**Activism or egotism? A critical view of the NIMBY phenomenon in Israel based on an analysis of case studies**

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# Abstract

The NIMBY (“not in my backyard”) phenomenon, in which stakeholders oppose new land uses and activities in their vicinity, has been a subject of discussion for several decades. For energy infrastructure, it results from the juxtaposition between the desire to maintain resident wellbeing and a healthy environment on the one hand and the demand for energy to maintain an energy-intensive standard of living on the other hand. Based on a literature review, interviews with key informants, documents, and media analysis, this article analyzes the NIMBY phenomenon in the context of energy-infrastructure development in Israel. The results indicate that decision-makers and planners regard NIMBYism as an obstacle to development, whereas objecting residents consider that the articulation of their dissatisfaction with perceived environmental threats is not only legitimate but also their most effective means to preserve the status quo of their surroundings. Expanding public consultation with planners and developers could reduce or modify NIMBYism among the public and the perception of NIMBYism by developers and planners. We emphasize that understanding NIMBY narratives offers advantages to policymakers, energy companies, and planners and suggests responses for all three.

# Keywords

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 above in response to a petition brought to Israel’s Supreme Court by local authorities and NGOs opposing the construction of near-shore natural gas infrastructure close to coastal communities. The petitioners’ claims embody an important trend in Israel: the increasing prevalence of the “not in my backyard” or “NIMBY” phenomenon.

We contend that two messages are conveyed by the term “NIMBY,” one implicit and the other explicit, translating respectively to (i) the project is legitimate and necessary, but (ii) do not locate it close to us. The contradiction between the two aspects of the NIMBY phenomenon (NIMBYism hereafter) contributes to the controversial nature of the phenomenon, leading to strong emotions among the public, planners, and developers. NIMBY positions have typical characteristics, certainly found in Israel, whereby a community *generally* supports the concept of development and acknowledges the need for it, yet objects to its proposed location (Wolsink 1994; Papazu 2017).

Significant research on NIMBYism is found in the planning and environmental management literature, particularly related to the siting of power-plant infrastructure, wind farms, and waste management facilities (Wolsink 2006; Fournis & Fortin 2017). In some areas, it is common to the siting of a myriad of other land uses including public housing (Pendall 1999) and various facilities for vulnerable populations such as those in rehab programs, the disabled, and the elderly (Takahashi 1997; Wilton 2000). Over the last decade, NIMBYism has become widespread in Israel, particularly for siting energy infrastructures such as power stations, natural gas treatment, and distribution centers, wind turbines, and storage facilities for household gas (see, e.g., Benford et al. 1993; Devine‐Wright 2005; Chiou et al. 2011; Waldo 2012; Papazu 2017; Zheng & Liu 2018). Accordingly, this study investigates how the prevalence of NIMBYism shapes infrastructure development. Among the more positive aspects of NIMBYism is the progress it has engendered in distributive and environmental justice (see Been 1994; Shmueli 2008).

### Background and definitions

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

The term “NIMBY” entered the public discourse 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, which addressed the treatment of hazardous waste from industrial plants, Livezey describes how community organizations asked for hazardous waste to be buried as far from residents as possible, contending that the area near the waste site 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 used 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.” Regarding a local community’s response to such seemingly undesirable nearby development, Rodgers explained that “residents usually concede that these ‘noxious’ facilities are necessary, but not near their homes” (Dear 1992). The term became 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 has written extensively about NIMBYism in planning contexts (1994; 2006; 2012) and is one of the pioneers of what he refers to as “NIMBY theory” (Wolsnik 1994). He lays out six assumptions that form the basis of NIMBY-style thinking. One of the most salient of these is that, although everyone agrees about the importance of a particular development, not everyone is prepared to make sacrifices that involve giving up benefits and suffering ills. Projects often involve “higher” (i.e., more general or global) interests than those of local populations.

The NIMBY phenomenon typically exists within either an environmental context or a social context (e.g., Davis & Bali 2008), although frequently the two are considered together (see, e.g., Burningham 2000). The environmental context involves environmental well-being and/or environmental (i.e., public) health. In a social or political context, the term NIMBY applies to a group of people refusing to live in the proximity of another group of a 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 involving an element of humor and criticism (see Table 1).

**Table 1** Common NIMBY-related acronyms.

|  |  |  |  |
| --- | --- | --- | --- |
| **Term** | **Meaning** | **Context** | **Source** |
| **LULU** | Locally Undesirable Land Use | Types of land use seen as unsuitable for placement in an area  | Freudenberg & Pastor, 1992; Shively 2007. |
| **NOOS** | Not on Our Street | Local opposition to a development location | Dear 1992 |
| **NIMTOO** | Not in My Term of Office | Time-limited opposition on the part of decision-makers | Schively 2007; Greenberg 2009; Johnson 2012 |
| **CAVE** | Citizens Against Virtually Everything | Persistent resistance to developments by residents | Dear 1992; Schively 2007 |
| **NOPE** | Not on Planet Earth | Opposition by environmentalist groups to the entire project and land 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 or 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 aspects of NIMBYism over the past four decades and two dominant perspectives have emerged: The first is that objections by residents to the siting of development near their homes are self-centered and egoistical (see, e.g., Burningham 2000). Such 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 perspective views the actions of objectors to proposed development as based on subjective positions. While such positions may be justified, objectors often support their position by considering only the information that supports their interests (Wolsink 2012). The second perspective views NIMBYism as expressing aspirations for environmental justice, namely, securing the right to enjoy reasonable environmental conditions (Burningham 2000). This viewpoint is particularly relevant for disadvantaged populations living in areas degraded 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. Using renewable energy sources as a case in point, Wolsink (2012) documents the mainstream transition among scholars analyzing public objections to the development of renewable energy sources, which involves abandoning NIMBY arguments because they are “self-evident truths” as described by Ostrom (2000). With regard to renewable energy, particularly wind power, NIMBY is assumed to be at the heart of objections to yet other impediments, such as “institutional lock-in,” which refers to a reluctance to adopt new technologies or ways of doing things (see, e.g., Teschner, et al. 2012). These and other sometimes contradictory views reinforce the need for a better understanding of what motivates NIMBYism and what is and is not part of the phenomenon (see, e.g., Du Vivier & Witt 2017).

## Institutional responses to NIMBY phenomenon

Attitudes toward NIMBYism depend on the identity of the relevant players and stakeholders (Benford et al. 1993; Lake 1993; Aruninta 2009). From the perspective of decision-makers and of those promoting development, NIMBYism is often considered a troublesome, irrational impediment (see, e.g., Wolsink & Devilee 2009). While social scientists maintain that the term “NIMBY” be avoided and the concept of NIMBYism 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, which includes guidelines for responding to powerful constituents wary of any compromise.

Various policy options have already been advanced to avoid NIMBY protests. One such policy strategy involves *Host Community Compensation* (HCC) schemes. HCC schemes are related to the YIMBYism (see Table 1) and offer communities non-negligible compensation if they do not object to a development initiative. Although such schemes do not necessarily avoid environmental degradation, they at least aim to redistribute costs and benefits and allow communities to determine their fate since they must approve both the development and the compensation. Furthermore, such schemes tend to defuse tension and conflict (Klein & Fischhendler 2015).

Critics claim that HCC is a form of bribery with significant ethical shortcomings and is used as a tool by wealthy developers to silence public dissent and oppress socio-economically weaker communities, which are often the victims of environmental injustice (Brown & Glanz 2018). Although 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, regardless of whether the development is expected to degrade the health of nearby residents, reduce the aesthetic value of the environment, or damage the ecosystem (Portman 2006).

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

Wolsink (2012) adds that the perspectives held by planners promoting development are often based on assumptions about the narrow interests of residents; however, these assumptions are not supported by empirical studies. Based on a large-scale survey used to investigate six decision-making processes for various types of waste facilities, Wolsink and Devilee (2009) showed that the crucial factors in perceived risk are not based on the 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. Furthermore, numerous researchers have emphasized that, when a planning process is perceived as unfair, NIMBY claims are more likely (see, e.g., Matejczyk 2001; Davis & Bali 2008).

The remainder of this paper presents our analysis of two Israeli case studies involving two types of energy infrastructure. Although NIMBYism is not a completely new phenomenon in Israel, it is becoming increasingly common as the country becomes more crowded, as more infrastructure projects are needed, and as the hegemonic development agencies take a tougher stance toward what they perceive as NIMBYism. Significantly, the Israel Ministry of Infrastructure and Energy has 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 and the country’s population has more than doubled. Land use has changed from natural open space or agricultural to residential, energy, and transportation infrastructure uses. The average population density in the country grew from 250 to 392 inhabitants per km2 from 1990 to 2019 (Hananel 2010; Fischhendler & Nathan 2014; Tal 2016; CBS 2019). In 2014, the government unveiled a plan to build 600 000 new apartment units from 2015 to 2030 because the loss of open space has been keenly felt. Even marine space is being considered for intensive developments ranging from offshore artificial islands to energy production (Fischhendler & Nathan 2014; Portman 2019, Teff-Seker et al 2018).

Israeli development proponents and government agencies have accorded high priority to infrastructure development, especially for energy use and production. A major development in recent years has been the confirmation of large gas reserves several kilometers off Israel’s coast. Fast-tracking plans to develop this resource have been controversial, especially considering the ambiguous regulatory regime due to the offshore location (Portman 2015). In the following sections, we describe case studies of (i) a natural gas offshore processing facility, and (ii) a liquified petroleum gas (LPG) storage facility. Both cases involve energy sources that are non-renewable yet “cleaner” than oil or coal, which have been Israel’s main energy sources 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, and the companies had opted to construct an onshore facility for receiving and processing the offshore gas at the Dor Beach Nature Reserve. This idea was met with court petitions and intense protests led by nearby residents and coined “The Dor Beach Protests” (Gutman 2013). These protests lead to the above-mentioned decision to prepare a 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 stipulated that most of the gas drilled and pumped from the Leviathan field would be processed on platforms floating above the drill site head about 100 km west of the Israeli coastline. From the platforms, the gas would be pumped to an offshore station constructed 7.5–10 km from the coast (see Fig. 1), then to a small receiving terminal on Dor Beach, and from there distributed throughout the country. Once these details were approved by the government (Bar-Eli 2014), 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 placement of most facilities offshore as a major achievement (Bar-Eli 2014).

###  [Insert Figure 1 here]

### Fig. 1 Map of controversial offshore natural gas facilities proposed as part of NOP 37H.

The resident activists of the Dor Beach Protest relied on centrally coordinated leadership and legal and planning experts who assessed risks and examined the plan’s environmental impact statement. The leadership concluded that natural gas processing must be “only at sea, and as distant as possible from the shore” to minimize impacts, which included inhabitants’ sea views from the shore (environmental impact statement prepared for NOP37H, delivered by the citizens’ coalition to the National Planning and Construction Council, Nov. 8 2013). Activists pointed out that, in most countries, similar facilities are situated far offshore. They proposed that the gas-processing facilities be built as floating production storage and offloading plant 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. Consequently, in the hope of quelling the protests, the planning authorities acted with transparency and immediately posted the environmental impact report on the internet upon its completion, which is beyond the requirements stipulated in Israeli law. They held public meetings and met with local authorities, residents, and their professional advisors. Subsequently, the conflict developed into a dialogue, although the dialogue was accompanied by demonstrations and legal actions (see Results below). According to Han, the head of the planning department at the Ministry of Environmental Protection at the time the NPO was prepared, the final decision represented a balance between local public interests and the national need for gas processing infrastructure (Bar-Eli 2014).

The government approved NOP 37H in April 2016. The plan indicated that structures would be situated 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 the rising 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 to grow regardless of offshore natural gas developments. Natural gas and LPG have different characteristics and purposes and thus require separate distribution and storage facilities (Planning Authority, NOP 32/1, 3.8.14). Currently, storage is required for Israeli-produced LPG from the Haifa and Ashdod refineries and LPG imported by the Eilat-Ashkelon Pipeline Company in Ashkelon. NOP 32 proposes six new LPG storage sites located throughout the country with a total capacity of 60 000 tons of LPG. While NOP 32 was being prepared (2012–2015), all proposed sites met with fierce opposition from nearby residents, local organizations, and local authorities.

*[Insert Figure 2]*

### Fig. 2 Controversial LPG facilities proposed as part of NOP 32.

The NOP 32 government planning team held public consultation meetings with residents, discussed with local authorities, and 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 National Planning and Building Council approved the new sites, which were also reviewed and approved by the Home Front Security Command and by hazardous material experts from the Israel Ministry of Environment. Finally, NOP 32 was 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 of Israel, the “Nesher” and “Shafdan” sites; and two in the southern district of Israel, in Ashkelon and Ashdod (see Fig. 2). The Ministry of Energy published bids in December 2019 for developers to erect and develop these storage sites according to the approved plan (Public Bid 91/2019).

# Methods

This study aims (1) to identify the NIMBY characteristics relevant to the two case studies outlined above, (2) to describe and explain the responses by developers and government agencies to NIMBY-style positions, and (3) to determine the effectiveness of these responses. To achieve these aims, we qualitatively studied stakeholder positions based on in-depth interviews and surveys (*n* = 16). We administered open questionnaires to nine key informants and interviewed (face-to-face) seven additional informants (see Appendix 1). The 16 informants included decision-makers, government representatives, environmentalists, community activists, professionals, academics, and media representatives. The in-depth interviews followed the qualitative research protocols with questions devised based on examples from the literature (see, 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 qualitatively analyzed (i.e., we identified repeating ideas, keywords, and terms and extrapolated the main themes and insights). The 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 by using discourse analysis to identify perceptions of NIMBY-related issues and values.

# Results

This section first presents the general results pertaining to the expression of NIMBY objections to development and reactions to such objections. We then present results based on media and government sources. We describe the main actors, rationale, risks, fears, and demands, from which we learn about the positions of the various stakeholders.

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

The interviewees and survey respondents attributed the increase in NIMBY attitudes to the following causes:

1. a decreased availability of open spaces, resulting from increased development;
2. an increased public awareness and access to information about planned and ongoing projects;
3. a past non-compliance with environmental regulations;
4. an easier appeal process and an increasingly litigative culture;
5. precedents of success of (perceived) NIMBY environmental campaigns;
6. increased awareness of social and environmental campaigns through social media;
7. support from environmental NGOs;
8. a lack of trust in the government and in 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 on 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 of environmental risks and hazards.

All key informants emphasized transparency and active stakeholder involvement at all stages of planning to counter or respond to NIMBY opposition. Others suggested (1) constructing long-term plans and comprehensive master plans for energy development; (2) ensuring 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) applying mitigation practices (“best practices”) and technologies; (4) standing behind a planning decision, despite NIMBY opposition, if an informed decision is 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 policymakers 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.*

Informants were pessimistic or reserved about the idea of compensation for the potential damage caused by the placement of energy facilities. 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 at the expense of weaker or poorer communities. Others suggested that compensation would need to be in cooperation with the local population and should sincerely address resident needs. One informant from the planning department at the Ministry of Energy responded as follows:

*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 phenomenon expands, I think it would be more difficult to apply HCC.*

Environmental impact assessments, which should both inventory and address environmental degradations expected from new development, were not considered very helpful by informants. Furthermore, the public does not always trust environmental assessments or the regulator that reviews them because, by regulation, they are financed and prepared by the developer (Mandelik et al. 2005).

## Case study analysis: Official documents, press, and social media

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

**Table 2** Comparison of the characteristics of the two case studies.

|  |  |  |
| --- | --- | --- |
|  | **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 |
| **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, hazardous materials risks, downgrading of area’s image  |
| **Developer** | Noble Energy | Various entrepreneurs (currently at bidding stage) |
| **Protesters and activists** | NGOs “Home guardians” and “Zalul,” residents from Yoqneam, Zichron Yaakov, and Carmel Coast areas | Tamra, Acre, Ashdod, and Afula residents |
| **Main positions of protesters** | The treatment facility should be placed elsewhere, preferably along industrialized coastlines, or as far out to sea as possible, with the preferred option being to place it near the well, 120 km from shore, by using a large floating facility. Protesters also claimed that the decision was unjustified because the government is biased toward developers.  | The LPG sites should be placed in the Negev desert or at sea; 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 the Supreme Court, 12 to Haifa District Court | None |
| **Media coverage** | Very high coverage from 2016 involving national media websites and social networks | Minimal, high only in local newspapers and 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, but gradually improved | Very high from the beginning |
| **Public participation** | Started only after four years, and improved toward the end of the process | Very high: special expert was nominated at the beginning of the process, and public hearings were held 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 several unique characteristics of the project and the plan itself: First, no venture of this type had yet been undertaken in Israel in terms of either engineering or technological complexity; Leviathan is one of the first offshore wells operating. Second, the extraction of gas from the seabed and its refinement requires information that is not fully available before production begins. Third, the residents were concerned about the foreign company running the project (Noble Energy). They lacked faith in the company from the moment the government attempted to grant it development rights. Further concerns followed the disastrous oil spill caused by British Petroleum in the Gulf of Mexico that occurred at about this time (Cornwall 2015). Protests by the residents living near the proposed near-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’ language was exhibited in campaign documents, ads, and 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 ….”* (advertisements 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”].* Advertisement placed by the Citizens’ Coalition, www.gaslayam.co.il).

### Salient features of Case 2

As in Case 1, campaigning against the proposals of NOP 32 seemed to be a case of NIMBYism, albeit with a significant difference: although the relatively new offshore natural gas resources benefit from being characterized as “modern” energy options, differentiating this technology from “old-fashioned” coal, there is outright opposition to LPG sites. The language used in printed materials was designed to nurture objections to the siting of LPG facilities in Afula and Ashdod. The following epitomizes these 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 notable features of Case Study 2 is the knowledge gap between the protestors and the promotors of the plan. As opposed to doomsday predictions, government documents and information did not portray LPG, already widely used in Israel, as a threat to nearby populations. This knowledge 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

We now discuss and analyze the results and attempt to address the knowledge and perception gaps between different stakeholders in NIMBY cases. We then suggest potential tools for bridging these gaps for government, planning authorities, and residents.

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

The second explanation is *socio-psychological*, 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 reflects the paradoxical characteristics of the NIMBY syndrome—the demand to enjoy the benefits of development and modern life and the reluctance to pay the inherent environmental costs (Fish 2004).

The third explanation is *political*. The recent empowerment of Israel’s civil society, coupled with a 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 when it comes to energy development (Portman 2014).

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

A characteristic of NIMBYism in Israel seems to be related to expanded-conflict theory (Singer 2014). This theory characterizes residents’ activism as a way of expressing latent and profound social dissatisfaction that is not always associated with the proposed development. NIMBY campaigns present an opportunity for expressing grievances and are sometimes linked to a lack of knowledge or an 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 elements taken from resource-mobilization theory (see Jenkins 1983; Singer 2014). In other words, NIMBY protests may be an exercise through which individuals, local organizations, or elected officials raise their own profile and promote their own political agenda.

Finally, the location chosen for the natural gas treatment facility in Case Study 1 proposes a new type of NIMBYism, or rather a NIMBYist solution, for a situation in which infrastructure on land would always be near something or someone: placing the infrastructure at sea (perhaps coining it PIAS, “Place It At Sea” or NOL, “Not On Land”). The 10 km distance from shore was deemed insufficient by many coastal residents, who were concerned that air pollution would reach the shore and that the natural landscape was at risk of damage. They may also have been 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 available land decreases, residents’ quality-of-life expectations increase, and as blue (marine) technology develops, such demands will probably increase. However, planners need to act responsibly to avoid impacting ocean and coastal ecosystem services and function. Positioning infrastructure facilities at sea have mostly been discussed to date in the context of wind turbines (see, e.g., Haggett 2011; Devine-Wright and Wiersma 2020). Further research is required to better understand how objections to proposed offshore natural gas wells and processing infrastructure engender opposition, given that they involve the extraction of fossil fuels as opposed to being projects of renewable energy such as wind farms.

## Response tools

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

### Authorities

1. **Change the approach**. The planning authorities should (i) adopt a more harmonious attitude toward the public to reduce the perception that they constitute an authoritarian monopoly and (ii) recognize that the public deserves a reasonable level of service.
2. **Enhance transparency and trust**. The planning authorities need to inject significantly more transparency into the practice of public participation and increase their trustworthiness.
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 improvement through constructive criticism.
4. **Make information accessible**. The language of planning should be thoroughly updated 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**. Frightening and catastrophizing rhetoric involving scientifically unsubstantiated damage or potential threats should be avoided because it detracts from the value of 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 objections 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 the project is justified and/or necessary by using relatable data and anecdotal knowledge. Provide examples of comparable cases from other developed countries with features like those characterizing the Israeli space.
3. **Compensate**. Determine an aboveboard system of host community compensation that addresses community needs without perceived ulterior motives.

An inspection of the case studies and an analysis of the interviews show that the degree to which decision-makers accept opposition as legitimate depends upon two parameters: the frequency of protests and how far the objectors live from the proposed site(s). As the distance to the site increases, the suspicion of NIMBYism increases. Simultaneously, the credibility of the protestors and the attention devoted to them decreases as objections and protests become increasingly commonplace (see Fig. 3).

#### **[Insert Fig. 3 here]**

#### **Fig. 3** Schematic diagram to illustrate the parameters that influence the acceptability of 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 is viewed as a negative trend by those who see it as a barrier to siting needed national infrastructure. Either way, NIMBYism is a growing phenomenon that requires the attention of policymakers and planners.

In Israel, NIMBYism has increased due to a growing mistrust of government and developers, a decrease in open space or environmentally sensitive areas, and a simultaneous rise in socio-economic status over the past decades. These trends have led to a more informed and aware public, with more to lose in terms of quality of living. The current low level of credibility enjoyed by the government and developers, particularly regarding energy infrastructure, is not the only factor but could further support the goals and aims of NIMBY protests, which reflect legitimate aspirations for empowerment and change.

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# References

Aruninta, A. (2009). WiMBY: A comparative interests analysis of the heterogeneity of redevelopment of publicly owned vacant land. *Landscape and Urban Planning*, *93*(1), 38–45.

Bar-Eli, A. )2014). Noble Energy: The gas from Leviathan will be processed at sea. *The Marker*, 4.3.2014.

Been, V. (1994). Locally undesirable land uses in minority neighborhoods: Disproportionate siting or market dynamics? *The Yale Law Journal*, *103*(6), 1383–1422.

Benford, R. D., Moore, H. A., & Williams, J. A. (1993). In whose backyard? Concern about siting a nuclear waste facility. *Sociological Inquiry*, *63*(1), 30–48.

Brown, G. & Glanz, H. (2018). Identifying potential NIMBY and YIMBY effects in general land use planning and zoning. *Applied Geography*, *99*, 1–11.

Burningham, K. (2000). Using the Language of NIMBY: A topic for research, not an activity for researchers. *Local Environment*, *5*(1), 55–67.

CBS, Israel Central Bureau of Statistics (2019). Sources of population growth by type of locality, population group and religion, *Israel Central Bureau of Statistics*: Jerusalem [Hebrew].

Chiou, C. T., Lee, J., & Fung, T. (2011) Negotiated compensation for NIMBY facilities: Siting of incinerators in Taiwan. *Asian Geographer*, *28*(2), 105–121.

Cornwall, W. (2015). Deepwater horizon: After the oil. *Science*, 348, 22–29.

Davis, B. C., & Bali, V. A. (2008). Examining the role of race, NIMBY, and local politics in FEMA trailer park placement. *Social Science Quarterly*, *5*, 1175.

Devine-Wright, P., & Wiersma, B. (2020). Understanding community acceptance of a potential offshore wind energy project in different locations: An island-based analysis of ‘place-technology fit’. *Energy Policy*, *137*, 111086.‏

Devine‐Wright, P. (2005). Beyond NIMBYism: Towards an integrated framework for understanding public perceptions of wind energy. *Wind Energy*, *8*(2), 125–139.

Du Vivier, K., K., & Witt, T. (2017). NIMBY to NOPE—or YESS? *Cardozo Law Review*, 38(4), 1453–1504.

Fischhendler, I., & Nathan. D. (2014). In the name of energy security: The struggle over the exportation of Israeli natural gas. *Energy Policy*, *70*, 152–162.

Fournis, Y. & Fortin, M. J. (2017). From social ‘acceptance’ to social ‘acceptability’ of wind energy projects: Towards a territorial perspective. *Journal of Environmental Planning and Management*, *60*(1), 1–2.

Freudenburg, W. R., & Pastor, S. K. (1992). NIMBYs and LULUs: Stalking the syndromes. *Journal of Social Issues*, 48, 39–61.

Furst, B. (2014). Environmental Campaigns in Israel and their Spatial Impact, in Leonard, L., & Kedzior, S. B. (Eds.), *Occupy the Earth: Global Environmental Movements* (Emerald Group Publishing Limited, Bingley), pp. 137–170.

Gafni, D. (2015). More risks should not be added to the risks already piled up in Ashdod, *Kol Hadarom*, *16*, 2 [Hebrew].

Fish, D. (2004). Environmental justice in Israel: The intersection between human rights law and environmental law, *Mishpat ve-Mimshal*, 7, pp. 911–943 [Hebrew].

Goulden, S., Portman. M. E., Carmon, N., & Alon-Moses, T. (2018). From conventional drainage to sustainable stormwater management: beyond the technical challenges. *Journal of Environmental Management*, 219, 37–45.

Gutman, L. (2013). The plan to construct on shore gas processing plants has been postponed for six months. *Calcalist*, *20*, 8 [Hebrew].

Haggett, C. (2011). Understanding public responses to offshore wind power. *Energy Policy*, *39*(2), 503–510.‏

Hananel, R. (2010). Zionism and agricultural land: National narratives, environmental objectives and land policy in Israel. *Land Use Policy*, *27*, 1160–1170.

Hoen, B., Wiser, R., Cappers, P., Thayer, M., & Sethi, G. (2011). Wind energy facilities and properties: The effect of proximity and view on sales prices. *Journal of Real Estate Research*, *33*, 279–316.

Jenkins, J. (1983) Resource mobilization theory and the study of social movements. *Annual Review of Sociology*, *9*, 527–553.

Klein, I., & Fischhendler, I. (2015). The pitfalls of implementing host community compensation: A power balance perspective. *Land Use Policy*, *49*, 499–510.

Koren, O. (2019). The gas from Leviathan began flowing, No unusual levels of pollution registered in emissions test 31 December, 2019. Available at <https://www.themarker.com/dynamo/2020-01-05/ty-article/0000017f-e4fe-df2c-a1ff-feffabae0000>

Lake, R. W. (1993). Rethinking NIMBY. *Journal of the American Planning Association*, *59*(1), 87.

Mandelik, Y., Dayan, T., & Feitelson, E. (2005). Planning for biodiversity: The role of ecological impact assessment. *Conservation Biology*, *19*, 1254–1261.

Matejczyk, A. P. (2001). Why not NIMBY? Reputation, neighbourhood organisations and zoning roads in a US midwestern city. *Urban Studies*, *38*, 507–518.

Ostrom. E. (2000). The danger of self-evident truths. *Political Science and Politics*, *33*, 33–44.

Papazu, I. (2017). Nearshore wind resistance on Denmark’s renewable energy island: Not another NIMBY story. *Science & Technology Studies*, *30*(1) 4–24.

Pendall, R. (1999). Opposition to housing: NIMBY and beyond. *Urban Affairs Review*, *35*(1), 112–136.

Petrova, M. A. (2016). From NIMBY to acceptance: Toward a novel framework -VESPA - For organizing and interpreting community concerns. *Renewable Energy*, *86*, 1280–1294.

Portman, M. E. (2006). Tidelands management: Implementation of the Massachusetts public waterfront act, *Journal of Environmental Policy and Planning*, *8*(4), 293–308.

Portman, M. E. (2014). Regulatory capture by default: Offshore exploratory drilling for oil and gas. *Energy Policy*, *65*, 37–47.

Portman, M. E. (2019). Detached islands: Artificial islands as adaptation challenges in the making. *Die Erde*, *150*(3), 158–168.

Saint, P. M., Flavell, R., & Fox, P. (2009). *NIMBY Wars: The Politics of Land Use*. Saint University Press: Philadelphia, Pennsylvania, p. 217.

Patton, M. Q. (2015). *Qualitative Research & Evaluation Methods: Integrating Theory and Practice*. Sherman Oaks: Sage.

Reed, M. S., Graves, A., Dandy, N., Posthumus, H., Hubacek, K., Morris, & J., Stringer, L. C. (2009). Who's in and why? A typology of stakeholder analysis methods for natural resource management. *Journal of Environmental Management*, *90*(5), 1933–1949.

Shmueli, D. F. (2008). Environmental justice in the Israeli context, *Environment and Planning* *A*, *40*(10), 2384 – 2401.

Singer, M., (2014). *Neighbourhood Opposition or Community Inclusion? Understanding Response to the Siting of Human Services Facilities for People with Special Needs*, M. A. Thesis, Department of Geography, Hebrew University of Jerusalem.

Tal, A. (2016). *The Land is Full*. Yale University Press: New Haven, Connecticut.

Takahashi, L. M. (1997). Information and attitudes toward mental health care facilities: Implications for addressing the NIMBY syndrome. *Journal of Planning Education and Research*, *17*(2), 119–130.

Teff-Seker, Y., Eiran, E., & Rubin, A. (2018). Israel turns to the sea. *The Middle East Journal*, *72*(4), 610–630.‏

Teschner, N. A., McDonald, A., Foxon, T. J., & Paavola, J. (2012). Integrated transitions toward sustainability: The case of water and energy policies in Israel, *Technological Forecasting and Social Change*, *79*(3), 457–468.

Waldo, A. (2012). Offshore wind power in Sweden—A qualitative analysis of attitudes with particular focus on opponents, *Energy Policy*, *41*, 692–702.

Wilton, R. (2000). Grounding hierarchies of acceptance: The social construction of disability in NIMBY conflicts, *Urban Geography*, *21*(7), 586–608.

Wolsink, M. (1994). Entanglement of interests and motives: Assumptions behind the NIMBY-theory on facility siting, *Urban Studies*, *31*(6), 851–866.

Wolsink, M. (2006). Invalid theory impedes our understanding: A critique on the persistence of the language of NIMBY, *Transactions of the Institute of British Geographers*, *31*(1), 85–91.

Wolsink, M. (2012). Undesired reinforcement of harmful ‘self-evident truths’ concerning the implementation of wind power, *Energy Policy*, *48*, 83–87.

Wolsink, M., & Devilee, J. (2009). The motives for accepting or rejecting waste infrastructure facilities, Shifting the focus from the planners' perspective to fairness and community commitment, *Journal of Environmental Planning and Management*, *52*(2), 217–236.

Zheng, G., & Liu, W. (2018). Same projects, different endings—Comparative case studies on NIMBY facility construction in Beijing, *Cities*, *7*, 63–70.

## Appendix 1: Survey and 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 socioeconomic 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?