas prices set by Tamar in these contracts were more expensive than previous non-interruptible contracts, regardless of their inferior nature.

³¹ The PUA has created US\$7 billion of private capital into the market. In 2015, IPPs made up 20% of the electricity generation segment in Israel. Their share is expected to grow to 40% and up.

By 2014, however, it was clear that the monopolistic standing of Tamar and the Delek–Noble partnership had become a long-term reality, for several reasons. First, all competing gas drillings failed.³² The Delek–Noble partnership was the owner of all existing main gas reservoirs: Tamar, Leviathan, Karish, Tanin and Dalit. Thus, they held control over the major sustainable source of Israel's energy security—more than 900 bcm of gas supply, equivalent to decades' worth of gas for the Israeli public. Second, although an updated gas export policy was put in place,³³ the IAA was struggling with its now two-years-old investigation of Delek–Noble's market dominance, and the Price Control Committee ruling on gas price limits was nowhere in sight.

In March 2014, three additional GPAs were signed between new IPPs and Tamar, and these were brought to the PUA for cost approval.³⁴ These contracts were for relatively small quantities of gas—280 MW combined, with annual gas quantities of only 0.35 bcm—but nevertheless represented even worse gas prices compared to previous contracts.

These new contracts specifically ignored the PUA's rulings from 2012. Their starting price of US\$5.7 per million British Thermal Units (MMBtu) was higher than in previous GPAs, and prices were indexed to the same US CPI +1%/-1% formula

³² Lior Gutman and *Calcalist*, "Mira Drill Failed; Gas Partnerships Crashed," *Ynet*, September 6, 2012, <http://www.ynet.co.il/articles/0.7340.L-4277960.00.html>; *Calcalist*, "The Attempt to Find Gas at the Sara Drill Has Failed," *Ynet*, October 22, 2012, <http://www.ynet.co.il/articles/0.7340.L-4294627.00.html>; Tomer Kornfeld, "Deep Disappointment at Pelagic: 'Yishay' Drill Reached Final Depth, Layer Only 15 Meters Deep," *Bizportal*, January 2, 2013, <http://www.bizportal.co.il/gazandoil/news/article/348323>; Eran Azran, "Shimshon Sank at the Gates of Gaza: Isramco's Disappointing Drill Drowned 110 Million Dollars," *The Marker*, March 18, 2015, <http://www.themarker.com/markets/1.2592626>; and "Cyprus Postpones Developing Aphrodite Reservoir till Next Year," *Energy East-Med News*, October 23, 2015, <http://energynews.co.il/?p=8258>.

³³ Appointed in October 2011, the so-called Tzemach Committee was given the task of establishing recommendations for the Israeli government regarding the appropriate gas export policy (and amount of gas approved for export) to be applied to offshore gas findings. On June 23, 2013, the Tzemach Committee's recommendations were adopted through Government Decision 442, which further lowers the limit recommended by the committee and caps allowed exportation at 40% of known reserves. Decision 442 of the 33d Government, *Adoption of the Main Recommendations of the Committee to Examine the Government's Policy Regarding the Natural Gas Market in Israel*, June 23, 2013. The decision was not brought before the Knesset, despite a formal letter signed by over half of the members; an appeal to the Supreme Court calling for the decision to be brought before the legislature was denied with a 5–2 majority (HCJ 4491/13 Acad. Ctr. for Law & Bus. v. Government of Israel (July 2, 2014)).

³⁴ The three private power plants were Alon Tavor, Sorek (of the Delek group) and Ramat Gavriel.

(now including a contractual minimum yearly of the CPI rate through the years)³⁵ ensuring the highest gas prices to date. For example, according to this contract, by year 2025 gas prices would exceed US\$7 per MMBtu regardless of gas prices around the world. For illustration purposes, it should be mentioned that in 2015 values alone, the difference in gas prices would have amounted to 11 billion NIS per year of excessive expenditure borne by the public for each additional US\$1 in price per MMBtu and these numbers will grow significantly as the total gas consumption rose in further years.³⁶ This price indexation formula—together with high TOP rates—placed all risks on the gas consumers and was contrary to previous PUA resolutions ruling out this indexation formula.

Additionally, the accumulative TOP obligations already exceeded Israeli demand for electricity expected at the time. This led to an absurd situation in which the Israeli public would have to pay Tamar for 3 bcm of gas it would never consume, an overpayment evaluated at 2 billion NIS (roughly US\$600 million).

Around that time, international gas prices began to sharply decline, mainly in Europe, emphasizing Tamar's gas pricing problem even further.³⁷ With Tamar now incorporating its CPI+1%/-1% price indexation formula into new private gas contracts, it would perpetuate this monopolistic self-elevating price mechanism, and gas prices would become more expensive each and every year.

Additionally, the influence of these three new IPP gas contracts over the big IEC gas contract, which had tremendous impact on the public electricity tariff, was of concern. The IEC's GPA included IEC's commercial eligibility to renegotiate its gas prices with Tamar in 2021 if not reflective of IEC's special status as Tamar's "anchor buyer"—that is, if its gas prices were higher compared to other gas contracts.

³⁵ With the difference that the IPPs' contracts were 60% indexed to the US CPI and 40% indexed to the Israeli CPI. In the Israeli reality of zero CPI rates for the last years, only the CPI yearly minimum rate raises the prices by 4% every three years. Adding to that is the +1% and the high base price.

³⁶ This calculation by the PUA was based on a 8.4 bcm assumption of natural gas demand/usage by the Israeli electricity market in 2015. The numbers in later years have risen much higher than expected, racing toward 10 bcm/year, as Israel consistently and rapidly has increased its gas usage and is gradually more and more dependent on natural gas as the main source of its electricity market.

³⁷ See Eran Azran, "Gas Prices over the World Are Crashing. In Israel, the High Price Is Stuck in Its Place," *The Marker*, March 9, 2016, <http://www.themarker.com/markets/1.2877166>.

The first IPPs' gas contracts from 2012 did not index the gas prices to the US CPI +1%/-1% formula, and their contracts resulted in significantly cheaper gas prices compared to the formula used by the IEC contract. This, together with the PUA's creation of the cheaper "optional" deal and the governmental anticipation for competition and less expensive gas contracts consequently laid a foundation for IEC to renegotiate its gas prices in future years.

Once the anticipation for competition in the gas market had vanished, however, and with the Price Control Committee nowhere in sight, Tamar's monopolistic status enabled it to keep setting gas prices. I viewed the three even-more-expensive new gas contracts as a way to further sabotage IEC's commercial ability to renegotiate its gas prices in the future. If approved, these three gas contracts would not only create the most inefficient and expensive possible set of IPPs but would also eliminate IEC's future claim to fix its indexation formula as an anchor buyer according to its contracts because the IEC would be presented with the new even worse gas contracts.

Blowing the Whistle

I began to voice my concern about the situation publicly. I was the first public official in the government to do so. On March 9, 2014, I sent a public report to Dr. Avishay Braverman, the chairman of the Economic Affairs Committee (EAC) at the Knesset, pursuant to his request. On behalf of the PUA, I expressed our concerns regarding the worsening gas contracts and the need to consider updating the government's gas policy. Later that month, on March 18, I appeared before this same committee and raised the need for a high-level governmental intervention.

This discussion in the Knesset was adjourned with the committee expressing its worries regarding the creation of a natural gas monopoly. On April 27, 2014, another public discussion on this topic was held in the EAC. I again raised the PUA's concerns, and the committee adjourned after calling upon the government to review its natural gas policy.

On May 1, 2014, I sent a letter to IAA General Director Gilo describing the PUA's strong reservations about a draft "consent decree" with Delek-Noble that it

had published on March 27, after two years of confidential negotiations with the gas partnership. According to the decree, the IAA would legalize the partnership without charging it with an antitrust violation as long as it agreed to sell the small Karish and Tanin gas reservoirs—representing only 60 bcm—to a third party and grant this owner the right to purchase an additional 15 bcm (and no more than 0.5 bcm per year) from Leviathan, to be sold to gas secondary consumers.

In the PUA's view, the IAA had not addressed the problems deriving from Tamar's monopolistic dominance over the gas market in Israel, nor did it confront any of the problems with the gas pricing. The small reservoirs Karish and Tanin were costly and poor candidates for manifesting the best competition possible, with expensive shore connection infrastructure challenges and such a small fraction of the gas contracts quantities that it would take further public subsidies to support them.

In addition, the concern was raised that Prime Minister Benjamin Netanyahu himself might be too impartial to effectively deal with these issues. In a public claim submitted to the Israeli DOJ—and later dismissed—it was requested that the prime minister should refrain from dealing with natural gas policy issues on the basis of a letter he received from his biggest financial supporter, Sheldon Adelson, a US gaming billionaire and influential conservative donor. On July 17, 2014, Adelson had forwarded the prime minister a letter in his capacity as the chair of the US–Israel Business Initiatives at the US Chamber of Commerce, which includes Noble Energy (the partner in Tamar) as a member. The letter stated the chamber's commitment to deepening the bilateral commercial relationship between Israel and US companies, while suggesting that policies be advanced that enhance that relationship. In this context, the letter elaborated on various cooperative initiatives regarding the gas findings offshore of Israel, while specifically asking for “streamlining the regulation of Hydrocarbons in Israel.”³⁸

I spoke publicly about the specifics of the three new gas contracts for the first time on November 3, 2014, at a major energy conference.

³⁸ See Tova Tsimuky et al., “The Associate Attorney General: Netanyahu May Be Involved with Gas Issues,” Ynet, June 28, 2015, <http://www.ynet.co.il/articles/0,7340,L-4673554,00.html>.

In my speech, I called upon the government to admit that there were acute problems in the gas market: gas contracts conditions were worsening, particularly because their prices were artificially elevated and uncorrelated with other international fuel or gas market costs. I stated that these problems could not be overlooked much longer: gas prices are a key factor in the cost of living for the public in Israel, representing 40% of electricity bills, and electricity prices are a significant factor affecting Israel's CPI. In turn, the CPI affects the interest rates of the Israeli economy, making the gas pricing issue fundamental to Israel's economic strength and competitiveness.³⁹ Despite the fact that I brought public attention to this issue, however, even this did not stir the government or the power industry to act.

My concerns were echoed by Sergio Ascari, a gas expert from the Florence School of Regulation, whom PUA had hired earlier in the year to review the new series of gas contracts and explain their implications based on his international experience in gas-pricing mechanisms and gas policy. By mid-December, Ascari's report was submitted to the PUA and presented before the Board of Commissioners.⁴⁰ It was very detailed. According to Ascari, there was indeed a real problem with the gas contracts, and the gas price indexation formula in particular, which would inflate electricity prices over the next two decades without any correlation to international gas prices or the imported alternative. According to the report, ignoring the problem would deter future investors from putting funds into competing explorations, given such a predatory environment.⁴¹ In his words: "The existing gas contracts feature an unreasonable risk allocation upon gas consumers, with almost no risk left to gas suppliers."⁴² Additionally, the artificial and gradual

³⁹ See Avi Bar-Eli, "PUA Chair: 'The Cost of Living Problem is Hidden Not in the Cottage Cheese or Yogurt but Rather in the Gas Market,'" *The Marker*, November 3, 2014, <http://www.themarker.com/dynamo/energy/1.2475912>.

⁴⁰ NEWES (New Energy Solutions), *Study on World Gas Pricing Regulation and Lessons for the Israeli Market*, report prepared for the Public Utilities Authority of the State of Israel (December 2014). My colleagues at the Budget Department in the Ministry of Finance supported this review and also sent additional questions for Ascari to investigate.

⁴¹ The future Leviathan reservoir could offer cheaply priced gas, building on Delek-Noble's excessive earnings on Tamar, thus deterring new explorations investors.

⁴² NEWES 2014, note 40 above, page 8.

elevation of the gas prices would damage further development of an efficient electricity market. As long as Tamar was a monopoly, governmental scrutiny must take place, preventing misuse of monopolistic market power. There was a great need to create a long-term gas policy, he argued, which should be addressed by policymakers at the highest level.⁴³

Ascari's report did not recommend a heavy cost-based price control over the gas market and Tamar. Rather, it recommended changing the indexation formula of the gas prices in the long-term IEC–Tamar contract into a market-based formula. He created a suggested mix of international hubs of gas prices, some high and some low, and suggested using them as an indexation formula with a maximum price of around US\$6 per MMBtu (equivalent to the maximum price of the PUAs option gas deal from 2012).⁴⁴ Ascari's proposed formula referenced 15% of the US CPI (for operational costs only), LNG spot prices in Asia, UK National Balancing Point (NBP) prices, and a lower percentage of the US Henry Hub (HH) index. It could also include the German or Italian hubs as well.⁴⁵ The reason for choosing these hubs was their relevance, as potential export markets, to Israeli gas, which could reach Europe via pipelines or in the form of LNG, which accounted for more than 13% of gas in Europe. There is also a potential market for LNG in Egypt and perhaps in Cyprus, and even possibly in countries in Asia.⁴⁶ Ascari's suggestion was not without any faults and was not presented as the sole path. The idea however was clear and solid. Gas contracts should correspond with market prices, with netback costs put into consideration. This was not the case in the monopolistic Israeli contracts: “The price of existing contracts is at odds with almost all international practices, both in free

⁴³ NEWES 2014, note 40 above.

⁴⁴ NEWES 2014, note 40 above.

⁴⁵ In December 2014, when Ascari submitted his report to the PUA, the following were the hub prices: NBP (UK)—\$7 per MMBtu, Japan—\$10 per MMBtu, and HH (US)—\$3.5 per MMBtu. In December 2015, wholesale hub prices were NBP at \$5 per MMBTU, Japan at \$7 per MMBTU, and HH at \$2.5 per MMBtu. December 2016 saw an increase of wholesale gas prices to \$5.7 per MMBtu in the NBP, \$8.5 per MMBtu in Japan, and \$3.5 per MMBtu in the HH.

⁴⁶ The initial contract Tamar signed in Egypt was for exported gas for liquefying terminals in Egypt that were underperforming due to shortage of gas.

and in regulated markets. It is related neither to costs nor to prices of other markets or of other fuels, nor is it set on a competitive market.”⁴⁷

The PUA Board of Commissioners was at a crossroads. Approving the costs without interfering with the contracts would enable the pending private electricity producers to reach bankability and create further progress in the long-overdue privatization of the electricity market. On the other hand, this progress would be made at the expense of the public through billions of shekels in inflated electricity tariffs over the next two decades.⁴⁸

After presenting Ascari's opinion before the PUA's board, it was decided that the PUA would approach the relevant policymakers and blow the whistle.

On Monday, December 15, 2014, I forwarded a letter to both the Minister of Energy Silvan Shalom and to Prime Minister Netanyahu on behalf of the PUA Board of Commissioners, with Ascari's report attached.⁴⁹

In this letter, I informed the policymakers about the emergence of the gas monopoly and elaborated on the deteriorating conditions of gas contracts and prices; the negative effect this would have on the public; and the additional negative effect on creating beneficial competition in the electricity power market, Israeli gas-based industries, and the public's cost of living. I expressed my concern about the situation and informed them that PUA had acquired an expert report on the subject. I then laid out the report's finding that the gas price indexation formula does not relate to the international market, but rather ensures a certain inflation of the gas prices. I strongly recommended that gas prices be subject to governmental scrutiny

⁴⁷ NEWES, note 40 above, page 167.

⁴⁸ This dilemma was very real, especially considering the lack of support from the Ministry of Energy's gas authority as well as the market players. They all argued that the PUA's natural scope of responsibility was the electricity market and not the "gas market," while all other players remained silent in face of this problem, pushing for the PUA's cost approval.

⁴⁹ Letter from Orit Farkash-Hacohen, Chairperson, Public Utilities Authority, to Benjamin Netanyahu, Prime Minister and Executive Minister of Finance, and Silvan Shalom, Minister of National Infrastructures, Energy and Water, December 15, 2014, appendix A to PUA, Decision 1 (927)—“Non-Recognition of the Costs of the Natural Gas Agreements of 2014 and Request for Governmental Consultation Regarding the Terms for Recognition the Costs of Those Agreements,” https://pua.gov.il/decisions/documents/20150108a_lettertogov.pdf. See Amiram Bareket, “PUA: ‘Instead of Supervision on Gas – Linkage to the Price Abroad,’” *Globes*, December 18, 2014, <http://www.globes.co.il/news/article.aspx?did=1000994561>.

as long as the reality is of a gas supplier monopoly and that a market-based gas price indexation be applied rather than a cost-based control on contracts.

This, I suggested, would balance the need to encourage future gas explorations while safeguarding the public from non-market based gas prices. In the letter I informed the Minister of Energy and the prime minister that the PUA had been asked to reach a decision regarding new gas contracts, but because this issue touched on a policy matter that went beyond the PUA's scope of responsibility, we asked the highest policymakers to address the issue.

The letter additionally stressed that the failure of all other gas drillings since the initial contract review in 2012 justified a call for urgent governmental intervention and policy reassessment. This letter was sent only after I brought Ascari for a visit to Israel, in which he met all the relevant governmental players and presented his opinion personally and in detail.⁵⁰

My letter perpetrated a series of dramatic and unprecedented events that culminated in a highly politicized process of the gas deal and the dissolution of the PUA as an independent body. What started as a collaborative concern by the relevant gatekeepers in support of the PUA's whistle blowing soon vanished into silence and support of the fully political process about to unfold.

The Power Game Unfolds

On December 16, one day after my letter to the prime minister was sent, the Department of Justice (DOJ) issued a public letter to Netanyahu:⁵¹

“There is no other essential service infrastructure in Israel [other than gas] with such strategic impact, dominated by one private entity. . . . The market power of the Delek–Noble group raises a concern in the competitive level and in its implications on prices to consumers. But the problem is much wider in scope than regarding a specific market.

⁵⁰ He met with the DOJ, the IAA, the Ministry of Finance and more. Only the Gas Authority and Energy Ministry representative did not manage to find a time slot to meet with him.

⁵¹ See Avi Bareli, “A Dramatic Warning to the Government—the Gas Monopoly—a Danger to Decision Making in Israel,” *The Marker*, December 17, 2014 see <https://www.themarker.com/dynamo/1.2514233>.

There is the additional concern of such power concentration by one group on the macro level. It is a concern that far exceeds questions of price and competition. It is the concern regarding the ability of such power to affect decision-making processes in Israel” [translated from the original Hebrew by the author].

Similar to my letter to Netanyahu, this letter was widely covered by the media and was aptly titled, “There Is a Leviathan in the Room,” referring the largest gas reservoir owned by the partnership.

By the end of that same week, on December 23, 2014, IAA General Director Gilo announced his public decision to withdraw from his initial consent decree with the gas companies. The IAA's statement said that after reviewing the reservations, the authority had become convinced that it was an unbalanced deal in terms of competition and the public good. Additionally, the IAA declared its intention to reconsider the use of its legal tools under the antitrust laws to act upon the gas monopoly, including the possibility of breaking it up.⁵²

In response to the IAA announcement, the Delek–Noble partnership issued a notice that it planned to stop development of Leviathan.

On December 25, 2014, the prime minister's office set up a governmental task force to deal with the situation. The task force had no formal appointing letter and was informally led by the head of the prime minister's National Economic Council, Eugene Kandel.⁵³ The PUA was excluded from the task force, signaling the nature of the process that was about to take place.⁵⁴

⁵² See Israel Antitrust Authority, “Update on Gas,” press release, December 23, 2014, <http://www.antitrust.gov.il/subject/184/item/33458.aspx>; and Tomer Ganon & Lior Gutman, “Officially: Gilo Decided to Break Up Leviathan Partnership,” *Calcalist*, December 23, 2014, <http://www.calcalist.co.il/local/articles/0,7340,L-3648090,00.html>.

⁵³ Ascari had presented his findings to Kandel in a December 3, 2014, meeting and found the NEC head hostile toward any criticism regarding the gas pricing mechanism. Kandel had resisted the idea that Israeli gas prices should be connected to international gas market pricing and argued that the CPI +/- 1% mechanism was in the legitimate interest of the gas companies.

⁵⁴ The Kandel task force consisted of six representatives in total, including the gas authority representative in the Ministry of Energy plus one from each of the following offices: the prime minister's office, the Ministries of Energy and Finance, the Department of Justice, and the Antitrust Authority.

In the meantime, pressure was growing for the PUA to approve the latest gas contracts. The IPPs had filed a lawsuit demanding that the PUA approve the gas prices set in the contracts with no exception, arguing that the PUA's only authority was of "cost/tariff review" and not of "price setting" or "price control."⁵⁵ Not the IEC, the IPPs, or even the gas-based industries publicly supported the PUA's concern over the gas pricing issue. They all needed gas from Tamar, and many of their gas contracts included provisions that allow opening the contracts if Tamar is subject to price control.

Further, on January 4, 2015, the non-independent Natural Gas Authority sent the prime minister an aggressive letter rejecting the PUA's concern over the gas prices, likewise arguing that the gas price issue was not in the scope of PUA's authority or responsibility.⁵⁶

As this pressure built, on January 21, 2015, the PUA published its two decisions regarding the gas contracts. The first was a ruling to refuse to approve the costs of the three new GPAs and pass their costs on to the public through inflated electricity tariffs. The second was a request for consultation, which was forwarded to Kandel's governmental task force, regarding the conditions under which the PUA should approve the contracts' costs.⁵⁷ The PUA initiated this consultation request to

⁵⁵ As Tamar refused to modify the gas contracts, denying the PUA's legal authority over its actions, the IPPs asked the court to issue an order for the PUA to urgently approve the costs of those contracts. The IPPs argued before the courts that the PUA's resolutions regarding the gas cost recognized in the public tariffs held no authority and ignored the captive and monopolistic environment of the gas market. See HCJ 4467/14 IPP, Alon Tavor Ltd. and IPP Delek Ramat Gavriel Ltd. v. The Public Utilities Authority—Electricity and others; and HCJ 4584/14 IPP Delek Sorek Ltd. v. The Minister of National Infrastructures, Energy and Water and others.

⁵⁶ One should bear in mind that the Natural Gas Authority is established within the Ministry of Energy to support the development of the natural gas sector in Israel. It is responsible for issuing gas distribution licenses and tenders, setting tariffs for natural gas infrastructure, and advising the Minister of Energy and the government on natural gas policy. It is not an independent authority, nor does it hold responsibility with regards to electricity rates.

⁵⁷ PUA, Ruling No. 1 of Meeting 452—"A Decision to Not Accept the Costs of the 2014 Gas Contracts and a Consultation Request with the Government Regarding the Conditions to the Recognition of Costs" (January 21, 2015), https://pua.gov.il/decisions/documents/dec210115_452_1.pdf. The appendixes (Ascari's opinion, presentation, and my letter to the prime minister) are available at https://pua.gov.il/decisions/documents/20150108a_lettertogov.pdf; https://pua.gov.il/decisions/documents/gaz_report_1fina_01_15l.pdf; and https://pua.gov.il/decisions/documents/20150108b_matzeget.pdf.

protect the PUA's final resolutions and ensure it was in line with the culminating work of the Kandel task force.

Attached to the request was the PUA's draft of its suggested conditions, primarily the modification to a market-based indexation formula that would set gas prices based on a mix of gas hub costs worldwide, building on Ascari's report. An additional recommendation was that gas prices should not exceed the maximum price set in the 2012 IEC optional gas deal (US\$6 per MMBtu, resembling the original LOI with Tamar) as long as Tamar is a monopoly.⁵⁸ The Kandel Committee agreed to respond quickly due to the pending litigation by IPPs.

On February 8, 2015, the Ministry of Energy together with the Natural Gas Authority approached the DOJ claiming the PUA must with no discretion approve the gas prices. Their request was denied by the DOJ. In his March 4 decision, the Deputy Attorney General ruled that as long as other bodies are not exercising any of their legal authority regarding the gas prices, the PUA cannot ignore its public and legal responsibility to prevent unlawful cost to the public through inflated electricity prices.

Amidst all this activity, a March 17 general election in Israel was rapidly approaching, and public resentment had started to rise over the fact that a transition government kept conducting such sensitive negotiations prior to the election. On February 23, 2015, the DOJ ordered the Cabinet to stop negotiating with the gas companies. The talks were put on hold until after the election.

On March 9, 2015, the head of the budget department in the Ministry of Finance—in his capacity as a Kandel committee member—issued a letter in response to the PUA's consultation request.⁵⁹ The letter supported the PUA's reservations about the gas pricing and recommended the PUA be consistent with its 2012 rulings during the first encounter, thereby advising a US\$6 per MMBtu maximum cost in the contracts. According to the letter:

⁵⁸ All Tamar's gas contracts had a minimum gas price of US\$4.8 per MMBtu.

⁵⁹ Letter from Amir Levi, the Head of the budget department (on behalf of the Kandel Committee), to Orit Farkash-Hacohen, PUA Chairperson, "A Reply to the PUA's Consultation Request with Regards to the IPP's Gas Recognized Costs by the PUA," March 9, 2015.

"The comparison of the new gas contracts with IPPs to the old gas contracts of the first IPPs indeed indicates worsening conditions in the contracts both in the starting gas price and in the indexation formula.

Our goal [in the Kandel Committee] is to create a market structure that supports competitive gas prices corresponding with international competitive prices (export prices minus transmission costs, net back prices). However, in the current reality of the absence of any gas market, the appropriate indicator for a gas price is the 'IEC optional deal,' which was approved in 2012 by the PUA as a maximum price in the future competitive market. The gas prices in the current three contracts and their indexation formula will result in inflated electricity tariffs. It is therefore our recommendation that the cost approved by the PUA for gas prices should not exceed the optional deal of IEC [as established by the PUA in 2012]" [translated from the original Hebrew by the author].

The letter stated that the IEC's "optional" deal regarding gas prices was "on the table" and had been already presented by the committee members to the gas partnership during the course of the deliberation with the gas partnership representatives. The letter stipulated a disclaimer in which the work of the Kandel Committee had not yet finished, so the government might still change its mind.⁶⁰

On March 17, 2015, Netanyahu was reelected prime minister. In the new government's coalition agreement, a paragraph was included subjecting the ruling parties of the Knesset to agree to the goal of restructuring and limiting the PUA's level of professional and institutional independence.⁶¹

⁶⁰ It was unfortunate in the eyes of the PUA that the letter did not support the PUA's suggestion to the committee in insisting on a market-based indexation formula but rather the "optional" deal mechanism due to its restraining formula of the maximum gas prices.

⁶¹ See, for example, Coalition Agreement Between the Likud Faction in the 20th Knesset and Kulanu, Headed by Moshe Kahlon, Faction in the 20th Knesset, for Forming the 34th Government of the State of Israel, § 75 (April 29, 2015), http://main.knesset.gov.il/mk/government/documents/Coalition2015_1.pdf.

On March 23, 2015, the PUA published its final ruling on the new IPPs' gas contracts after the consultation process.⁶² It reaffirmed its ruling to reject the deals. It further decided to follow the recommendation of the letter written on behalf of Kandel's committee. The PUA refused to approve the costs of the three gas contracts and agreed to pass over the costs to the consumers' tariff only in line with IEC's optional gas deal. The PUA and my allies in the government had great hopes that the PUA's actions would help to strengthen the political opposition to the power and money players when adopting the final policy on the gas contracts with the gas monopoly.

The Kandel Committee resumed its intensive dialogue with the gas companies. As the work progressed, I was told that its deliberations had become "highly political," while the professional voices were gradually marginalized.

On April 2, 2015, IAA General Director Gilo decided to withdraw from the Kandel Committee meetings. By May 25, 2015, he had publicly announced his intention to resign in protest of the emerging deal in the Kandel Committee, which in his professional opinion failed to create adequate competition and address the gas monopoly's overbearing power.⁶³ In his public resignation letter, he explained:

"My resignation is based on a few considerations: First, I now know and understand that the government and the prime minister's office and the Energy and Finance Ministries will do everything in their power to pass the developing gas deal—a deal I am convinced will not bring any competition to this important market.

I am convinced it will be done by the Cabinet even at the costs of harming the Antitrust Authority's professional independence, which has great public importance, and of marginalizing the IAA's ability to exercise any of its authority unilaterally.

⁶² PUA Decision 7(956)—“Regarding Principles for Recognizing Gas Costs to Private Producers Working with Natural Gas” (March 23, 2015), https://pua.gov.il/decisions/documents/956_n_457_gaz_23032015.pdf.

⁶³ See Lior Gutman and Tomer Ganon, “Following the Gas Crisis—General Director of the Antitrust Authority David Gilo Resigns His Office,” *Calcalist*, May 25, 2015, <http://www.calcalist.co.il/articles/0,7340,L-3660014,00.html>.

I have let the other ministries know that I cannot be a partner to this gas deal as I am convinced it will not bring any competition to the natural gas market. I believe that if all the government was indeed unified and aiming toward a more competitive outcome, there would have been a chance to reach that. But as I was told in the last few days, the government will stop at nothing in pushing forward the current gas deal, to which I object.

Additionally, as this subject is one with geopolitical implications, I don't think it is right that the competition regulator will act without any backup from the government.

I hope the government bodies will change their minds regarding the deal"⁶⁴ [translated from the original Hebrew by the author].

On May 14, 2015, Yuval Steinitz—a close confidant of the prime minister in the Likud party—was appointed as the new Minister of Energy.

On Friday morning, June 5, I met with Eytan Sheshinski, a professor emeritus at the Hebrew University of Jerusalem and a consultant to Minister Steinitz, at his home in Jerusalem. I met him at the request of my colleagues at the Ministry of Finance. I presented him with the gas prices issue, and he agreed with my concerns. I asked for his support in a meeting with Minister Steinitz on that issue. He said he was becoming very pessimistic of the process, as it had become highly political and dominated by the prime minister's council.

On June 15, 2015, a final discussion took place in the Kandel Committee, with the prime minister personally present to introduce the issues for decision making—so I was informed. No PUA representative, including myself, was invited. After the discussion, colleagues who were present informed me that the gas price problem was unfortunately not a priority at all. "It would not have made any difference if you were there." I was told in response to my frustration for not being there.

⁶⁴ See Avi Bar-Eli & Ora Koren, "I Cannot Go On': Dramatic Resignation of David Gilo, Director General of the Antitrust Authority—the Full Letter," *The Marker*, May 25, 2015, <http://themarker.com/news/1.2643938>.

On June 17, 2015, in a personal meeting with the Minister Steinitz, I once again requested a chance to present him with the PUA's opinion regarding the gas contracts. A meeting was scheduled for June 24, only to be cancelled and never rescheduled.

The Gas Deal Draft and Approval

On June 25, 2015, a Cabinet resolution was published, stating that any delay in the development of the Israel's gas fields, including Leviathan, Karish, and Tanin, would have a negative impact on Israel's national security and foreign affairs. It was therefore further decided to appoint a team of ministers, headed by the prime minister, to explore all possibilities of pushing forward the gas deal. As a result of great public pressure, the committee's decision also instructed a public hearing to be conducted by the Kandel Committee. On July 1, the committee published a draft of its suggested deal with Tamar for public notice.⁶⁵ According to the document, known as the Gas Framework hearing draft:⁶⁶

- The Minister of Economy would invoke for the first time in Israeli history Article 52 of the Antitrust Law, a clause that allowed the Minister to exempt a monopoly from competitive and Antitrust considerations on the grounds of "foreign policy" or "national security."
- The Israeli government would be committed to the deal and abstain from any legal or regulatory changes that could adversely significantly affect the investment profitability of the gas companies for a period of no less than ten years. Under this obligation (which was titled the "Stability Clause"), the

⁶⁵ See Decision B/6 of the Ministers Committee for National Security—"Enlarging the Amount of Natural Gas Produced at 'Tamar' Field and an Expedited Development of 'Leviathan,' 'Karish,' and 'Tanin' Fields and Additional Gas Fields" (June, 25, 2015), <http://archive.energy.gov.il/abouttheoffice/newsandupdates/documents/shimua/decisonb6.pdf>.

⁶⁶ See Hearing to the "Draft Layout for Enlarging the Amount of Natural Gas Produced at 'Tamar' Natural Gas Field and Fast Development of 'Leviathan,' 'Karish,' and 'Tanin' Natural Gas Fields and Additional Gas Field" (July 1, 2015), http://archive.energy.gov.il/abouttheoffice/newsandupdates/documents/shimua/dov_312_2015.pdf; and supporting documents at <http://archive.energy.gov.il/abouttheoffice/newsandupdates/documents/shimua/nghesber.pdf> and http://archive.energy.gov.il/abouttheoffice/newsandupdates/documents/shimua/dov_311_2015.pdf.

government further committed before the gas partnership to resist any future contrary legislation initiative by future Knessets.

- The IAA would no longer claim unlawful monopolization or Antitrust violation by the Delek–Noble partnership for the 10-year stability period.
- The gas companies would be granted taxation easements.
- Several regulatory restrictions binding the gas companies under Israel’s gas export policy were updated, as a result of deliberation with the gas companies’ and their considerations.
- Delek would sell its holding in Tamar within six years and stay at Leviathan. Noble Energy would reduce its share from 36% to 25% at Tamar but remain a major partner and owner and operator in both gas fields.
- The state would exempt the gas companies from building a second pipeline connecting the gas reservoirs to Israel. Contrary and prior to this hearing, the gas partnership's right to export gas was subject to building of the additional pipeline.
- Regarding gas prices, the current contracts would become the norm. The yearly average price of all existing gas contracts was to be the approved cost for gas.
- The Delek–Noble partnership would commit to making their “best effort” to develop the Leviathan gas reservoir, while the final development date was delayed.

From the PUA's perspective, the Gas Framework was disappointingly unbalanced with regards to the public interest in terms of the gas pricing: while the gas monopoly received considerable exemptions, benefits, and other considerations, the monopolistic nature of the gas prices was not effectively addressed. On the contrary, the Gas Deal Framework adopted the current yearly average monopolistic gas prices as the gas price for future deals. It did not address the IEC's GPA prices at all. It did not even deal with the excessive TOP costs that existed at the time, when adding up all the minimum gas TOP obligations in the existing gas contracts

exceeded projected demand. This in itself accumulated to roughly US\$3 billion that were expected to be paid at the time for gas no one would consume.⁶⁷

Furthermore, by ordering Delek to sell its rights to Tamar while overlooking the monopolistic pricing in the existing contract, the government made these prices nearly irreversible. Once any Tamar buyer purchased all or part of Tamar, it would pay the value of the reservoir based on the monopolistic price cash stream (including only an uncertain chance of the limited reopening of the IEC pricing in 2021). Additionally, the gas deal cemented a non-competitive market structure comprising Tamar and just two small reservoirs with a limited amount of gas for the long-term competition (Karish and Tanin). These reservoirs would need financial support from the government in order to compete with Tamar/Leviathan at the expense of the public, and in any case, their price bench mark will be the inflated Tamar prices. Under these circumstances, it was even more important to address the gas pricing problem.

The government, however, kept pushing the deal forward.

In a regular scenario, a decision of this scale would go into effect through the relevant professional authorities, which in this case included the IAA, the PUA, the Price Control Committee, the Natural Gas Authority, and others. All would exercise their authority while the various relevant laws—the energy laws in particular—would undergo necessary legislative updates. This legislation would be deliberated in the Knesset’s Economic Affairs Committee and go into effect as a detailed legislation after voting.

However, this situation was different. The gas issue became divisive among both the Israeli public and the Knesset. On June 27, 2015, thousands gathered in a central square in Tel Aviv to protest the deal. Throughout the summer, as the gas deal slowly advanced toward enactment, protests and marches were regularly held in cities across the country; the high level of civic engagement served to induce some transparency and kept certain legislators from supporting the Gas Framework.

⁶⁷ In later years this was resolved by the decision to use more gas and less coal than expected and higher-than-expected demand.

Around that time, pressure was already being brought to bear. I was even asked to cancel an introductory meeting with a Knesset member after already it was scheduled.

On the political side, Prime Minister Netanyahu was determined to pass the deal, while other political figures refrained themselves from getting involved. Such was the Minister of Economy at that time, Arye Deri, who refused to exercise his authority in his capacity as the minister of economy to invoke Article 52 of the Antitrust Law, instead agreeing to resign and transfer those powers to the prime minister (making Netanyahu the Minister of Economy in addition to being the Foreign Minister the Telecommunication Minister at the time) in order to pass the gas deal.

On June 28, 2015, the government Cabinet indeed voted to transfer Clause 52's exemption. The required confirmation vote in the Knesset was scheduled for the next day. The details of the deal were not fully disclosed, and ministers and legislators were essentially asked to vote to confirm a deal without any knowledge of its content.

Four members of the coalition exempted themselves from the vote, declaring personal conflicts of interest because they had ties to stakeholders in the natural gas industry. Of particular surprise, Finance Minister Moshe Kahlon, the head of the Kulanu party, declared his withdrawal based on his years-long friendship with one of the gas reservoir owners. Frantic efforts failed to recruit opposition support or to convince the four to vote regardless of these interests, and the vote was called off at the last minute because the ruling coalition could not get majority vote in the Knesset.

On July 1, after mounting public criticism, the full details of the gas deal were finally released. Typically, they would be supported by analysis from the relevant professional authorities—in this case the PUA and IAA—but instead the supporting memos were given by officials directly subject to the prime minister in his various capacities. One supporting policy memo was written by the Ministry of Foreign Affairs (headed by Netanyahu) and the other was written by the National Security

Council at the prime minister's office. The two memos were released in support of the gas deal, citing security and foreign affairs considerations (See Appendix A).

The Energy Ministry announced a period of only three weeks for the public to submit comments and reservations regarding the gas deal and the supporting opinions.⁶⁸

On July 2, 2015, Eugene Kandel, the head of the Kandel committee and the prosecutor of the deal, surprisingly announced his resignation.⁶⁹

On July 4, the Ministry of Environmental Protection—led by Avi Gabay, a former CEO of Israel's largest telecommunication company—published its opposition to the Gas Framework.⁷⁰ Gabay was the only member of the coalition parties and the Kulanu party to speak out against the deal.

Another Knesset member—Orly Levy Abekasis, who then belonged to the Yisrael Beytenu party—went against party head Avigdor Lieberman's declaration in support of the gas deal, calling the deal and the overlooking of the gas pricing problem morally bankrupt.⁷¹

On July 20, 2015, the State Comptroller published an extensive, critical report of the process leading up to the gas deal.⁷² It criticized policy makers for not addressing the monopolization of the gas market with clear policy or actions in previous years, leaving regulators without a vision, and it criticized the IAA for

⁶⁸ NGOs, such as the Movement for Quality Government, criticized the short amount of time given to submit responses; some groups declined the opportunity in protest. A two-day hearing held by the Energy Ministry at the end of the month also garnered criticism. The announcement about the hearing was made on July 20, parties had 24-hours to sign up, and by July 22 they were called to testify. Other commentators criticized that the gas companies were allowed time at the hearing when they had virtually unlimited access to government officials during the previous six months of negotiation. See Shaul Amsterdamski and Lior Gutman, "Conducting a Hearing on the Gas Layout Just to Say They Conducted One," *Calcalist*, July 6, 2015, <http://www.calcalist.co.il/local/articles/0,7340,L-3664504,00.html>.

⁶⁹ See Motti Basok, "A Blow to Netanyahu: Eugene Kandel, Head of the National Economic Council, Resigns," *The Marker*, July 2, 2015, <http://www.themarker.com/news/1.2674834>.

⁷⁰ See Uri Tuval, "Avi Gabay—The Gas Deal Is Too Much of a Compromise at the Expense of the National Market," *Calcalist*, August 16, 2015.

⁷¹ See Amiram Bareket, "Knesset Member Orly Levi-Abekasis Rebels against Avigdor Lieberman—Objecting the Gas Deal," *Globes*, July 13, 2015, <https://www.globes.co.il/news/article.aspx?did=1001052598>.

⁷² State Comptroller, *Developing the Natural Gas Sector* (2015), http://www.mevaker.gov.il/he/Reports/Report_298/a7119d2f-31f9-42aa-92f8-ed0d2c4ed842/005-gas.pdf.

dragging out the process with the gas partnership, putting the government in a weak negotiating position. It called on the government to ensure the gas deal addressed the need for competitive gas prices, corresponding with international markets.

The same day, the PUA Board of Commissioners approved a PUA professional opinion that reviewed and commented on the gas deal hearing draft. The opinion quantified the excessive cost to the public due to the gas pricing not being addressed (see Section IV for details). When I approached the Minister of Energy with a request to present this opinion with the PUA's staff, I was called to his office in the ministry. I was then ordered not to publish it or show it to anyone, including within the government.⁷³ A meeting with Minister Steinitz to present the opinion was canceled, never to be rescheduled, despite my requests on behalf of the PUA.

On July 22, I was again invited to the meet with the Minister Steinitz in his office at the Knesset and was asked by him, as well as “on behalf of the prime minister,” to consider my resignation voluntarily. The minister said that he has great appreciation to my professional qualities and notable achievement in bringing a historic change and private players into the monopolistic electricity market. However, I was unfortunately too professionally independent as a regulator for his and the prime minister's taste. He said that he and the prime minister were about to change other authorities' independence as well in the future.

I was told that if I didn't accept the deal—wherein I would announce my resignation and receive a “nice” farewell ceremony—he would reluctantly have to terminate my position, even though it would be uncomfortable for him publicly. I refused this deal.

On August 8, 2015, the PUA's opinion was published according to my decision, as required by law and after giving a prior notice to the Minister. It received wide media coverage.⁷⁴

⁷³ Even though by law PUA's decisions should be public except in extraordinary circumstances—see section 36 to the 1996 Electricity Market Law.

⁷⁴ See for example: Avi Bareli, <https://www.themarker.com/dynamo/1.2706214> "Israelis will be fined by 7.3 billion NIS – The dramatic report which led to the firing of the PUA's chairwoman – The PUA against the gas deal : electricity will become 6% more expensive and the gas 30% more

Meanwhile, the Knesset EAC convened to discuss the gas deal. Three separate meetings took place, with representatives from relevant agencies, the public, and the gas companies taking part. I was ordered not to participate.

During that weekend, I received a call on Friday, August 14, inviting me to the Cabinet for the final vote on the gas deal, planned on the following Sunday, August 16—a mere two days later. I was informed I would have three minutes to present the PUA's opinion, followed by the vote. I did not even have the most recent version of the deal.

On Sunday, August 16, 2015, I arrived at the Cabinet voting meeting on the gas deal. The discussion was superficial. I presented last and tried to explain the PUA's concerns, in too short of a time. That was the only time the PUA was heard on the matter by the policy makers. A question was hushed from one Cabinet member about why the Cabinet decision should not address the high gas prices to the public. The only minister who supported my opinion on behalf of the PUA—publicly and inside that Cabinet meeting—was Minister of Environmental Protection Avi Gabay. As he sat next to me at the far end of the table, his protests to address the PUA's findings with regard to the gas prices were dismissed as well.

At the end of this single meeting, the Cabinet voted again to approve the gas deal, ignoring the PUA's opinion, and a vote to transfer the exemption power from Minister Deri to the entire Cabinet was scheduled in the Knesset for September 7.

The Knesset voted to approve a symbolic decision in favor of the deal, but the coalition failed to recruit enough votes yet again to authorize the government to activate Clause 52. Again, the vote was canceled at the last minute.⁷⁵

On November 1, 2015, a political settlement was reached. Deri would resign as Minister of Economy, as he agreed to do earlier in the year, and would be appointed to a different ministry. In his place, Prime Minister Netanyahu—who

expensive – Tamar increased gas prices by 13 billion NIS" *De marker*, August 12, 2015; Avital Lahav, *Ynet*, 12 August 2015 <https://www.ynet.co.il/articles/0,7340,L-4690220,00.html> "The PUA – the gas deal will cost the public 13 billion NIS" and many more

⁷⁵ Lahav Harkov, "Gas Deal Still Stuck Despite Knesset Approval," *The Jerusalem Post*, September 7, 2015, <https://www.jpost.com/Israel-News/Politics-And-Diplomacy/Gas-deal-still-stuck-despite-Knesset-approval-415489>.

already headed the Ministries of Foreign Affairs and Telecommunications—would become the temporary Minister of Economy in order to push forward the gas deal.

Four days after Deri's resignation, Netanyahu activated Clause 52. The conditions of the clause were still subject to a required legal mandatory process of consultation with the Economic Affairs Committee, though the ultimate decision was his. The EAC therefore held a thorough deliberation process consisting of 12 parliamentary hearings and more than 35 hours of discussion. A wide variety of speakers were invited to testify, from regulators and government agencies to NGOs, members of academia, representatives of civil action groups, and community organizers. Netanyahu also appeared before the committee in all three of his capacities relevant to the gas deal—as the prime minister, Minister of Foreign Affairs, and Minister of the Economy—thus disrupting the supposed balance between the two ministers' considerations as independent ministries. Again, the PUA was not present at these discussions, as I was ordered not to attend, on the grounds that as a civil servant, I could not speak against a Cabinet resolution after it had been made.

On December 15, 2015, after the consultation process, the EAC voted against the activation of Clause 52. In a letter to Netanyahu, Chairman of the EAC, Eithan Cabel cited several reasons for the decision, including that the activation of Clause 52 was a dishonest attempt to bypass the opposition and that the committee held reservations regarding the unreasonable stability clause that gives full immunity to the monopoly for the next decade.

Netanyahu ignored EAC's objecting opinion, activating Clause 52 two days after and effectively enacting the gas deal. The Minister of Energy immediately formed a team to oversee the implementation of the Gas Framework.

The Dissolution of the PUA

On December 31, 2015, legislation to dismiss the PUA's Board of Commissioners went into effect. This legislation was passed by the Knesset in a hasty manner over a few weeks' deliberation within the expedited process of the budget bill on

November 4, but it had its roots in my refusal earlier in the year to resign as chair of PUA, or to be silent in the PUA's criticism of the gas deal.

This confrontation came to a head on August 5, when a dramatic vote took place in the Cabinet to annul and restructure the PUA's independent existence and begin the process of replacing me, despite protests by the General Attorney and finance budget department staff. Netanyahu arrived personally⁷⁶ to handle this vote, in which it was decided that my term would be shortened (despite the existing law that required my independent discretion) through a process of appointing a new Chair with no tender process. This Cabinet decision was immediately overruled by the Civil Service Commission Chief Legal Advisor as unlawful. In response, the Cabinet decided instead to vote in an amendment to the 1996 Electricity Market Law so that this process would not be legally challenged.

The amendment established a new electricity authority within the Ministry of Energy, with the Chair to be "personally subject to the Minister of Energy." A special, personal clause was put into the legislation dispersing the present PUA Board of Commissioners, including myself.⁷⁷ A final vote in the Knesset was set for November 4, 2015, where the amendment would be included as part of the budget bill.⁷⁸

My colleague, a general director of the Ministry of Environmental Protection in attendance, texted me when witnessing this Cabinet meeting, saying, "I am truly sorry this is the way it ends You can be proud of yourself and of the manner in which you did your job, true to the public interest."

That same evening, I received a personal call from Minister of Finance Kahlon, the head of the Kulanu party, which was the majority party of the prime minister's coalition. "I tried my best," he said, explaining that the pressure was "crazy strong." "I have great appreciation for you, and I apologize for all of this."

⁷⁶ Originally, the Minister of Energy was supposed to head the meeting, but because the Treasury Department and the DOJ were preparing to oppose it, the meeting was delayed a day so that the prime minister could personally oversee it.

⁷⁷ Electric Sector Law, 5756-1996, § 38(a).

⁷⁸ The legal counsel of the Knesset presented his reservations regarding the passing of such legislation in a budget bill (which was not in line with court rulings to put only direct budget matter into this very hasty and binding bill). However, his concern was dismissed under the argument that the DOJ's Deputy Attorney General had approved this process, although reluctantly.

The vote spurred great public protest, including inquiries by the State Comptroller; Labor Party Knesset member Shelly Yachimovich; several leading professors; and The Movement for Quality Government in Israel, an organization that eventually filed a petition with the Supreme Court.⁷⁹ The PUA story became front-page and headline news.⁸⁰ The Internet, and Facebook in particular, exploded with posts and sharing on this issue, and a Social Movement Task Force was established to fight the gas deal. Demonstrators in support of the PUA and IAA took to the streets. A huge sign was hung on a prominent building in Tel Aviv featuring photographs of IAA General Director Gilo and myself with targets marked on our faces. The sign read, “The politicians and the gas tycoons are terminating the gatekeepers.”⁸¹ None of this changed the result.

Meanwhile, the Knesset was preparing to vote on the budget bill, the energy portion of which is usually handled by the EAC. However, this time, it was decided to bypass this committee due to the EAC Chairman Cabel refusal to support the

⁷⁹ See Matan Hodorov, “First Publication: The State Comptroller Wrote to the Attorney General Demanding His Intervention at the Impeachment of the Chairperson of the PUA,” *Nana10 News*, August 6, 2015, <http://news.nana10.co.il/Article/?ArticleID=1141745>; Mordechai Kremnitzer et al., “Removing Hurting the PUA Out of the Economic Arrangements Law,” Israeli Democracy Institute, August 6, 2015, <https://www.idi.org.il/articles/3029>; Avi Bar-Eli, “Prof. Asher Tishler: ‘Castrating the PUA Will Lead to Corruption,’” *The Marker*, August 4, 2015, <http://www.themarker.com/dynamo/1.2700244>; Movement for Quality Government in Israel, “Stop the *de facto* Impeachment of the Chairperson of the PUA and Prevent Diminishing the Independence of the PUA and the Independence of Regulators and Gatekeepers,” press release, August 6, 2015; and Office of Shelly Yachimovich, “Shelly to the AG: Firing Orit Farkash—Against the PUA Law,” press release, August 6, 2015, <https://www.shelly.org.il/node/10044?page=6>; HCJ 8612/15 Movement for Quality Government in Israel v. Knesset; and HCJ 8898/15 Moses v. Knesset.

⁸⁰ See, for example, Avi Bar-Eli, “The Gas Revenge: Netanyahu and Steinitz Dismissed the Chairperson of the PUA, Orit Farkash-Hacohen,” *The Marker*, August 5, 2015, <http://www.themarker.com/dynamo/1.2701111>; Lilach Weisman and Amiram Bareket, “PUA Law or Orit Farkash-Hacohen Dismissal Law?” *Globes*, August 5, 2015, <http://www.globes.co.il/news/article.aspx?did=1001058485>; Matan Hodorov, “Netanyahu and Steinitz Dismissed the Chairperson of the PUA who Opposed the Gas Layout,” *Nana10 News*, August 8, 2015, <http://news.nana10.co.il/Article/?ArticleID=1141522>; and Channel 2 News, “Chairperson of the PUA Dismissed,” *Mako*, August 6, 2015, http://www.mako.co.il/news-money/economy-q3_2015/Article-6c725a39e900f41004.htm.

⁸¹ Additionally, and unfortunately, false rumors spread that attacked me on professional and personal levels. First, the gas companies’ representatives accused me publicly of “ruining the IPPs and the electricity market” because of my refusal to approve the gas contracts, calling me a failing regulator. Second, a false rumor that I personally initiated IEC’s gas pricing mechanism rapidly spread in the media. The fact that I refused to talk to the media did not help, and the power game and spin by the gas companies played out in full force.

terminating of my candidacy in the legislation process. Cabel protested publicly to the protocol in the Knesset on September 7, 2015. In his own words:

"It is clear to everyone, including the Minister and the legal advisors, that the suggested PUA legislation is totally part of the EAC's scope. . . . My dear Knesset fellows, I am telling you, this story is much bigger than the PUA only The story is not solely about whether this legislation will take place in my committee This is the pattern that we see with this government, and we have seen the same method on the issue of the Broadcasting Authority This is not a matter of political coalition verses opposition but rather a moment of truth touching the root of our work as Knesset members. This legislation has nothing to do with the budget or anything else. . . . The real reason for this not being handled by the EAC is that I refused to hand in the head of the PUA's chairwoman on a silver platter at the request of the Minister of Energy. This is the story here, nothing else. I said, 'I will not be a rubber stamp on this.' That is what it is"⁸² [translated from the original Hebrew by the author].

Cabel's protest was ignored and the coalition parties transferred this legislation to a special "reform committee," headed by a member of the coalition party in order to ensure its swift execution.

On November 4, 2015, the day of the final vote in the reform committee, Knesset members Orly Levi Abekasis and Tamar Zandberg appeared before the "reform committee" and put for vote their objection to the amendment, arguing that the PUA's independence in protecting the public's interest was being destroyed by making the new PUA's chair "personally subject" to the Minister of Energy. Their last request on the matter was to vote on renaming this amendment: rather than call it "The Establishment of the PUA," they suggested "The Law for the Firing of the PUA's Chair." Their request was rejected, of course, and the reform committee—

⁸² Protocol of Minutes of the 40th Meeting of the Knesset Committee 15 (Sept. 7, 2015), http://fs.knesset.gov.il//20/Committees/20_ptv_314011.doc; Protocol of Minutes of the 41st Meeting of the Knesset Committee 11 (Sept. 7, 2015), http://fs.knesset.gov.il//20/Committees/20_ptv_314011.doc.

dominated by the coalition members' majority—voted to amend the law in just a few short weeks.⁸³ I chose not to arrive to that final vote.

Minister Gabay—the only minister who opposed the gas deal—resigned in protest of government policy the following year, on May 27, 2016. The immediate reason had to do with the resignation of the Minister of Defense, but in his publicly broadcast resignation speech, he mentioned the gas deal approval process as one of his breaking points, saying:

"I see a straight line that links the gas deal process and the attack on the Deputy Director of the Army—a line aiming at weakening the Israeli public servants in Israel and preventing them from voicing their opinion to the public before decisions are being made. Thus, the PUA's chairwoman was fired, due to the fact she had her own opinion regarding the gas compromise. I have seen other public servants who cowardly followed the herd, telling me one thing in private meeting regarding their opinion on this deal and the opposite in the Cabinet meetings" [translated from the original Hebrew by the author].

The Supreme Court Weighs In

Going back to the weeks following the enacting of the gas deal, the Supreme Court held several hearings on appeals made against it and the process surrounding it.⁸⁴ Netanyahu made an unprecedented personal appearance at Court, urging the judges to reject all appeals.

On March 27, 2016, the Supreme Court published its ruling. It overruled the stability clause in the gas deal as undemocratic.⁸⁵ The Supreme Court criticized heavily the government for giving such great immunity to the gas monopoly for the next decades, limiting future governments' and legislatures' discretion in an undemocratic way. It suggested the government and the gas partnership consider a

⁸³ See Budget Law 2015–2016 (November 4, 2015), Chapter 8 (The Establishment of the PUA), http://fs.knesset.gov.il//20/Committees/20_ptv_315861.doc.

⁸⁴ HCJ petitions 4374/15; 7588/15; 8747/15; 262/16. The judgment is cited in note 85 below.

⁸⁵ HCJ 4374/15 Movement for Quality Government in Israel v. Prime Minister of Israel (March 27, 2016).

contractual compensation formula. In a long and detailed ruling, five judges elaborated on the importance of this economic policymaking decision. The ruling justice criticized the way the process was handled and argued that legislation would have been a more appropriate way to put into place such a crucial economic decision and gas market rules—but reluctantly did not overrule the process. Two judges did hold the opinion, however, that the gas deal approval should be overruled and annulled, on the grounds that it went through Cabinet resolution and not legislation in the Knesset.

The Supreme Court ruling was met with loud criticism from the Minister of Energy.

Following the Court's decision, on May 22, 2016, the Knesset voted to approve an updated version of the gas deal, replacing the stability provision with a governmental commitment to consider compensation in case of any new natural gas regulation or legislation.

On June 3, 2016, the Attorney General gave notice to the Supreme Court regarding a pending private class-action suit against the gas companies and the gas pricing.⁸⁶ In this announcement, the Attorney General supported the gas companies and recommended dismissal of the suit.⁸⁷ This action was in contradiction with the fact the DOJ supported the public funding of this same class action prior to the approval of the deal. The Court dismissed this request, and an appeal by the gas companies is currently pending.⁸⁸

At the same time that the Court was hearing appeals against the gas deal, two petitions were filed to the Supreme Court against the flawed process of terminating the PUA's independent existence and the termination of my chairmanship, all within the expedited process of the budget bill.⁸⁹ During the preparation of the government's response to the petition, I was still the PUA Chair and a public servant. However, the Deputy Attorney General at the DOJ instructed the PUA's legal advisor

⁸⁶ Class Action (CT) 35507-06-14, *Nizri v. Noble Energy Mediterranean Ltd.* (November 23, 2016).

⁸⁷ See Avi Bar-Eli, "Mandelblit Stands by the Gas Monopoly: Will Oppose the Class Action Against the Price," *The Marker*, June 3, 2016, <http://www.themarker.com/dynamo/1.2964703>.

⁸⁸ PCA 9771/16 *Noble Energy Mediterranean Ltd. v. Nizri* (December 22, 2016).

⁸⁹ HCJ 8612/15 *Movement for Quality Government in Israel v. Knesset*; and HCJ 8898/15 *Moses v. Knesset*.

not to submit to the DOJ's litigation department team the PUA's paper he prepared to the state lawyers with real-time documents expressing the PUA's opinion of the unlawfulness of this legislation. When learning about this, he asked the PUA's general legal advisor to not email this document, which was ready, to the DOJ litigation team. The PUA's legal advisor, who is professionally subject to the DOJ's general attorney, reluctantly obeyed. Thus, in absence of any written contradicting document, the government's litigators submitted a postponed reply to the Court, stating that my removal was not at all illegal or of personal nature but rather a part of a "reform."

The Court eventually dismissed these petitions, after I submitted to it a letter saying that although DOJ's statement is not true to the facts, I did not wish to take any part in this legal process. Instead, I said to the Court, "My wish is to terminate my two decades of public service respectfully, without being dragged into this conflict any further."

Of all the difficult events I went through during this power game, this was among the hardest for me personally, as it shattered my many years of deep trust in the DOJ's integrity and my perception of it as the most important gatekeeper in the Israeli government.

Concluding the Story

Worldwide gas prices continued dropping during 2015 and remained low throughout 2016, while prices in Israel—effectively fixed by the gas deal and the IEC's long-term contracts—continued to rise. The Israeli consumer paid between US\$5–\$6 per MMBtu of natural gas for electricity, and various industries in Israel began to struggle as their international competitiveness was damaged by the artificially high gas prices of around US\$9–\$11 per MMBtu. Some, including the major glass manufacturing plant Phoenicia, refused to connect their factories to the newly developing gas grid for the industry.⁹⁰ The government had to initiate

⁹⁰ This caused the government to raise the level of subsidies to the industrial plants who decide to connect to the gas grid. See, for example, http://economy.gov.il/legislation/ceoinstructions/instructions/04_05_04_04_2017.pdf.

financial support (from public money) in order to incentivize their connection to the gas grid. Additionally, a three-year governmental tender aimed at building a new ammonia factory outside the center of Haifa failed due—in part—to the uncertainty surrounding the unaddressed high expected prices of gas, a major resource in ammonia production. Not even hundreds of millions of shekels in government subsidies changed the outcome. Not one bid was made.⁹¹

Given the unnaturally high prices set in the gas deal, it became at one point more advantageous to import natural gas than use Israel's domestic resources. On April 6, 2016, the IEC signed a liquefied natural gas contract with BP for cheaper prices than the close off-shore gas from Tamar reservoirs.⁹² On that same date, in response to criticism from the CEOs of the two biggest refineries in Israel over the handling of the gas price contracts with Tamar, the IEC Chair claimed that although the prices were high, the uncertainty in opening the gas deal was worse.

More recently, however, the IEC has started admitting publicly that it has a problem with its gas contract. But unlike other countries that have reopened their contracts at the time in light of the drop of the gas prices worldwide, IEC has been unsuccessful in its attempts to renegotiate its gas contract prices so far.

The Noble–Delek partnership has continued to forge ahead and prosper. On July 4, 2016, Noble Energy started implementing the gas deal and sold 3% of its ownership in Tamar for US\$369 million.⁹³ The following month, the Delek and Noble partnership sold Karish and Tanin to the Greek company Energean for US\$150 million. The Energean company went on to sign gas contracts with Israeli IPPs with floor gas prices more than US\$1 cheaper per unit than in the IEC contract—even though these are deepwater reservoirs dramatically smaller than Tamar.⁹⁴

⁹¹ See Ilana Kouriel and Achiya Raved, "The Tender for Establishing an Ammonia Factory: 'The Writing Was on the Wall,'" *Ynet*, November 14, 2016, <http://www.ynet.co.il/articles/0,7340,L-4878880,00.html>.

⁹² See Avi Bar-Eli, "Most Absurd: Israel Will Import Cheaper Gas than That at Its Domestic Reservoirs—from the Caribbean," *The Marker*, April 6, 2016, <http://www.themarker.com/dynamo/1.2906160>.

⁹³ See Ron Stein and Hedi Cohen, "Noble Energy Sells 3% Tamar's Stake," *Globes*, July 5, 2016, <http://en.globes.co.il/en/article-noble-energy-sells-3-of-tamar-1001137642>.

⁹⁴ See "Energean to Buy Tanin and Karish Gas Fields," *Globes*, August 16, 2016, <http://en.globes.co.il/en/article-energean-to-buy-tanin-karish-gas-fields-1001146593>; "The Selling

Additionally, and just as the PUA's opinion anticipated, the government had to initiate a plan supporting "small reservoirs" in order to address their inferiority in competing with the huge Tamar and Leviathan. This was done through various economic incentives and public financing of their connection to the shore, at a cost approximated at over 100 million NIS from public money.

On September 26, 2016, a gas supply agreement was signed between Jordan and a Leviathan subsidiary, representing the next 15 years and 10 billion NIS in value. On February 23, 2017, Delek and Noble Energy announced it would invest in developing Leviathan.⁹⁵ A few months later an international tender process was initiated by the Israeli government regarding additional gas blocks offshore of Israel's territorial water. It was not successful in attracting many competing gas companies.

Additionally, in mid July 2017, Tamar Petroleum LTD (a company Delek Drilling LTD founded in order to handle the public offering of Delek's shares in Tamar) issued 9.25% of Delek's holdings in the Israeli stock exchange and sold it for \$US980 million.

Tamar is currently demonstrating estimations of over US\$12 billion of worth. Its profits represent a very high and uncommon return on investment and on equity in the oil-gas industry according to Ascari's opinion and others.⁹⁶

Concluding the events in this story, as of yet, the State Comptroller published another high-profile report in 2017 regarding the IEC gas contract of 2012.⁹⁷ It is aligned with all the PUA's reservations regarding the matter and is supporting it.

of Karish and Tanin Was a Good Deal for Delek," *The Marker*, August 17, 2016, <https://www.themarker.com/markets/1.3041494>; and "A First Gas Agreement between Energia and the IPP Dalia Energy," *Energia News*, May 28, 2017, <http://www.energianews.com/article.php?id=22859>.

⁹⁵ See Lior Gutman, "Officially: Leviathan Partnership Made an Official Decision to Invest in the Gas Reservoir," *Calcalist*, February 23, 2017, <http://www.calcalist.co.il/markets/articles/0,7340,L-3708385,00.html>.

⁹⁶ See, for example, Avi Bar-Eli, "The Price for Gas that IEC Pays is 40% Higher than the Price in the Karish Reservoir Deals," *The Marker*, May 29, 2017, <https://www.themarker.com/dynamo/1.4136098>; "As a Result of Tamar Petroleum's Public Issue, Delek Will Recognize Profit of 550 Million US Dollars," *Calcalist*, July 18 2017, <https://m.calcalist.co.il/article.aspx?guid=3717407>; and Avi Bar-Eli, "Same as to Elovitch: The Huge Gift that Netanyahu Gave to Tshuva—at Our Expense," *The Marker*, June 27, 2017, <http://www.themarker.com/dynamo/1.4198388>. Also see NEWES, note 40 above, regarding the rate of return in Section 4.

IV. The Economic Perspective⁹⁸

There are significant lessons to be learned from this perfect storm and power game story. Energy and politics are often tied together. Energy issues are affected by geopolitics and vice versa, and decision-making processes does involve political compromises. However, when decision making becomes solely political, it comes with a cost—in this case, billions of shekels worth. Economic considerations and market signals should not and cannot be ignored in the long run, even if policy makers wish to do so, as the following analysis will show.

Getting the Structure Right: The Case of the Israeli Electricity Market

It is important to elaborate the general characteristics of the electricity market structure in Israel to expose its flaws and explain why the PUA had the responsibility of reviewing the costs of the gas contracts.⁹⁹

For decades, the electricity market in Israel has been fully dominated by IEC. IEC is a fully integrated and bundled utility, engaged and dominant in all segments of the electricity market: production, distribution, transmission, planning, and supply (Figure 4). Even the system operator unit is part of IEC's operation and not

⁹⁷ See State Comptroller 2017, note 13 above. In particular, the report is very critical of IEC's Board of Directors process of approving this contract. It finds the US CPI +1%/-1% indexation formula unacceptable, saying it “reflects the passing over of both the price risk and the quantity risk in the gas purchase agreement on to the consumers—just like the PUA said.” It concludes that the Sheshinski taxation policy did not justify annulling the LOI and creating this price increase, which is evaluated as an additional cost to the electricity consumers of at least US\$1.5 billion. The State Comptroller recommends that the government find ways to amend IEC's contract when it reopens, taking into consideration this excessive cost to the Israeli market.

Regarding the PUA, the report finds that the “PUA was consistent and persistent in all its rulings, and additionally refused to approve the costs of the 2014 gas contracts because they included again this same indexation formula of 2012. The PUA forwarded a letter to the prime minister asking to the government to address the gas prices now that Tamar has become a monopoly.”

The report criticizes the government for procrastinating in defining a clear policy regarding the gas market and creating an uncertain working environment for the regulators in addressing these contracts. It finds that although regulators created voluntary collaborations (which I take to mean with the PUA and the IAA) in order to address the 2012 contract, the retrospective change in the government's policy in the 2014 gas deal details has made the regulators' steps ineffective.

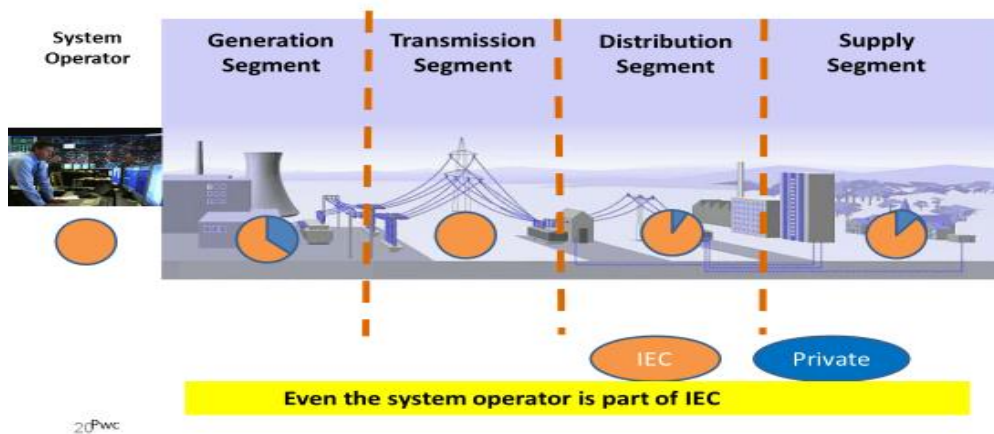
⁹⁸ The analysis in this paper is based on 2016 data.

⁹⁹ Under the current regulation, an IPP was allowed to sell almost 90% of its capacity to the system operator (IEC) at a regulated price. As a result of this mandate, the PUA had to define the maximum energy prices offered by IPPs to the system operator for the capacity sold to the grid.

an independent entity.¹⁰⁰ The Israeli government struggled for decades to push forward the unbundling of the IEC but was unsuccessful in the face of the tremendous political power of the IEC and its union. In the absence of a real wholesale market, the PUA was left with the responsibility of regulating all of IEC's costs from the bottom up, culminating in the regulation of the electricity tariff for retail consumers.

Figure 4. The Israeli Electricity Market Structure

The electricity market was a bundled state owned Utility(IEC)



Source: PUA 2015 presentations.

In an attempt to continue to pursue the longstanding goal of increasing competition while maintaining its regulatory responsibilities in relation to the IEC, however, the PUA was also acting to bring private players into the market for electricity provision, implementing Cabinet resolutions asking the regulator to put together investment-supportive regulation.

The difficulty of securing capital investment was seen as the biggest barrier to entry to the Israeli electricity market for private players. Investors and financial institutions were reluctant to invest in IPPs due to the IEC's dominant standing in the market and the unbundling of the market structure. IEC's lack of transparency,

¹⁰⁰ Until recently, the system operator was part of the generation department of IEC. This department is competes with IPPs—creating potential conflicts of interest in prioritizing plant dispatch.

coupled with its labor union's growing resentment toward new players, discouraged potentially competing investment. The fact that the regulated IEC's consumer tariff would serve as a benchmark price for the gas-based IPPs, exposing them to fluctuations in IEC's diverse fuel costs, was hardly helpful. Lastly, private producers had limited access to consumers, due to IEC's control over all access to distribution by the supply segments in the market.

To address all of these uncertainties, the PUA established a set of regulations between 2006 and 2011 intended to protect IPPs.¹⁰¹ These protections were limited to the first 2,000 MW of private players in the market and consisted of the following elements:

- a physical, bilateral model for IPPs, which allowed IPPs to self-dispatch according to their bilateral consumers half-hour consumption plan;
- a long-term obligation, set by the PUA, for normative capacity¹⁰² payments to IPPs by the IEC's system operator for capacity not sold to private consumers;
- gas purchase cost guarantees (by the grid) up to the level of the TOP quantity defined by the regulator (the TOP normative quantity was defined as 4,500 hours of full load for a combined-cycle gas turbine unit);
- war and terrorism tariff insurance for IPPs; and
- a firm third-party access right to the grid, establishing as a rule that the access of an IPP's energy to the grid must not be denied.

In the absence of a competitive wholesale market, the new players came into a fully regulated market. The PUA regulated all the details of the IPPs' interactions with the market.¹⁰³ It set a "regulated bidding process" (defining the maximum bidding rates for each IPP) and even established the charges and provisions for

¹⁰¹ See PUA, Decision 241/1, December 2, 2008, <https://pua.gov.il/decisions/documents/1255.pdf>; and PUA, Decision 237q4, October 26, 2008, <https://pua.gov.il/decisions/documents.1221.pdf>.

¹⁰² Determined by the PUA and based on the "best entrant" cost available in the relevant technology.

¹⁰³ In this fully regulated market setting, the players suffered from a heavy regulatory burden, while the regulator needed to keep monitoring all costs continually but always fell behind real-time market signals. All pressure was focused on the regulator, making the regulator itself more exposed to heavy pressure by the market players, as IPPs needed "safety nets" of capacity money in case of low IEC retail tariffs and more protective regulations as part of the government policy to push forward IPPs in this fully monopolistic market.

backup services. The resulting transactions were defined and shaped by regulation instead of real-time market signals.¹⁰⁴

This new regulatory framework fostered a significant penetration of IPPs. After decades of the IEC's full control over all segments of the electricity market, the balance of power started to shift. By 2014, more than US\$4 billion worth of private investment was put into new private players.¹⁰⁵ This took a significant financial burden off the IEC, improved the reserve margin of electricity in the market,¹⁰⁶ and eliminated concerns about electricity shortages.

However, although I had the privilege to head the PUA's during these turning-point years, the PUA and myself had witnessed the constant inferiority of government efforts (including efforts of regulators) in patching up market structure failures and distortions at the public's expense through costly and supportive regulation. Had the electricity market been unbundled, the IPPs could have progressed with less intervention and a more market-based regulation, to the public's benefit. This reality made the PUA—under my leadership—determined that it was time to progress to a more market-based model. It was committed to influencing the government to deal with the evolving monopolistic nature of the gas-drilling market in Israel because it did not want to see the government repeat its electricity market mistakes, entrenching them in the gas market as well, thus deteriorating yet again the progress toward a more efficient electricity market. Given the responsibility to review and approve gas contracts costs, the PUA focused on bringing market discipline to bear as much as possible on this crucial input into the electricity sector.

¹⁰⁴ See PUA, Ruling 1 of Meeting No. 401—“Temporary System Operator Tariff” (May 13, 2013), <https://pua.gov.il/decisions/documents/2977.pdf>; and PUA, Ruling Meeting No. 471—“General System Tariffs” (August 6, 2015), http://pua.gov.il/decisionis/docuuments/maarchachti_nnn_melia.pdf.

¹⁰⁵ Fifty percent was conventional combined-cycle gas turbine and cogeneration units, and the rest was renewable generation.

¹⁰⁶ Installed capacity divided by yearly pick of demand.

The Gas Deal Provisions Regarding Gas Prices

In the context of the noncompetitive electricity market structure, matters were made worse once the gas deal immunized the gas monopoly from any regulatory price scrutiny for the majority of gas quantities that will be purchased by Israeli consumers for decades.¹⁰⁷ Below, I review the provisions of the gas deal and explain the PUA's opinion on this issue.

According to the gas deal, the government embraced each year's average of the existing gas contracts and prices for new contracts in the electricity market, leaving out old fixed gas contracts—including most significantly the IEC's gas contract. A translation of the relevant part of the gas deal regarding prices appears in Appendix B.

As stipulated in the gas deal language, new gas contracts or quantities with private power producers must base gas prices on one of three alternatives:

1. Tamar's yearly average income per MMBtu according to its existing gas contracts—that is, the IEC contract with continually escalating prices indexed to the problematic US CPI +1%/-1% formula with no restraining formula;
2. the best existing contracts with an indexation to the Brent; or
3. PUA's regulated production price, which consists of IEC's fully regulated generation costs (including its CPI gas contract), as well as energy, including solar, generated by IPPs and purchased by IEC's system operator and other components..

The gas deal includes an additional "export matching" clause,¹⁰⁸ but that option was very limited to uncertain future export gas deals and valid only for contracts signed in the same time frame as a future export deal, if at all. Not

¹⁰⁷ Less than one-fourth, according to the PUA's 2015 opinion.

¹⁰⁸ For tax purposes, the price of gas in export contracts will have to be at least at the level of the average domestic gas price in contracts over the past two years from date of signing the export contract. Export gas price will not be considered lower than domestic average gas price if the export gas terms are offered to Israeli customers at the same terms as offered to export customer during the time it is being offered—but not including export TOP terms and having a duration of at least 5 years but no longer than export contract.

surprisingly, this option proved to unpractical; gas export deals are not currently relevant given the timing of the new gas contracts.

The Cost of the Gas Deal to the Public: The PUA's 2015 Opinion

In accordance with its regulatory obligation, the PUA recommended not to approve the gas deal without addressing the problematic pricing index. The PUA's opinion of July 20, 2015, regarding the gas deal presented an economic analysis of the cost to the public under this gas deal, finding that it would impose significant additional costs on Israeli consumers and inefficiencies on the electricity market development if not modified.¹⁰⁹ This was the opinion I was ordered not to publish to the public.

The PUA's opinion expressed the importance of addressing the gas drilling market's monopolistic market failure. It did emphasize its understanding of the fact that in addition to cost, various geopolitical considerations were involved in the gas deal, as was the important consideration of supporting investments in the gas drilling market. However, the PUA called for the government's awareness and consideration of the excessive cost to the Israeli consumers of gas prices under the proposed gas deal, in light of the major effect these prices have on Israel's economy and cost of living.¹¹⁰ The focus of the PUA's opinion was the fact the gas contracts should correspond with gas market prices and signals, which is not the case at the moment. In 2015 gas usage quantities, a difference of US\$1 in the gas prices for each MMBtu of gas is at least 1.1 billion NIS (US\$350 million) borne by Israeli electricity consumers each year, without taking into consideration the additional negative macro implications.¹¹¹ This cost will grow significantly as gas use increases and if international gas prices get cheaper.

¹⁰⁹ See PUA, Decision 1(983)—“PUA Board’s Comments on the Public Hearing Regarding the ‘Draft Layout for Enlarging the Amount of Natural Gas Produced at ‘Tamar’ Natural Gas Field and Fast Development of ‘Leviathan’, ‘Karish’ and ‘Tanin’ Natural Gas Fields and Additional Gas Fields’” of June 30, 2015 (July 20, 2015).

¹¹⁰ See *ibid.*, paragraphs 16–20.

¹¹¹ This was calculated by the PUA in 2015 values, based on an assumption of an 8–8.5 bcm total demand for gas that year for the electricity market, which are 302 MMBtu. In the following years, the gas demand for the electricity market in Israel has risen rapidly higher than expected due to the policy of more usage of gas—and therefore so do these numbers.

The PUA's analysis criticized the gas deal's pricing problem, while dealing with a minority of gas quantities only.

The PUA's analysis of the surplus cost was based on the following four comparisons to gas prices in the government's final gas deal:

1. the gas prices in a letter of intention that Tamar partnership issued to IEC before it became the only player and gas supplier;
2. the gas prices set in the optional deal by the PUA's original June 14, 2012, rulings;
3. gas prices based on the synthetic market-based indexation formula suggested by Sergio Ascari in his 2015 opinion to the PUA; and
4. the cost of gas extraction from Tamar's reservoirs.

The PUA's opinion included the following table estimating the damage to consumers regarding the first two comparisons. As shown in Table 2, the surplus cost to electricity consumers ranges between 7.3 billion and 13.5 billion Israeli NIS (up to US\$4 billion), under the different assumptions.

Table 2. Cost to Israeli Electricity Consumers of the Final Gas Deal, Compared to Two Alternatives

| | Existing coal units operating at 70% load | Closing 1,440 MW and remaining 3,400 units of coal operating at 50% load |
|---|--|--|
| Additional costs compared to LOI | 10 billion NIS | 13.5 billion NIS |
| Additional costs compared to 2012 IEC's optional gas price and the excessive TOP cost | 7.3 billion NIS (5.3 billion NIS compared to the optional price and 2 additional billion NIS excessive TOP cost) | 7.1 billion NIS (no excessive TOP cost due to increase in gas usage under this scenario) |

*capitalized values

Regarding the market-based comparison, the opinion stresses that the cheaper international gas prices will become, the higher the damages to consumers, since the current indexation is blind to market prices. The opinion estimates the damage to consumers at a sum of 22 billion NIS compared with a cost-based gas price of US\$3.50 per MMBtu.

The opinion raised the PUA's concern to the government that the gas deal in its current form ignores an accumulative increase of at least 30% in gas prices to the public until 2029.

In what follows, I present a summary of the PUA's analysis and Ascari's opinion, explaining how every analytical approach used by the PUA showed that the proposed deal was bad for Israeli consumers.

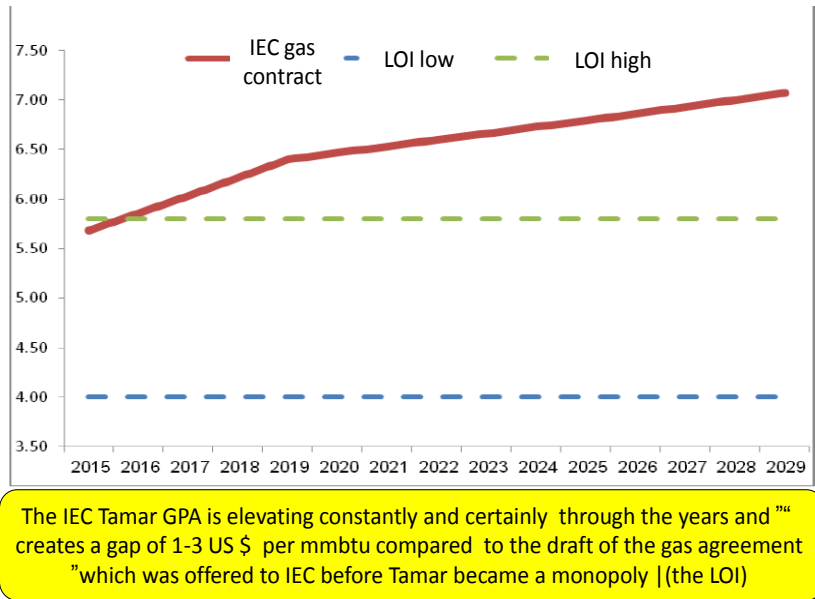
The First Comparison: To the LOI

PUA's first analysis compared the current and biggest gas contract between IEC and Tamar to the draft gas contract that Tamar presented to the IEC in the form of an LOI that it annulled in the face of the gas crisis (when it became the only player in the market) and the 2010 Sheshinski Tax Law.

Figure 5, included in the PUA opinion and presented (very) briefly before the Israeli Cabinet, demonstrates that the IEC's gas contract (red line) was between US\$1–\$3 more expensive for each MMBtu of gas compared to IEC's previous LOI spectrum of possible prices (dotted blue and green lines, depending on the rates of the optional deal, under different assumptions regarding the future developments of oil prices worldwide).

The excessive cost to the consumers according to this analysis is between 10 and 13.5 billion NIS, equivalent to roughly US\$4 billion–\$5 billion in electricity bills.

Figure 5. Comparing Gas Prices in the Gas Contract and the LOI

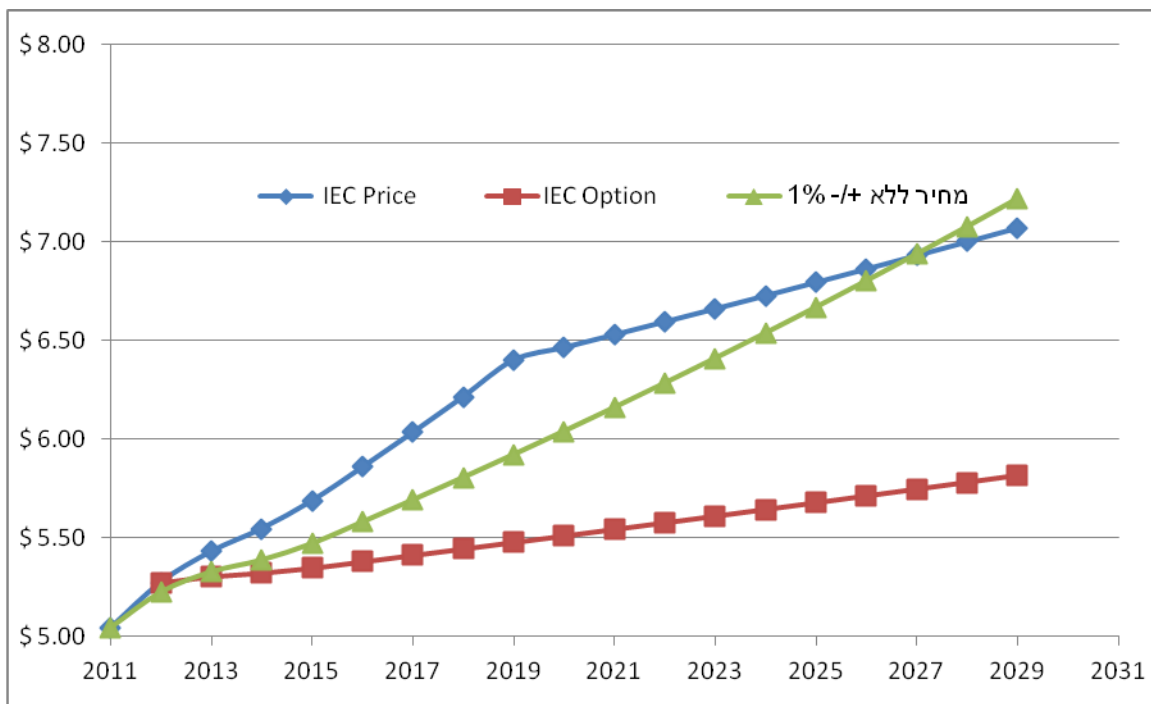


Source: PUA Decision 1(983), PUA Board’s Comments on the Public Hearing Regarding the “Draft Layout for Enlarging the Amount of Natural Gas Produced at ‘Tamar’ Natural Gas Field and Fast Development of ‘Leviathan’, ‘Karish’ and ‘Tanin’ Natural Gas Fields and Additional Gas Fields” of June 30, 2015 (July 20, 2015).

The Second Comparison: To PUA's 2012 Rulings

A second analysis (Figure 6) compares the gas prices in the government's gas deal to the gas prices for electricity had the government followed the PUA's rulings. The red line in the following graph represents the yearly gas prices for IEC's optional gas deal, after being modified by the PUA's ruling from 2012, which created a benchmark for future contracts as well as for IEC's contract (in the future, when it reaches the contractual point for “reopening” the gas price for renegotiation). This is compared to the blue line below, representing IEC's basic gas deal prices (as approved in the governmental gas deal, despite the objections of the PUA), with the US CPI +1%/-1% per year indexation.

Figure 6. Comparing Prices in the Gas Contract to the PUA Optional Deal Prices



The excess cost borne by the consumers according to this comparison is 7.3 billion NIS in capitalized values, or roughly US\$2 billion (This is a careful estimation by the PUA. According to Ascari, however, the IEC price might reach US\$7.8 per MMBtu).

The Third Comparison: To Market-Based Gas Prices

A third comparison is based on the expert opinion submitted to the PUA in 2014 by Sergio Ascari, in which he proposed an indexation of gas prices to international market prices represented by a mix of several international gas hubs and the LNG market price.

The cost borne by the public under Ascari's alternative option is naturally hard to calculate, as it is based on predicting future international gas prices in various hubs for the next two decades. However, Ascari's approach together with the PUA's restrained maximum price formula of US\$6 would result in same the minimum cost of US\$2 billion, borne by the public in comparison to the

governmental gas deal as evaluated in comparison 2. Additionally, the cheaper international gas prices become, the more this excessive cost to the public grows through the years. For example, during the first few months of 2017, the gas price at the UK hub NBP went down to \$5 per MMBtu. Such a price level could decrease the cost of gas in Israel by almost \$1 per MMBtu, compared with IEC's current gas price.¹¹² In 2015 gas quantities this means more than 1 billion NIS excessive cost for each year. However, as we mentioned earlier, the continued rise in usage of gas in the future in the Israeli energy market raises the excessive cost to the public significantly and precludes savings to consumers had this issue been addressed.

The Fourth Comparison: To Cost-Based Gas Prices

The fourth, cost-based approach was not supported by the PUA or by Ascari in order not to deter future investments in the Israeli gas drilling market. However, this cost comparison was generally mentioned in the PUAs opinion for the sake of completeness.

According to Ascari, this approach of a cost-based mechanism with a rate of return of no more than 12% should not exceed about US\$2.5 dollars per MMBtu of gas, leaving the gas reservoirs' owner an appropriate rate of return of 12%.¹¹³

This approach would benefit consumers the most, in terms of gas price. In comparison to this approach, the surplus cost to the electricity consumers of the gas deal—which goes to the Tamar partnership—is US\$450 million–\$550 million per year, increasing with each year that the IEC's prices go up. Adding the IPPs' gas prices in a scenario of strict cost-based price control raises this cost to consumers to

¹¹² An interesting point is related to the indexation of the 2012 gas contracts. All gas contracts have been defined in US dollars, although it would make more sense to link the gas price to the Israeli CPI than to the US CPI, due to the fact that the gas is sold in Israel and a large percentage of costs to the gas producer, such as operation and management, are in NIS and linked to the Israeli CPI. The US CPI might have been chosen due to preference of stable growth in prices rather than the potentially slightly higher annual average growth but much higher variation of the Israeli CPI. Moreover, the fact that the gas prices were all in US dollars is another risk that was put on the Israeli gas consumers without being priced.

¹¹³ See NEWES, note 42 above, page 164: "Allowing a higher internal return rate (12%) would raise the regulated prices to 2.50 \$/MMBtu for a constant price between 2013 and 2030."

roughly US\$400M, per year accumulating over time to more than US\$8 billion (See Table 4 below).

For the sake of perspective, an increase of 1% in electricity price in Israel sums to roughly US\$65 million a year.

Additional Inefficiencies—Excessive Take-or-Pay Quantities

The PUA's opinion raised the additional concern that, according to the present gas contracts, TOP obligations force consumers to pay for gas that will never be consumed, since the accumulated obligation signed with Tamar was 80% of the total contracted maximum annual quantity, resulting in minimum payments for gas quantities exceeding Israel's demand for gas.¹¹⁴ This created an additional lack of flexibility and efficiency in operating the power stations, and it has harmed the ability to reduce quantities of gas over the years.

The estimations included in the 2015 PUA's public opinion with regard to the TOP obligations relative to gas demand requirements of the electricity market showed that from 2015–2018, the accumulative TOP commitment exceeds expected demand. The PUA opinion evaluated this surplus cost to the electricity consumers to be 2 billion NIS, or roughly US\$600 million, for gas that will never be consumed.

This problem was not addressed during the gas deal negotiation between Tamar and the government; however, in the years after the gas deal was implemented, Israeli environmental and energy policy was updated to further minimize usage of coal, substantially increasing gas usage for electricity, hence diminishing this concern. (This will be elaborated in the retrospective update to follow.)

¹¹⁴ TOP is calculated as a percentage of the maximum annual quantity. Maximum annual quantity is calculated according to the maximum hourly quantity multiplied by 8,760 hours a year minus 5% of hours for maintenance.

The False Tax Argument: Why Tax Revenues Are No Compensation for Additional Costs to Consumers¹¹⁵

One of the most popular arguments made in favor of the gas deal was that the public would be better off with (or at least unharmed by) high natural gas prices, as the gas companies would pay higher levels of tax on their revenue, returning funds to the state. Therefore, the public would "get its money back," sharing the gas companies' profits. This is, of course, a false claim.

According to the Sheshinski Tax Law, the gas companies were to pay roughly 50% of their profits to the government. This in itself means that for each additional dollar paid by the Israeli public for gas consumption, the government would get only about half of that as tax money, while the consumers would be bearing all the excessive cost. This money would be passed over to the gas companies through the consumers' electricity bills, deducted from their free income.

Moreover, tax payments by the gas companies to the Treasury are not due right away. According to the tax policy, Tamar is obligated to pay tax only when it has gained a minimum rate of return over its significant expenditures over the years. The normative rate of return was set as 18% by the Sheshinski Tax Law, and this is calculated only after recognizing a wide range of expenditures to Tamar.¹¹⁶ Additionally, the excessive profit tax that was put on Tamar is cash-flow based.

Furthermore, the gas deal with Tamar improved Tamar's tax policy even further, compared to Sheshinski's original intentions. For example, according to the governmental gas deal, the due date of the excessive profit tax to be paid by Tamar to the state was pushed back by the government from 2017 to 2019, based on the assumption that Tamar would bear additional expenditures due to their urgent need to build pipelines to the LNG facilities in Egypt, as part of the gas deal facade. The

¹¹⁵ My thanks to Professor Sheshinski, with whom I consulted regarding this section in my paper. His comments are incorporated.

¹¹⁶ According to the Sheshinski Tax model, tax payments by gas companies are due only when they have covered all their costs, with an additional 3% normative interest rate, including drilling, building, and production expenses (with uplift factor regarding failing drilling expenses). Moreover, even then, tax payment obligation does not kick in until the starting date of paying the tax will leave them with at least an 18% rate of return throughout the life of the reservoir.

argument was that the deal would enable immediate gas export by Delek–Noble, as a crucial condition for the development of Leviathan, the second gas reservoir.

However, in reality, as of today, this export option has not yet come to fruition, nor has the building of pipelines to the LNG plants in Egypt. A huge gas reservoir was discovered offshore of Egypt by ENL, so Egyptian use of the Israeli gas reservoir is still uncertain and has not yet got into effect in the anticipated time frame.

While the Sheshinski Committee took upon itself the challenging task of preventing excessive profits by the gas companies at the expense of the public, through the creations of a fair fiscal balance between the public and the business sector, its work was mostly undone by the government's poor handling of the gas pricing issue in the gas deal. Instead of using the Kandel Committee's deliberation with Tamar during the governmental gas deal process to make sure that Tamar did not pass over to the public the Sheshinski taxes, it ignored this aspect.

Thus, while the rest of the world experienced a declining gas price environment, Tamar's worth soared to US\$12 billion.¹¹⁷ Additionally, according to press releases announcing Tamar's financial statements for 2017, Tamar yielded record profits of US\$1.1 billion in that one year alone and cumulative profits of US\$3 billion between 2015 to 2017. Revenues and profits in 2017 indicated record profitability of 58% of revenues.¹¹⁸ In that same year, Tamar's drilling profits grew by 150%.¹¹⁹

This is of course also reflective of Tamar's extremely high rate of return. According to Ascari's 2015 opinion for the PUA:

“All [our] simulations lead to rates of return for the Tamar reservoir that are between 22 and 23% (after tax), well above the typical levels of the world oil and gas industry, which are below 10% on average. Even in relatively risky emerging economies, including those

¹¹⁷ See, for example, Ron Stein and Hedi Cohen, “Harel and IIF Bought 4% of Tamar from Noble, which Represents a Value of 12.3 Billion US \$ for Tamar,” *The Globes*, July 4, 2016, <https://www.globes.co.il/news/article.aspx?did=1001137315>.

¹¹⁸ Eran Azran, “Tshuva and Maiman Can Smile—Record Profits for Tamar in 2017 of 1.1 Billion Shekels,” *The Marker*, March 21, 2018, <https://www.themarker.com/markets/1.5933566>.

¹¹⁹ Eran Azran, “Delek Drilling—An Increase of 150% in Income,” *The Marker*, March 21, 2018, <https://www.themarker.com/markets/1.5932881>.

described in Chapter 2 of this Report (Algeria, China, Egypt, India, Nigeria), such rates of return are usually in the 12–15% range. The price review conditions also do not help, as they foresee a price review after eight years (in IEC's contract case) and none for the IPPs."¹²⁰

A Retrospective Update since 2014

The 2015 PUA's opinion used a set of assumptions for its calculations. It is quite interesting to see that even though some assumptions in the PUA's opinion did not fully match what occurred, the estimated surplus cost to consumers did not change significantly. Here are the major changes that occurred:

- The US CPI's annual increase of 1.66% fell shy of PUA's 2% projection. As a result, IEC's gas price, on average, between 2011 and 2017 was 2.66%, compared to 3% assumed in the PUA's 2015 calculations (see Table 3).
- Gas wholesale prices and gas LNG prices all over the world declined, compared to their prices in 2014. While the PUA's opinion assumed LNG prices to be as high as US\$18 per MMBtu according to the market prices at the time, the LNG price has declined to US\$5–\$7 per MMBtu.
- Export contracts were signed only with Jordan (which according to the PUA's view is not considered an "export" since Jordan is captive consumer of the same basin), despite assumptions to the contrary.¹²¹
- Gas consumption increased dramatically, for two reasons. First, consumption of electricity in Israel went up by almost 9.5% in 2015–2016, compared to

¹²⁰ NEWES, note 40 above, page 167.

¹²¹ Egypt had a draft understanding with Tamar for exporting gas from Tamar to LNG terminals in Egypt for domestic use in Egypt as well as export from Egypt. However, significant findings of gas in Egypt territorial waters by the Italian company ENI caused this option to be uncertain. (In 2018 a conditional MOU was signed between the Egyptian Dolphinus and Leviathan regarding export of gas to Egypt. However, according to statements by the companies, it is subject to many conditions that have not yet matured, and the domestic supply to Egypt does not make much sense now.) The Turkish and European options are also still theoretical although might progress in the long-term future. For instance, by the end of 2017, Cyprus, Greece, and Israel signed an MOU promoting the vision of connecting Israel's gas reservoirs to Europe through Italy through 2,100 kilometers of underwater gas pipelines. The project is estimated at 25 billion NIS but again, is yet to begin

an increase of just 2.8% in 2012–2014. Second, the Minister of Energy decided as a matter of policy that as of January 2016, IEC's coal power units would operate at minimum load. The decision increased gas consumption by almost 1.5 bcm per year, higher than assumed, addressing the excessive TOP excessive quantities in the IEC gas contract. The following year, he announced that four of IEC's coal units, with a combined installed capacity of 1,440 MW, would be shut down during 2022 and replaced by new combined-cycle gas turbine units. This will increase gas consumption even further and result in a significant decline in coal: while in 2014 coal use was 30 teravolts per hour, for example, it declined to only 22 in 2016.

- Major declines in coal prices took place during 2015 until mid-2016. This, in addition to other factors, caused the average regulated generation cost of the IEC to decline to a level of 26.4 agorot per KWh. This reduced the gas price of IPPs to floor prices and created an anomaly by which the biggest gas consumer in the market, pays just over \$1.2 per MMBtu (or 25%) more than the smallest IPP in the market.
- The policy target for renewable energy penetration in Israel has increased significantly.

Table 3. IEC Basic Gas Contract Prices, 2012–2017

| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|--|---------|---------|---------|---------|---------|-------|
| IEC basic gas contract prices (US\$ per MMBtu) | \$5.272 | \$5.429 | \$5.545 | \$5.686 | \$5.755 | \$5.9 |

Table 4 demonstrates the additional costs to consumers after applying the updated data mentioned above, based on information known as of May 2017.

Table 4. Cost to Israeli Electricity Consumers of the Final Gas Deal: A 2017 Update

| | 2017 | 2018 | 2020 | 2022 | 2024 | 2026 | 2028 | 2029 | Total |
|--|------|------|------|------|-------|-------|-------|------|-------|
| Gas for electricity (in bcm) | 9.16 | 9.27 | 9.35 | 9.88 | 10.27 | 10.37 | 10.78 | 11 | |
| IEC's gas quantity (in bcm) | 6.09 | 5.76 | 4.89 | 3.43 | 3.82 | 3.92 | 4.33 | 4.54 | |
| IPPs' gas quantity (in bcm) | 3.07 | 3.51 | 4.47 | 6.45 | 6.45 | 6.45 | 6.45 | 6.45 | |
| Additional costs to consumers compared to optional gas deal price (IEC only) US\$M | 78 | 103 | 139 | 120 | 142 | 155 | 180 | 194 | 1.9B |
| Additional gas costs compared to LOI price (IEC only), US\$M | 344 | 362 | 372 | 293 | 345 | 374 | 435 | 468 | 5B |
| Additional costs (IEC only) compared to cost-based price (US\$2.50/MMBtu) | 745 | 742 | 672 | 487 | 561 | 594 | | | 8.47B |

Note: The years 2028 and 2029 might not be relevant in practice, as the IEC's GPA ends on 2027 but can be continued by IEC through 2029 subject to IEC's discretion and usage of gas Secondly, the total gas for electricity quantities in this table are relatively conservative assumptions for gas usage in future years.

In conclusion, the surplus cost to the electricity consumers due to failure of the gas to address pricing problems has not changed dramatically, despite significant changes in some of the assumption inputs. The changes in coal prices together with other factors have roughly offset each other.

IEC's management is finally publicly criticizing its gas prices, but its attempts to reopen the gas prices before 2021 are failing. Tamar's owners are not willing to renegotiate, which is not the least surprising.

It is noticeable that Israel's electricity market is moving into greater and nearly full dependence on gas, which will make the effect of the level of the domestic gas prices on the public and economy even more significant than anticipated.

V. Conclusion

This story is not over. Its implications will continue unfolding over the next decade. It will continue to affect Israeli citizens' cost of living; challenge their energy security and the development of an efficient energy market; compromise their ability to enjoy the fruits of the national gas resource and compete in international markets; and, perhaps most importantly, challenge their democratic system.

The fact that the monopolistic gas pricing was not addressed, resulting in significant cost to the public and economic distortions, does not derogate from the possible positive outcome of the gas deal—mostly the certainty it created in the gas market. The argument is that, had a more balanced and professional process taken place, the gas deal would and should have included the element of addressing inflated prices as an inherent part of the deal, thereby protecting the public. This unfortunately did not occur.

A healthy leadership ecosystem is one of open deliberation and active professionals. This is a crucial part of the checks and balances in a naturally highly vulnerable political decision-making process. A hostile political atmosphere toward professional advice and actions ends in bad decisions, poorer quality of people in the public service, convenient ground for corruption, and—as shown in the events surrounding the gas deal in Israel—harm to the public. The saying "leaders who don't listen will eventually be surrounded by people who have nothing to say" demonstrates this point.

In this sense, the Israeli regulatory system is unfortunately very fragile. Unlike in the European Union and the United States, industry-specific regulators in Israel do not have any kind of external shield supporting their professional discretion. In the case of the European Union, the latest energy market legislation—known as the third package—requires each member state to have its regulatory

authorities "legally distinct and functionally independent from any other public or private entity."

The US system is more complicated. However, the quasi-judicial character of the Federal Energy Regulatory Commission and the principle of separation between FERC's staff and the commission, as review tribunal, presents more credibility and stable equilibrium with the other government branches.

In contrast, the dispersed institutional layout of the various industry-specific regulators in Israel—and then the annulling of the PUA's two decades of independence during the gas deal events—weakened Israeli regulatory agencies' professional standing and significantly scarred other regulators.

Israel can address this by putting in place legislation—on a Constitutional level—securing professional regulators in Israel as part of each and every Israeli's right to economic well-being. Additionally, the combining of similar regulatory authorities, such as those addressing gas, energy, and water, can also be considered to strengthen their position.

Secondly, the Israeli case presents a striking illustration of how proper market design is vital for professional regulatory sustainability. The poorer the market design is, the more both the political and regulatory levels are prone to capture and power games. The monopolistic and nature of the energy market in Israel (both in electricity and in gas) resulted in heavy economic protections for private players. In such an environment, market participants do not have an incentive to act in alignment with economic market signals. Instead, all pressures are on the regulator to preserve the above-market prices and other protections at the expense of the public. The same is true in case of total dependency on one gas supplier. This creates an imbalance in distribution of power between the regulator and the public on one side, and the power players on the other, that enabled the bad gas deal to go through.

In his book *A Capitalism for the People*, Luigi Zingales, an economist at the University of Chicago, talks about the linkage between market power and political power:

"When a business gains excessive market power, so that it can increase prices indiscriminately, customers can seek protection through the political process. But when a business obtains both market and political power, escape becomes impossible. Under these circumstances, the system starts to resemble a socialist economy, the political system controls business; in a crony capitalist system of this kind, business controls the political process. The difference is slim: either way, competition is absent and freedom shrinks. Without competition, economic life becomes unfair, favoring the connected insider."¹²²

The gas events in Israel are an illustration of how economic power can become an imposing political influence.

Last but not least, in my view the gas events in Israel showed how policy makers misused idea of national security to push through the deal. The concept of national security has great impact on the Israeli public's mindset due to Israel's geopolitical challenges in the Middle East and the Israeli public's existential concern for their safety. In the 2015 gas events, Israeli political leaders framed the gas price issue as if economic considerations were in conflict with national security and used this notion to bypass both the IAA and the PUA. But the fact that natural gas is a strategic resource for Israel does not exempt policy makers from ensuring that this strategic resource is not overpriced—in fact, the opposite is true. In this context, it was quite interesting and inspiring that the general Israeli public and the media saw through these "strategic" arguments, in the face of high gas prices. This showed the growing maturity of the Israeli public.

In retrospect, the Israeli government missed a rare and unique leadership opportunity. Instead of harnessing the gas resource as path toward a cheaper cost of living and as an engine for economic growth and competition, it has created an artificial domestic situation in which gas prices are detached from international

¹²² Luigi Zingales, *A Capitalism for the People: Recapturing the Lost Genius of American Prosperity* (New York: Basic Books, 2012).

prices and more gas consumers need subsidies, paid for by the public, in order to use the gas. The heavy involvement of the prime minister's councils in writing the professional opinions and overseeing this process raises deep questions relating to the structure of the Israeli executive branch. To what extent should these politically focused economic councils be empowered to override professional voices, eliminating their contribution to good decision making? The active support of DOJ in face of the gas events is also very alarming.

On a personal note, the events I went through pushed me to the limit of my mental strength. Old friendships and longstanding alignments were terminated, loyalties were put to the test, old beliefs and values were shattered, and the true colors of weak gatekeepers were exposed. Looking back on these events, I learned to appreciate backbone and integrity as more important traits of true leadership than just talent or intelligence—and much more rare than I imagined they were before the events of the gas deal.

I believe it is not a coincidence that I wrote this paper at Harvard Kennedy School, from which I graduated in 2007. It is also not a coincidence that leaders at the Harvard Electricity Policy Group offered their vision and support regarding the importance of putting this story into writing. My years at HKS stirred my original aspiration to assume the role of the PUA Chairperson, back in 2011, and more generally to take a public leadership position. This is the spirit of HKS—a spirit of leadership, courage, and creativity. I am most grateful for all that it has brought to my life.

Acknowledgements

I offer my deep appreciation to Professor William Hogan and Ashley Brown of the Harvard Electricity Policy Group (HEPG). Thanks to dear Jo-Ann Mahoney and Louisa Lund of HEPG for their immense help during the process of the writing, Tomer Akerman and Adi Kofman Epstein for their assistance in putting together the complex gas events on paper, Professor Eytan Sheshinski for his support and edits

on the sections regarding the taxation argument in the paper, and the wonderful Sarah Beam Aldy for editing the paper.

On a personal level, Professor William Hogan and Mari-Ann Hogan were my inspiration during this challenging period in my life. I think meeting them at this time in my life was not a coincidence. Their personal story and support gave me courage to move forward in my life and to write this paper. I am most fortunate and blessed to know them. I thank the PUA Board of Commissioners and both accountants, Ms. Michal Shlomo and Mr. Eli Guz, for standing firm and showing great integrity through immense pressure. Last but not least, I thank my husband Oded Hacoheh for supporting me in my decisions in real time, and for standing by me.

Appendix A: Gas Deal Supporting Memos

On the same day that the full details of the Gas Framework were released, the Ministry of Foreign Affairs released a memo supporting the deal on the basis of foreign affairs considerations.¹²³ It noted that the Tamar partnership was in the Israeli interest because it had in 2014 signed letters of intention with regard to exporting gas to Jordan, and to Egypt and later to Europe, through the future Leviathan reservoir. Of particular note, the opinion stressed that the Leviathan reservoir development was important for Jordan because it was suffering from lack of gas.¹²⁴ The opinion further raised the concern that Iran could replace Israel—once the US–Europe–Iran nuclear agreement was signed—in supplying gas to Jordan and Egypt in the absence of Leviathan, therefore raising an urgent need to ensure this reservoir development.

The opinion discussed US concerns in detail, quoting a statement published by the US State Department that sounded alarm about the IAA's December 2014 decision to consider breaking up the Delek-Noble partnership and warning, "This anti-trust threat is having a chilling effect on further investment in the sector." The Ministry of Foreign Affairs opinion additionally mentions as a consideration for the deal the fact that "American Congress members—some of the true friends of Israel—have raised their disappointment with the 'breach of contracts by Israel with the American gas company.'"

This opinion therefore concludes that Israel's attractiveness for investments had been damaged by the IAA's withdrawal from its original consent decree in December 2014, and that the failure to develop Leviathan will jeopardize Israel's ability to use its export gas potential to strengthen its foreign relations with its neighboring countries.

¹²³ Israeli Ministry of Foreign Affairs, "Strategic and Policy Aspects Regarding the Gas Developments—The Foreign Ministry Position" (July 1, 2015), <http://archive.energy.gov.il/abouttheoffice/newsandupdates/documents/shimua/ngmfa.pdf>.

¹²⁴ According to the opinion, Gilo's withdrawal from his original consent decree with the gas partnership caused a cancellation of a preplanned ceremony that was about to take place with the US president, the Israeli prime minister, and the Jordanian king declaring this export deal.

Missing from the opinion, in my mind, is any explanation of why these considerations contradict in any way reaching a gas deal that also corrects the gas pricing problem. Neither does it address the problem that the high Israeli gas contracts might pose to the future export of gas to neighboring countries of Europe. Building on the poor Egypt experience, what would be the strategic long-term negative effect of selling Jordan expensive natural gas?

A second opinion in favor of the Gas Framework based on security considerations was prepared by the National Security Council of the prime minister's office and released the same day.¹²⁵ This opinion focused on Israel's strategic interests in being more influential in the Middle East through the export of gas. It began with the following: "This memo is relying on the Ministry of Energy's assumption that unless the gas deal is approved quickly, there will be a four-year delay in exporting Israeli gas." It claimed that a delay in the development of Leviathan would jeopardize Israel's ability to use these strategic benefits. The opinion mentioned the possibility that Iran could become a strong player in gas supply in the region if the US–Europe–Iran nuclear agreement indeed went through, saying, "In such an environment, it is most likely that the region will experience more gas supply and cheaper gas prices, which will create too competitive an environment for Israeli gas."

The opinion argued that Israeli gas supply could help stabilize Jordanian and Egyptian gas shortages, building on the claim that Egypt had no ability to utilize its liquefied natural gas facilities. The opinion concluded by stressing that the development of the Leviathan would enhance Israel's energy security and a four-year delay would be harmful.

The opinion does not address the strategic problem of having a private-commercial monopoly holding all gas and energy supply to Israel, however, or explain how this is supportive of Israel's national security. Nor does it address the fact that in the face of cheaper gas (either from Iran or from worldwide decline in

¹²⁵ Israeli National Security Council, "Natural Gas in Israel—National Security Aspects and Implications to Postponing the Gas Export and Array," July 1, 2015, <http://archive.energy.gov.il/abouttheoffice/newsandupdates/documents/shimua/ngmalal.pdf>.

gas prices, as indeed happened in the months following the approval of the deals), there should be even greater impetus, from a security viewpoint, to deal with gas price elevation in the domestic gas contracts to Israelis, as it might affect the considerations of the gas monopoly in its export contracts, the timing of these contracts and the attractiveness of Israeli gas.

Many of the assumptions in these opinions would prove to be neither accurate nor timely as events unfolded after the eventual approval of the gas deal.¹²⁶ But my main argument is that the gas deal could have and should have addressed the gas pricing problem alongside all other security and strategic concerns, as there was no contradiction between the two—in fact, the opposite was true.

¹²⁶ For example, on August 30, 2015, a huge gas reservoir of 30 trillion cubic feet in volume (40% larger than Leviathan) was discovered offshore of Egypt in the Egyptian Delta. This finding has pulled the rug from under the foreign and national security considerations with regard to Egypt. See “Egypt Found a Gas Reservoir Larger than Leviathan Reservoir,” *Tashtiot Portal*, August 31, 2015, <http://www.tashtiot.co.il/2015/08/31/%D7%92%D7%96-%D7%98%D7%91%D7%A2%D7%99-866>. Additionally, gas export is still very much uncertain.

Appendix B. Gas Deal Price Provisions

D. Prices

1. *The Government's position is that as long as the owners of the rights in the holdings comply with all the terms of the outline, including the price and the update method stated below, the decision of the Minister of Energy and the Minister of Finance (hereinafter, in this section—"the ministers") regarding the application of Chapter G of the Control of Prices and Services Law, 5756-1996 (hereinafter—"the Control Law"), which concerns the reporting of profits and prices, to the price of the natural gas, should be left unchanged, for the transition period as defined below.*

The following are details of the mechanism according to which the Government's position was formulated.

- a. *From the date of the Government decision and during the transition period, the owners of the rights in the holdings shall offer the potential consumers with whom they will hold negotiations the alternatives for the natural gas price and indexation stated below, and no others:*

- (1) *A base price that will be obtained in accordance with the formula stated in paragraph (a) and will be updated as stated in paragraph (b) ("the base price"):*

$$(a) \quad P(T) = R(T-2)/Q(T-2)$$

where:

- *P(T) is the base price on the date of signing the agreement;*
- *R(T-2) is the amount of income from all the sales of natural gas made in the quarter preceding the quarter preceding the date of the signing of the agreement, by someone who is the owner of a holding;*
- *Q(T-2) is the cumulative quantity of natural gas, in MMBtu units, that was supplied to consumers in the quarter preceding the quarter preceding the date of the signing of the agreement by someone who is an owner of the holding;*

- (b) *At the beginning of each quarter, starting from the quarter following the date of signing an agreement, the base price will be updated, so that the price of the natural gas that will apply for the purpose of that agreement will be the result that will be obtained from a calculation in accordance with the formula stated in section (a).*

.....

- (2) *The price of the natural gas that will be determined in accordance with the price of a barrel of Brent, as calculated in accordance with the most beneficial formula for the customer that exists on the date of this decision in the agreements of the owners of the holding for the supply from the “Tamar” field.*
- (3) *The owners of the rights in the holdings shall also offer the potential consumers that are private producers of electricity that hold a production license for an installed capacity of 20 megawatts or more per site, the alternative stated below, which includes indexation to the weighted production tariff published by the Public Utilities Authority, in addition to the two alternatives stated in subsections (1) and (2) above:¹²⁷*
- (a) *Producers of conventional electricity—a simple average of the prices determined in the contracts of the three largest producers of conventional electricity, and of the indexation according to those contracts;*
- (b) *Producers of cogeneration electricity—a simple average of the prices determined on the date of the Government’s decision in the cogeneration contracts index-linked to the weighted production tariff, and of the indexation according to those contracts;*
- (c) *The averages stated in subsections (3)(a) and (3)(b) will be calculated by the Gas Authority in accordance with the data that will be supplied to it by the owners of the rights in the holdings.*
- b. *It should be clarified that the possibility of choosing between the price alternatives stated in section a shall be given to the buyer only immediately preceding entering into the contract.*
- c. *In addition to what is stated in section a:*

¹²⁷ This alternative was added by the government only after the PUA's opinion from July 20, 2015, was published. In my brief appearance before the Cabinet prior to the approval of the gas deal, I presented the PUA's opinion opposing this new alternative for the following reasons: First, the regulated IEC cost of production will inevitably incorporate IEC's gas contract costs, with its crawling CPI + 1% cost over the years. Second, this indexation once again is not related to international market-based gas or oil prices (since it is a fully regulated price, much different than a competitive “pool” daily generation price set by a bidding system). Third, the regulated IEC cost can further increase due to a future deal struck between the government and the union of the IEC. Fourth and lastly, indexation of gas prices to the publicly and fully regulated consumers' tariffs of the IEC will create even bigger pressure in the long term on the soon-to-be non-independent PUA in cases of rate decreases. Now, all players of the market—IEC, the IPPs, and renewables—together with the gas companies will oppose any tariff reduction.

- (1) *Nothing stated in section a shall derogate from the obligation of the owners of the rights in the holdings to offer the consumers the gas price determined in an export contract in the mechanism stated in section 2(d) of Annex B thereof.*
- (2) *The owners of the rights in the holdings will be entitled to offer the potential consumers a discount on prices deriving from the alternatives stated in section a.*
- (3) *With regards to agreements that were signed prior to the date of the Government decision, the arrangements determined therein with regard to the prices and method of updating them shall apply. [Emphasis added]***
- d. *Notwithstanding what is stated in subsection a(1)(b), the parties to the agreement will be entitled to choose any method of updating the base price, provided that it is reasonable and customary in natural gas agreements in Israel or the around the world. In such a case, the base price will be updated in accordance with the indexation method chosen.*
- e. *The owners of the rights in the holdings will be required to supply to the Natural Gas Authority all the data The Natural Gas Authority will be entitled to publish only the base price or the simple average, as applicable.*
- f. *For the purpose of this section:*
- (1) *“The transition period”—the period from the date of the Government decision until the later of the following two—the date on which the transfer of all the rights of the owners of the rights in the “Karish” and “Tanin” holdings is completed, as stated in section 1 or section 28 of the decision pursuant to section 52 of the Restrictive Trade Practices Law, or the date on which the transfer of all the rights of the owners of the rights in the “Tamar” holdings is completed, as stated in sections 11 and 12 or section 39 of the decision pursuant to section 52 of the Restrictive Trade Practices Law.*
- (2) *“Holdings”—“Tamar” and “Leviathan.”*
- (3) *“Owners of the rights in the holdings”—the owners of the rights in the “Tamar” and “Leviathan” holdings on the date of the decision and whoever will replace them.*
- (4) *“Sale by someone who is the owner of a holding”—any sale or supply of natural gas that will be made by or for the owner of a holding, including a sale that originates in rights deriving from any holding.*

Source: Decision 476 of the 34th Government, Enlarging the Amount of Natural Gas Produced at “Tamar” Field and Fast Development of “Leviathan,” “Karish,” and “Tanin” Natural Gas Fields and Additional Gas Fields (August 16, 2015).