**Activism or Egotism? A Critical View of NIMBY phenomenon in Israel through case study analysis**

Michelle E. Portmana

Benny Fursta

Yael Teff-Sekera,b

a Faculty of Architecture and Town Planning, Technion - Israel Institute of Technology, Haifa, Israel, 32000

b Department of Sociology, University of California, Davis, CA 95616.

# Abstract

The NIMBY (“Not in My Back Yard”) phenomenon, in which stakeholders oppose new land uses and activities in vicinity has been discussed for several decades. With regard to energy infrastructure it is the result of the juxtaposition between values related to maintaining resident wellbeing and a healthy environment on one hand, and the need for energy to maintain an energy-intensive standard of living on the other hand. Based on reviews of the literature, interviews with key informants, documents and media analysis, this article presents insights into NIMBY within the context of energy infrastructure development in Israel. The study findings indicate that decision makers and planners regard NIMBYism as an obstacle for development, but for the objecting residents, the articulation of dissatisfaction with perceived environmental threats, often embodies the main effective and legitimate means to preserve the status quo of their surroundings. Expanded consultation opportunities for members of the public with planners and developers could reduce or change perceptions of NIMBYism on both sides. We emphasize the advantages that understanding NIMBY narratives could provide for policy makers, energy companies, and planners, and end with suggested responses for all three.

# Key words

NIMBY, Host Community Compensation, Liquified Petroleum Gas (LPG), Natural Gas, Offshore, Energy Infrastructure, Stakeholder Engagement, environmental planning

# Introduction

*"****…Decisions taken by the planning institutions, after in-depth discussions, should [not] be interfered with […] This is one of those cases expressing the understandable interests of anyone who wants vital facilities, accompanied by environmental and security ramifications to be situated elsewhere, distanced, and ‘not in my back yard’. However, these facilities need to be sited somewhere. […] We sympathize with the petitioners but do not side with them.”***

*-Response to Israeli Supreme Court petitions 7737/14, 8077/14, 8079/14. Dec 22, 2015*

Judge Dafna Barak-Erez is quoted in response to a petition brought to Israel’s Supreme Court by local authorities and NGOs opposing the construction of near-shore natural gas infrastructures close to coastal communities. The petitioners' claims embody an important trend in the country: increasing prevalence of the “Not in My Backyard” or “NIMBY” phenomenon.

We contend that two messages are included in the term NIMBY, one implicit and the other explicit, translating respectively to: the project is legitimate and necessary; but do not locate it close to us. The contradiction between the two contributes to the controversial nature of the syndrome, leading to strong emotions among stakeholders, the public and among planners and professionals. Such positions lead to the typical characteristic, certainly found in Israel, whereas a community *generally* supports the concept of development and acknowledges the need for it, yet objects only to its proposed location (Wolsink 1994; Papazu 2017).

Significant research on NIMBY is found in the planning and environmental management literature, particularly related to the siting of power plant infrastructure and wind farms, and waste management facilities (Wolsink, 2006; Fournis & Fortin, 2017). In some areas, it is common to siting of myriad other landuses including public housing (Pendall 1999) and various facilities – not only housing – for vulnerable populations such as those serving rehab programs, the disabled and the elderly (Takahashi 1997; Wilton 2000). During the last decade, NIMBY has become widespread in Israel, particularly in the context of siting energy infrastructures, including power stations, natural gas treatment and distribution centers, wind turbines and storage facilities for household gas (e.g., Benford, Moore, et al. 1993; Devine‐Wright, 2005; Chiou, Lee et al. 2011; Waldo, 2012; Papazu, 2017; Zheng &Liu 2018). Accordingly, the prevalence of NIMBY as a development-shaping factor, lie at the center of this study. Among the more positive aspects of the NIMBY phenomenon impacting energy infrastructure planning are progress toward distributive and environmental justice (see Been, 1994; Shmueli, 2008).

### Background and definitions

NIMBY is defined as local activism by residents or by organizations opposing development in the proximity of their homes (Dear, 1992; Wolsink 1994). However, this simplistic definition leads to the term’s overuse. As we will show, some other common characteristics flavor NIMBY-type objections to development.

The term NIMBY entered public discourse after in a Christian Science Monitor article by the American journalist Emilie Livezey (1980). A similar term had been used previously in a paper on facility siting entitled ‘Not on my Block’ (O’Hare, 1977). In the former addressing the treatment of hazardous waste from industrial plants, Livezey described how community organizations asked for hazardous waste to be buried as far away from residents as possible, contending that the vicinity would be irretrievably spoiled: “The very thought of having even a secure landfill anywhere near them is anathema to most Americans today. It's an attitude referred to in the trade as NIMBY – 'Not in my backyard.'” (Livezey, 1980).

Early on, the term NIMBY was adopted for use in debates between supporters and opponents of nuclear energy. Walter Rodgers, a member of the American Nuclear Society, used the term to refer to a ‘protectionist attitude’. With regard to a local community's response to such undesirable nearby development, Rodgers explained that “residents usually concede that these 'noxious' facilities are necessary, but not near their homes” (Dear, 1992). The term turned derogatory in the 1980s when Margaret Thatcher’s Environmental Secretary Nicholas Ridley derided objections to development in cases where farmers were protesting development plans near their neighborhoods and towns. Ridley hypocritically called the protestors’ opposition ‘crude NIMBYism’; curiously, it was discovered later that he himself had opposed similar developments near his home (see Saint, Flavell, et al. 2009).

### NIMBY assumptions and related terms

Wolsink who has written extensively about NIMBY in planning contexts (1994; 2006; 2012) is one of the pioneers of what he refers to as “NIMBY theory” (Wolsnik, 1994). He lays out six assumptions of NIMBY-style thinking. One of the most salient of these is that while everyone is in agreement about the importance of a particular good, not everyone is prepared to make a sacrifice when this means giving up benefits and suffering ills. Projects often involved “higher” (i.e., more general or global) interests than those of local populations.

The NIMBY phenomenon typically has either an environmental context or a social one (e.g., Davis & Bali 2008), although frequently the two contexts are considered together (e.g., Burningham, 2000). The environmental context refers to environmental well-being and/or environmental (public) health. NIMBY in a social or political context applies to a group of people refusing to live in the proximity of another group of different race, nationality, class, language, religion, lifestyle or ability level.

As the NIMBY phenomenon has become increasingly acknowledged over the past decades, additional variations of the term have come into being with nuanced differences between them, often engendering an element of humor and criticism (see Table 1).

**Table 1: Common NIMBY-related Acronyms**

|  |  |  |  |
| --- | --- | --- | --- |
| **Term** | **Meaning** | **Context** | **Source** |
| **LULU** | Locally Undesirable Land Uses | Entire types of land uses seen as unsuitable for placement in the area | Freudenberg & Pastor, 1992; Shively, 2007. |
| **NOOS** | Not on Our Street | Local opposition to a particular location | Dear, 1992 |
| **NIMTOO** | Not in My Term of Office | Temporal opposition on the part of decision makers | Schively, 2007; Greenberg, 2009; Johnson & Scicchitano 2012 |
| **CAVE** | Citizens Against Virtually Everything | Persistent resistance by residents | Dear, 1992; Schively, 2007 |
| **NOPE** | Not on Planet Earth | Opposition of environmentalist groups to entire project/use | Dear, 1992; Schively, 2007; Johnson, 2012; Du Vivier & Witt, 2017 |
| **BANANA** | Build Absolutely Nothing, Absolutely Nowhere, Anytime | Opposition of environmentalist groups to all development | Shively, 2007; Greenberg, 2009; Johnson, 2012 |
| **YIMBY/ WIMBY** | Yes/Welcome in My Backyard | Positive approach | Lake, 1993; Aruninta, 2009; Brown & Glanz, 2018 |
| **YESS** | Yes, Emphasis on Statewide Siting | Proposed as a solution that counteracts NIMBY | Du Vivier & Witt, 2017 |

## Views of NIMBY: Definition and Approaches

The literature has described and analyzed theoretical aspects of the NIMBY phenomenon (hereafter "NIMBYism") for around four decades with two dominant perspectives. The first describes the residents’ objections to the siting of development near them as self-centered and egoistical (e.g., Burningham, 2000). Objectors are seen as hypocritical because although they wish to reap the benefits of progress and economic development, they want others to bear the brunt of the related environmental and/or social costs (Fish, 2004). This critical approach sees the actions objectors to proposed development as based on subjective positions. While such positions may be justified, objectors often selectively use information that supports their interests (Wolsink, 2012). The second view, sees NIMBYism as expressing aspirations for environmental justice, i.e., securing the right to enjoy reasonable environmental conditions (Burningham, 2000). This viewpoint is particularly relevant for disadvantaged populations living in neighborhoods marred by a concentration of environmental hazards (Fish, 2004).

Despite its ubiquity and influence, Wolsink (2012) contends that NIMBY-thinking is an institutionalized technocratic response to development, at least with regard to renewable energy sources (RES). Using RES as a case in point, Wolsink (2012) documents the mainstream transition among scholars analyzing public objections to the development of RES that involves abandoning NIMBY explanations because they are "self-evident truths" as described by Ostrom (2000). With regard to renewable energy, particularly wind power infrastructure, NIMBY is assumed to be the reason for objection yet other impediments, such as "institutional lock-in" referring to a reluctance to adopt new technologies or ways of doing things (e.g., Teschner, et al. 2012) may also be at play. These and other, sometimes contradictory views, reinforce the need for a better understanding of what is behind and what motivates NIMBY and what is and is not part of the phenomena (e.g., Du Vivier & Witt, 2017).

## Institutional responses to NIMBY

Attitudes towards NIMBYism depend on the identity of the relevant players and stakeholders (Benford, Moore et al. 1993; Lake, 1993; Aruninta, 2009). From the perspective of the decision makers, as well as of those promoting development, NIMBYism is often considered a troublesome impediment (e.g., Wolsink & Devilee, 2009). While there is no shortage of social scientists who maintain that the language of NIMBY be avoided and the concept of NIMBY be abandoned altogether, a theoretical framework for understanding public perceptions of controversial energy infrastructure projects is still needed (Petrova 2016). Policy and social science researchers need a framework for organizing the factors that lead to acceptance and this includes ways to respond to powerful constituents wary of any compromise.

Some policy options to avoid NIMBY protests have been advanced. One such policy mechanism is that of *Host Community Compensation* schemes *(HCC)*. HCCs, related to the YIMBY-phenomenon (See Table 1), are designed so that communities welcoming a development initiative are entitled to worthwhile compensation. While these schemes do not avoid consequences of environmental degradation, they at least aim to redistribute costs and benefits, as well as allow communities to determine their fates since communities must approve both the development and the compensation. Furthermore, such schemes defuse tension and conflict (Klein & Fischhendler, 2015).

Critics claim that this is a form of bribery with significant ethical shortcomings used as a tool by wealthy developers to silence public dissent and oppress socio-economically weaker communities with the latter often being the victims of environmental injustice (Brown & Glanz, 2018). While not described as such, similar schemes have been a component of regulatory programs for some time. Compensation is sometimes required for the private development and use of public trust resources, whether or not that development is expected to lead to detrimental health effects for nearby residents, eyesores, or impacts to ecosystem health (Portman, 2006).

Klein and Fishendler (2015) point out that HCC schemes are usually used for projects that provide common goods or services, giving the examples of landfills, power plants and prisons. They describe cases where HCC has been used in Israel with the first in 1974 during the construction of the “Sharon” power station (today “Orot Rabin”). The proponent, the Israel Electric Company (IEC), built Hadera Park for city residents where the power plant is located. Other examples include the Megiddo local authority receiving the equivalent of several hundred thousand US dollars compensation from the IEC for agreement to expand the capacity of the adjacent ‘Hagit’ power station. A bridge, public promenade and cycle route built by the IEC to compensate Tel Aviv residents for the construction of a natural gas processing facility on the grounds of the Tel Aviv Reading Power Station is another example.

Wolsink (2012) adds that perspectives held by planners promoting development are often based on assumptions about the narrow interests of residents, however, these assumptions have not been supported by empirical study. Based on a large-scale survey in six decision-making processes for diﬀerent types of waste facilities, Wolsink and Devilee (2009) showed that the crucial factors in perceived risk are not based on personality traits of the objectors (e.g. selﬁshness or economic rationality), but on perceived environmental injustice, personal commitment to others and the perceived fairness of the process. Further, a number of scholars have emphasized that when a planning process is perceived as unfair, NIMBY claims may be more likely (e.g., Matejczyk, 2001; Davis & Bali, 2008).

The rest of this paper describes our analysis of two Israeli case studies consisting of two types of energy infrastructure. While NIMBY is not a completely new phenomenon in Israel, it is increasingly common as the country becomes more crowded, as more infrastructure projects are needed and as the hegemonic development agencies take a tougher stance towards what they perceive as NIMBYism. Of significant note, the Israel Ministry of Infrastructure and Energy established a special committee of experts to consider the economic effects of NIMBYism in the country (Furst, 2014).

## Israel’s development trends

Since the 1990s, Israel has undergone unprecedented development during which time the country’s population has more than doubled. Land uses have changed from being natural open space or agricultural to residential, energy and transportation infrastructure uses. Average population density in the country went from ~ 250 to ~392 inhabitants per km2 from 1990 to 2019 respectively (Hananel, 2010; Fischhendler & Nathan 2014; Tal, 2016; CBS, 2019). In 2014, the government unveiled a plan to build 600,000 new apartments between 2015 to 2030 such that the loss of open space is now keenly felt. Even the marine space is being considered for intensive developments from offshore artificial islands to energy production (Fischhendler & Nathan, 2014; Portman, 2019, Teff-Seker et al, 2018).

Israeli development proponents and government agencies grant high priority for infrastructures development, especially for energy use and generation. A major development of recent years has been associated with the confirmation of large gas reserves several kilometers off the country’s coast. Especially considering the ambiguous regulatory regime due to offshore locations (Portman, 2015), fast-tracking of such plans has been controversial. In the next sections, we describe the case studies: a natural gas offshore processing facility, and a liquified petroleum gas (LPG) storage facility. Both cases feature energy sources that are non-renewable yet generate “cleaner” energy than oil or coal relied on as the main energy sources in the country for many years.

## Case Study 1: NOP37H - offshore natural gas sites

Government decision no. 4748 of 2012 mandated government ministries “with establishing systems to extract, receive and process the recently discovered offshore natural gas by developing a national outline plan (NOP) with detailed instructions.” The government had initially considered granting planning and decision-making authority to the gas companies; the companies opted for construction of an onshore facility for receiving and processing the offshore gas on the Dor Beach Nature Reserve. This idea was met with court petitions and intense protest led by nearby residents and coined “The Dor Beach protest" (Gutman, 2013). These protests lead to the above-mentioned decision to prepare an NOP according to the Planning and Building Law of 1965.

Following examination of dozens of alternative on- and off-shore locations and detailed environmental impact documents, the National Council for Planning and Building approved the NOP 37H plans in June 2014. The NOP established that most of the gas drilled and pumped from the Leviathan field would be processed on floating platforms, situated above the drill site head at a distance of ~ 100 km west of the Israeli coastline. From there the gas would be pumped to an offshore station constructed at 7.5–10 km from the coast (See Figure 1) and then to a small receiving terminal on the Dor Beach and from there distributed throughout the country. Once these details were approved by the government (Bar-eli, 2014a), most objections of the Carmel Coast Regional Council residents (of the Dor Beach protest campaign) were subdued, suggesting that proximity was the issue. Activists considered the moving of most facilities offshore as a major achievement (Bar-eli, 2014b).

### [Insert Figure 1 here]

### Figure 1: Map of controversial offshore natural gas related facilities proposed as part of NOP 37H

The resident activists relied on centrally coordinated leadership, legal and planning experts that assessed risks and examined the plan’s environmental impact statement (EIS). The leadership concluded that natural gas processing must be “only at sea, and as distant as possible from the shore” to prevent impacts. Impacts included inhabitants’ sea views from the shore (EIS prepared for NOP37H, delivered by the citizens’ coalition to the National Planning and Construction Council, Nov. 8 2013). Activists demonstrated that in most countries similar facilities are sited far from the shore. They proposed that the gas-processing facilities be built as floating production storage and offloading plant (FPSO) at the wells approximately 120 km from shore. Ultimately, the National Planning and Building Council (NPBC) decided to retain the designation of onshore areas for future (flexible) power infrastructure development but to locate the main natural gas reception facility offshore (NPBC Decision, June 11 2014).

Members of the planning establishment initially viewed the protestors as typical “NIMBYists”, i.e., residents vehemently opposed to infrastructure development in their vicinity without being cognizant of the broader national interests. As such, the planning authorities acted with some level of transparency and immediately posted the environmental impact report on the internet upon its completion, beyond requirements of Israeli law. They held general public meetings and met with local authority leadership, residents and their professional advisors. Subsequently, the conflict developed into a dialogue. Nevertheless, this dialogue was still accompanied by demonstrations and legal actions (see Results below). The final decision represented a balance between local public interests and the nation-wide need for gas processing infrastructure (Bar-Eli, 2014; Han, 2017).

The government approved NOP 37H in April 2016. The plan indicated that structures will be approximately 10 km offshore. In 2018, the construction of marine and coastal infrastructure began. Twenty-two pleas to stop the project were submitted to the Supreme Court (Government Decision 1406, 14.4.16) but all were dismissed. By the end of 2019 natural gas began flowing from the Leviathan well (Koren, 2019).

## Case Study 2: NOP32 - LPG storage facilities

NOP 32 designates potential sites for new facilities required to store sufficient LPG to meet rising the needs of industry, communal institutions (hospitals, large army bases, hotels) and households, mainly in the center and northern regions of Israel. The demand for LPG will continue regardless of the offshore natural gas developments. The two substances have different characteristics and purposes, thus requiring separate distribution and storage facilities (Planning Authority, NOP 32/1, 3.8.14). Currently, the LPG sources needing storage are domestic Israel-produced gas from the Haifa and Ashdod refineries and imported sources through the Eilat-Ashkelon Pipeline Company in Ashkelon. NOP 32 consists of 6 new storage sites located throughout the country for 60,000 tons of LPG. While NOP 32 was being prepared (2012-2015), all the proposed sites were met with fierce opposition by nearby residents, local organizations and heads of local authorities.

*[Insert Figure 2]*

### Figure 2: Controversial LPG facilities proposed as part of NOP 32

Even though the NOP 32 government planning team held public consultation meetings with the residents and held discussions with local authority leaders, provided data on distance requirements and obligatory safety precautions for the new facilities, activists demanded that the storage sites not be built in their vicinity. Upon the completion of NOP 32 in early 2015, the NPBC approved the new sites, which were also reviewed and approved by the Home Front Security Command and by the Israel Ministry of Environment’s experts on hazardous materials. NOP 32 was finally and unanimously approved by the government in December 2017 (Government decision 3231, 2017).

The plan determined potential locations for LPG storage, two in the north of Israel, the “Yavor” and “Northern Lands” sites, two in the central district - "Nesher" and "Shafdan" and two in the southern district of Israel - in Ashkelon and Ashdod (see Fig. 2). The Ministry of Energy has published on December 2019 bids for developers to erect and develop these storage sites according to the approved plan (Public Bid 91/2019).

# Methods

This study aimed 1) to identify the NIMBY characteristics relevant to the two cases, 2) to describe and explain developers’ and governmental institutions’ responses to NIMBY-style positions, and 3) to determine the effectiveness of these responses. To reach our aims, we conducted a qualitative study of stakeholder positions, based on in-depth interviews and surveys (n=16). We administered open questionnaires to 9 key informants and interviewed (face-to-face) seven additional informants (Appendix 1). The 16 informants included decision makers and government representatives, environmentalists, community activists, professionals, academics, and media representatives. In-depth interviews were conducted according to qualitative research protocols with questions devised based on examples from the literature (e.g., Patton, 2015; Reed et al., 2009).

These and other sources of information, including documents and meeting protocols pertaining to the NOP 37H and NOP 32 cases described above, were analyzed using qualitative analysis, i.e. identifying repeating ideas, key words and terms, and extrapolating the main themes and insights. National-level planning committee and government agency meeting protocols were reviewed as well as court rulings, policy statements, professional documents, newspaper articles, advertisements, and local activist social media posts. Resident coalitions and NGO advertisements, editorials, and social media activity addressing the two energy infrastructure plans, were specifically analyzed using discourse analysis to identify perceptions of NIMBY-related issues and values.

# Results

In this section, we initially present general findings pertaining to the expression of NIMBY-style objections to development and reactions to it. We then present findings from media and government information sources. We describe the main actors, rationale, potential risks, fears and demands, from which one can learn about different stakeholders’ positions.

In the surveys and interviews, informants indicated that opposition to energy infrastructure placement considered NIMBY by the government and the media has been a growing trend in Israel in the past few years. Most claim that NIMBY-type campaigns are usually led and supported by the upper and middle classes. Most expressed the view that while NIMBY opposition usually comes from a sincere concern for environmental, community and familial health and wellbeing, at the core of some NIMBY-type opposition is economic concern focused on property values.

Interviewees and survey respondents indicated that the increase in NIMBY attitudes was attributed to:

1. Decreased availability of open spaces, resulting from increased development;
2. Increased public awareness and access to information about planned and ongoing projects;
3. Past non-compliance with environmental regulations;
4. Easier appeal process and an increasingly litigative culture;
5. Precedents for success of (perceived) NIMBY environmental campaigns;
6. Increased awareness of social and environmental campaigns thru social media;
7. Support from environmental NGOs;
8. Lack of trust in the government and the planning process;
9. A sense that relationships between entrepreneurs and government officials influence the placement and permissions granted for potentially hazardous energy infrastructure;
10. Increased awareness of the impact of environmental hazards and landscape eyesores to real-estate and business values
11. An improved quality of life and expectations to maintain current standards of living;
12. Fear of military and terrorist attacks is "used" and related to justify fear from environmental risks and hazards.

All key informants emphasized transparency and active stakeholder involvement, at all stages of planning, to counter – or as a response to -- NIMBY opposition. Others suggested: (1) development of long-term planning and comprehensive master plans for energy development; (2) transparency in the planning process and the evaluation of alternatives, including the zero alternative (i.e., project cancellation) and switching to “greener” methods of energy production; (3) application of mitigation practices (“best practices”) and technologies; (4) standing behind a planning decision, despite NIMBY opposition, if an informed decision has been made and is deemed justified. An environmental planning expert put it this way:

*The only proper way of dealing with [NIMBY] is to take it seriously and address residents’ concerns. Planners and policy makers must be able to make the case that their siting decisions represent the most efficient development scenario. They must consider compensation for environmental harm and most importantly, every effort must be made to mitigate environmental impact… All of this must be done in a transparent, democratic and equitable way.*

The idea of compensation for the potential damage caused by placement of energy facilities was met with a relatively pessimistic or reserved approach by informants. Some argued that it was not suitable for Israel and would be perceived by some as a bribe or as a perk for wealthier and more powerful sectors of society who would benefit “on the backs” of weaker or poorer communities. Some thought compensation would need to be in cooperation with the local population and sincerely address residents’ needs. One informant, from the Ministry of Energy’s planning department responded:

*This [HCC-type] practice has already been used in Israel, with partial success. You need to “feel” the community and its leading elements to know if it will indeed solve the problem… Some see it as a bribe or kickback for the authorities or communities. As the NIMBY phenomena expands, I think it would be more difficult to apply HCC.*

Environmental impact assessments which are depended upon for both inventorying and addressing environmental detriments expected from new development, were not considered very helpful. Furthermore, the public does not always trust either the assessment report or the regulator reviewing it since EIAs, by regulation, are financed and prepared by the developer (Mandelik et al. 2005).

## Case Study Analysis: Official Documents, Press and Social Media

While the previous section focused on general trends in NIMBY opposition to energy infrastructure, the following section addresses the findings from the document analysis (Table 2) and the discourse analysis of press releases, op-eds, and social media communications, published by local residents.

**Table 2: Comparison of two cases characteristics**

|  |  |  |
| --- | --- | --- |
|  | **CASE 1: NOP37H (Natural Gas)** | **CASE 2: NOP32 (LPG)** |
| **Energy Infrastructure** | National natural gas infrastructure | National infrastructure of LPG |
| **Features and location**  **(see map)** | Marine pipelines and distillation platform for treatment of natural gas (coastal and inland constructions). | Construction of six new storage and distribution sites of LPG (Liquified Petroleum Gas). |
| **Distance from residential areas** | 10 km | 2-5 km |
| **Time frame** | 2009-2019 | 2013-2017 |
| **Environmental aspects and potential threats** | Air pollution, hazardous materials risks, marine and coastal pollution, visibility from residential and touristic areas. | Air pollution, hazard materials risks, downgrading of the area’s general image. |
| **Developer** | Noble Energy | Various entrepreneurs (currently at bidding stage) |
| **Protesters and activists** | NGOs "Home guardians" and "Zalul". Yoqneam, Zichron Yaakov and Carmel Coast area residents. | Tamra, Acre, Ashdod and Afula residents. |
| **Main positions of protesters** | The treatment facility should be placed elsewhere, preferably in industrialized coastlines, or far away as possible at sea (with the preferred option of placing it by the well, 120 km from shore using a large floating facility (FPSO).  Protesters also claimed that the decision was slanted because the government was bias for the developers. | The LPG sites should be places in the Negev desert, or at sea; a revised planning is needed, due to the findings of natural gas, which makes LPG storage less vital in the future. |
| **Petitions to the courts** | 10 to supreme court, 12 to Haifa district court. | None. |
| **Media coverage** | Very high, from 2016, national media websites and social networks. | Minimal, high only in local newspapers, social networks. |
| **Other stakeholders** | Ministry of Environmental Protection, Society for Protection of Nature in Israel. | National company of **Petroleum & Energy Infrastructures**, IDF Home Front Command. |
| **Transparency of information and planning process** | Minimal at the beginning, gradually improved. | Very high, from the beginning. |
| **Public participation** | Started only after 4 years, improved towards end of the process. | Very high: special expert was nominated from beginning of process. Public hearing took place in each location. |
| **NGO involvement** | Most environmental and social NGOs supported the plan. | National & local NGOs were not involved, only local residents. |

### Salient features of Case 1

The residents’ opposition to NOP 37H derived from a number of unique characteristics of the project and the plan itself. Firstly, no venture of this kind had been undertaken in Israel in terms of either engineering or technological complexity; Leviathan is one the first offshore wells operating. Secondly, the processes of extracting the gas from the seabed and of refining it for use requires information not fully available before production begins. Thirdly, the residents had concerns about the foreign proponent running the project (Noble Energy). They lacked faith in the company from the time the government attempted to grant it development rights. Further concerns followed the disaster in the Gulf of Mexico that occurred about this same time (Cornwall, 2015). Protests by the residents living nearby the proposed close-to-shore site ensued, opposing the original plan in the strongest possible way with an unequivocal demand of “not at the proposed site” (see Fig 1).

The protestors' inflammatory language was exhibited in campaign documents, in ads and in media posts:

1. *“... the government will hand over responsibility for our future to the tycoons…with criminal negligence, the government is transferring power from the cabinet to the plutocrats …[Those] who prioritize monetary self-interest and profits will be given the right to build a polluting onshore gas refinery, which, as a terror target will threaten the safety of thousands of Israelis…”. (*Advert placed by the *Citizens’ Coalition*, print media, 4.11.2013*).*
2. *“Onshore gas processing plant – over our dead bodies” [The slogan had a macabre photograph of a woman buried in sand wrapped in the Israeli flag, with the words beside her: "Margalit Ya’acov, 50 of Emeq Hefer. Injured by the explosion of the gas pipeline leading to the refinery”].* Advert placed by the Citizens’ Coalition, www.gaslayam.co.il).

### Salient features of Case 2

As in Case 1, campaigning against proposals of NOP 32 seemed to be a case of the NIMBY phenomenon albeit with a significant difference: while the relatively new offshore natural gas resources benefitted from a ‘modern’ energy option better than the widely-used coal, there is outright opposition to LPG sites. Inflammatory language used in printed materials distributed to conjure up objections to the siting of LPG facilities in Afula and Ashdod epitomizes these negative views:

*“Say no to the LPG monster. The gas storage is planned above ground, exposed to missile attacks, which, as we know, threaten our region. The explosion of only one tank … would undoubtedly cause serious physical damage to the buildings in Kibbutz Yassur and burns to the population … Who knows what may happen if there is a chain reaction causing the explosion of the remaining tanks? This happened in Mexico, wiping out a whole town…Hundreds of LPG filled tankers will drive… near the kibbutz, like a ticking time bomb. An accident in Spain in 1978 involving a tanker carrying only 20 tons of LPG left 200 dead and 40 seriously injured.”(*Newspaper announcement published by the protesters, June 2013).

While evident in both cases, one of the noticeable features of Case Study 2 is the knowledge gap between the protestors and the plan’s promotors. As opposed to dooms-day predictions, government documents and information did not portray LPG, already widely used in Israel, as a threat to nearby population. This gap stems from the complexity of the infrastructure plans and the high risk level associated with gas and fuel sites. The opinion of an environmental risk consultant was reassuring:

*“LPG is [already] found in every inhabited corner and along the distribution routes to them … Proper planning of LPG reservoirs, mostly using underground storage units, entirely rules out any grave scenario involving explosions which could cause large scale damage.”* (Gafni, 2015)

# Discussion

Here we discuss and analyze our findings and attempt to address knowledge and perception gaps between different stakeholders in cases that can be framed as NIMBY. We then suggest potential tools for bridging these gaps for government, planning authorities and residents.

Firstly, study findings lead to three broad explanations for the increased prevalence of NIMBYism in Israel, particularly with relation to the construction of new energy infrastructure facilities. The first is *spatial*: there are significant growing constraints on the amount of land available for increasing infrastructure and development needs. Population densities, urban sprawl and the depletion of vacant available "distant" spaces make it difficult for planners and decision makers to locate sites for infrastructure far away from residential areas, military areas, and ecologically vulnerable areas (separately and simultaneously)) This means that any energy infrastructure in Israel and similarly densely populated regions around the world will therefore always be located in someone’s “backyard”.

The second is a *socio-psychological* explanation, relating to the rising expectations and demands for a higher standard of living in a progressive society. In Israel, this requires the construction of new and expanded infrastructure: power stations, roads, industrial plants and communications antennae, with each installation requiring land. Installations are often located in or near cities or villages, both for economic reasons, such as proximity to an input or output point, and due to the shortage of land. This explanation indicates the paradoxical characteristics of the NIMBY syndrome - the demand to enjoy the benefits of development and modern life without paying the inherent environmental costs (Fish, 2004).

Thirdly, a *political* explanation, is the recent empowerment of Israel’s civil society, coupled with raised awareness among the public of planning and environmental issues, has led to increased public involvement in planning issues (Hananel, 2010; Fischhendler & Nathan 2014; Furst, 2014). Meanwhile, public discourse in Israel is typified by impatience and distrust of government and of developers with the two often linked together when it comes to energy development (Portman 2014).

In this kind of social climate people feel they need to take more of an aggressive, non-compromising stance in order to protect their interests and to prevent what they perceive as environmental injustice. Importantly, lack of transparency and failure of planning authorities and proponents to seek deeper and earlier stakeholder involvement have contributed to this lack of trust. In fact, even informants interviewed for this study who represent or advise governmental agencies, articulated frustration with the lack of authentic and open dialogue these agencies have with the public, pointing to this as the key to addressing NIMBY. If the current situation continues, the gap between the two sides may widen, while decreasing the potential for compromise and mediation.

A characteristic of the NIMBY phenomenon in Israel seems related to expanded conflict theory (Singer, 2014). This theory characterizes residents’ activism as a way of expressing latent and profound social dissatisfaction not always associated with the proposed development. NIMBY campaigns present an opportunity for expressing grievances and are sometimes linked to lack of knowledge or inability to deepen understanding or even acknowledge that technological solutions could be required to protect against potential environmental or public health impacts. In NIMBY situations, factors underlying conflict theory may also be augmented by those elements described in resource mobilization theory (see Jenkins, 1983; Singer, 2014), that is, the protests may be an exercise through which individuals, local organizations or elected officials raise electoral sway that promotes their own political agenda.

Finally, the placement chosen for the natural gas treatment facility proposes a new type of NIMBY, or rather a NIMBYist solution, for a situation in which infrastructure on land would always be near something or someone: placing it at sea (perhaps coining it PIAS (“Place It At Sea”) or NOL (“Not On Land”). The 10 km distance from shore was claimed to be insufficient for many coastal residents concerned that air pollution would reach the shore, and the spoiling of the natural landscape, or anticipating, in case of an accident or malfunction, damage to the marine and coastal ecosystem, and its cultural ecosystem services (e.g. recreation).

Planners should be aware that as open spaces on land decreases, residents’ expectations of quality of life increase, and blue (marine) technology develops, such demands will probably be heard more often. But planners will need to act responsibly to avoid impacting ocean and coastal ecosystem services and function. Positioning infrastructure facilities at sea has mostly been discussed in the literature regarding wind turbines (e.g. Haggett 2011; Devine-Wright and Wiersma 2020). The extent to which objections to proposed offshore natural gas wells and process infrastructure engender opposition because they involve extraction of fossil fuels as opposed to being projects of renewable energy, requires further research.

## Response tools

The following three groups of inter-related measures, as expressed by the informants in this research, are organized according to the main stakeholders identified and their desired objectives:

### Authorities:

1. **Change your approach**: The planning authorities need to change their attitude to the public, by adopting a more harmonious approach moving away from on their perception of being an authoritarian monopoly, and towards recognizing that the public deserves a reasonable level of service.
2. **Enhance transparency and trust**: The planning authorities need to bring far more transparency and trustworthiness into the practice of public participation.
3. **Really listen**: Planning authorities should perceive public objections to planning proposals as a challenge and a chance to improve, rather than as a threat, seeing the potential for change through constructive criticism.
4. **Make information accessible**: A thorough update of planning language is needed so that it becomes accessible and clear to the public, avoiding jargon and expressing plans in laymen's terms.

### General Public:

1. **Substantiate your claim**: Avoiding frightening and catastrophizing rhetoric about scientifically unsubstantiated damage or potential threats, which detracts from the value of well-founded, evidence-based and justified opposition.
2. **Pick your battles**: Avoid saying “no” to any development project of any nature and at any distance. Oppose only projects or placements that you feel are socially or environmentally unjustified or could put you and your community at serious risk.
3. **Accept the end results**: Be willing to compromise and accept the results if public, NGO and/or local objection have been discussed and taken into consideration in a fair manner, even if the results are not as hoped.

### Commercial Enterprises:

1. **Communicate with the Public**: Create a dialogue with the public and with the authorities based on transparency and providing reliable information throughout the planning, construction and operation process.
2. **Use relatable explanations and examples**: Explain why your project is justified and/or necessary by using relatable data and anecdotal knowledge. Provide examples of comparable cases from other developed countries having features similar to those characterizing the Israeli space.
3. **Compensate**: Determine an aboveboard system of community compensation (HCC) that addresses community needs, without perceived underhand connotation.

An inspection of the test cases and an analysis of the interviews show that the level of acceptance of the opposition as legitimate by decision makers depends upon two parameters: the frequency of protests and the distance of objectors from proposed sites. As the distance to sites increases, the suspicions of NIMBYism increases; at the same time, the credibility of the protestors and attention paid to them decreases as objections and protests become more and more commonplace (see Fig. 3).

#### [Insert Fig. 3 here]

#### Fig. 3: A schematic illustrating parameters influencing the acceptability of the public objections

To conclude, the increase of NIMBY conflicts is justified by those who see it as a call for local environmental or social justice, but it is viewed as a negative trend by those who see it as a barrier to siting needed national infrastructure. Either way, NIMBY is a growing phenomenon that requires the attention of policy makers and planners.

In Israel, the NIMBY phenomenon has increased due to a sense of mistrust of the government and entrepreneurs, decrease in open spaces or environmentally sensitive areas, and a simultaneous rise in socio-economic status over the past decades. These trends have lead to a more informed and aware public, with more to lose in terms of quality of living. The current low level of credibility, particularly with regard to energy infrastructure, while not the only factor, could further improve the goals and aims of local protests which reflect legitimate aspirations for empowerment and change.

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## Appendix 1: Survey/interview questions

1. How would you define or describe the NIMBY phenomenon in Israel (related to infrastructure in general and specifically to energy projects)?
2. What, in your opinion, are the reasons or the explanation for the NIMBY phenomenon in Israel?
3. What do you think is the direction of this phenomenon? Is it weakening or strengthening? What is your explanation for that?
4. In your opinion, is the NIMBY phenomenon more common among certain groups of the population? Or certain, organizations, geographic areas or socio-economic status?
5. What is your standing regarding the following two phrases:
   1. NIMBY objections are honest and stem from an understandable and legitimate need of residents to maintain their quality of life and protect their environment.
   2. NIMBY objections stem from external motivations that are not directly related to the proposed project, such as political or economic interests.
6. In your opinion, in what ways or methods can or should the state manage the NIMBY phenomenon?
7. In certain Western countries there is the notion of the host community compensation, a mechanism that relies on a dialogue that leads to an agreement over economic or spatial compensation given to a local community or municipality, which agree to host the project that was the source of NIMBY opposition on their grounds. Do you feel that this kind of practice is applicable in Israel?
8. Do you have any other comments or insights regarding the NIMBY phenomenon?