

**The legal aspects of SG deployment -
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Introduction

The Smart Grid offers various advantages over the traditional electricity transmission system, including improved transmission efficiency, better control and supervision capabilities over the electric grid (especially managing peaks), expanding the range of available services offered to consumers and providing them with the ability to control their consumption and its timing and reduce their bills. However, like in the case of many other technological advances, the current legal system does not fully and comprehensively address all legal issues that may arise in connection with this new technology.

Indeed, Israeli law does not currently provide a specific set of rules or regulations addressing all matters pertaining to the Smart Grid. Accordingly, it is likely that the legislator will have to take into consideration the need for specific legislation involving the Smart Grid, whether independently or as a result of applications submitted by stakeholders. Nevertheless, it is quite certain that not all matters will be specifically addressed by the legislator, hence, when the courts will have to consider such matters, they will have to rely on general areas of law (e.g. privacy, anti-trust) and apply them to the subject matter.

In this chapter, we shall attempt to review some existing provisions of the main areas of the law that are relevant to the operation of the Smart Grid, and will point out certain matters that, in our opinion, should be specifically addressed and regulated.

Privacy

The Right to Privacy

The common proverb about privacy, which was coined by Warren and Brandies, is that the right to privacy is "the right to be let alone."¹ The Israeli courts have adopted this concept and have based such right on the individual's right not to be bothered and his basic right to freedom.²

Moreover, following various conventions and treaties that have acknowledged the importance and the status of the right to privacy as a basic right,³ the right to privacy has been declared a constitutional right in Israel, pursuant to section 7 of the Basic Law: Human Dignity and Liberty.⁴ Lastly, certain aspects of the right to privacy also enjoy further protection under the Protection of Privacy Law 5741-1981 (the "**Law**").⁵ However, neither the Law nor the case law relating to it, provide an exhaustive definition of privacy.

With regard to a person's home, the right to privacy ensures his *"right to conduct the lifestyle he chooses within the confines of his home, without external interruptions. A man's home is his fortress, and within its walls he is entitled to be left alone, to develop the autonomy of his personal will. In this respect, the right to privacy is, inter alia, the limit over the access that*

¹ S. D. Warren & L. D. Brandeis "The Right to Privacy" 4 Harv. L. Rev. (1890) 193 "the right to be let alone". See also [civil] file 8483/02 *Aloni Ltd. v. Ariel McDonald* (March 30, 2004) and the Protection of Privacy Bill, page 206 (Bill 1453, 1980): *"The individual finds himself exposed for everyone to see, in matters which are better kept private, and feels that his personal, intimate affairs are about to become- without good reason- an matter of public knowledge. This new situation requires that the individual's right to privacy is secured."*

² The former president of the Supreme Court, Justice Meir Shamgar, explained that a breach of privacy occurs when *"an act... which might cause a person to lose his peace of mind, his sense of personal security and a sense of being able to lead his life in privacy, without his personal affairs becoming a spectacle for others to see..."* (see [further hearing] file 83/9 *Military Appeals Tribunal v. Moshe Vaknin*, page 853 (October 30, 1988).

³ See Article 12 of the Universal declaration of Human Rights, 1948; Article 8 of the Convention for the Protection of Human Rights and Fundamental Freedoms, 1950; and Article 17 of the International Covenant on Civil and Political Rights, 1966.

⁴ Article 7 of the Basic Law: Human Dignity and Liberty- *"Privacy: (a) All persons have the right to privacy and to intimacy...(d) There shall be no violation of the confidentiality of conversation, or of the writings or records of the person."*

⁵ See the language of Article 1 of the Protection of Privacy Act, 5741-1981: *"No person shall breach another person's privacy without his consent"*. Section 5 of the Law stipulates that a breach of the right to privacy constitutes both a civil wrong and Section 6 adds that in certain cases it may also constitute a criminal offence.

*others have to the individual. The right to privacy is designed to ensure that a person is not a prisoner in his own home, and is not forced to expose himself, in his own home. The right to privacy draws a line between the personal and the communal, between the 'self' and the society. It serves as a space in which the individual is left to himself, to develop his own 'self', without the intervention of the other individuals in the society."*⁶

Privacy and Smart Grid

In the context of the Smart Grid, the main concern regarding the right of privacy is the matter of gathering, protecting and using the information about the customers and their patterns of behavior in their homes.

As part of the Smart Grid's operation, smart meters generate a large amount of information about the customers that is then stored in databases, and may be processed and shared with third parties. Unlike today, where the information gathered by the operator of the grid (IEC) is very limited (the aggregated consumption during relatively long periods (month or even more), contact information and billing information (credit card details etc.)), smart meters will enable the operator of the grid to gather a much larger volume of and more detailed information, including regarding the energy consumption (the amount and time of consumption), the type of appliances used in the unit (a home or an office) and even the number of the inhabitants present at the unit at each given time or the hours in which the inhabitants are active within that unit.

Such valuable information regarding consumption, patterns of behavior and everyday activities of their potential customers, may be of great interest to both governmental and commercial entities. For example, one can assume that insurance companies may be interested to use information regarding hours of presence in the house, in order to determine the insurance premium of their clients.

However, the gathering of such information regarding an individual, and even more so the use and sharing of such information, may infringe the individual's right to privacy in his home, as

⁶ [High Court of Justice] file 2481/93 *Yosef Dayan v. Prefect of Jerusalem District, Yehuda Vilk*, page 161 (June 9, 1994).

explained above. Needless to say that the streaming and storage of such detailed information raises further concerns in the context of privacy.

The Protection of Privacy under Israeli Law

Under the Law, one may not infringe a man's privacy without his consent (explicit or implied). For such purpose, the Law defines an infringement of privacy as including, inter alia, the publishing (including by transferring to a third party) of any matter that relates to personal, intimate life, including conduct in the private domain.⁷ Accordingly, one can argue that unless prior consent has been obtained, any disclosure to a third party of information gathered by smart meters should be regarded as an infringement of the right to privacy, since it relates to the conduct of a person in the private domain.⁸

Moreover, as part of the legal protection of the right to privacy, the legislator deemed it fit also to regulate the matter of gathering, storing and using information in databases, and such matters are indeed regulated under the Law and the regulations enacted thereunder. Inter alia, the Law:

- requires that a database is registered in the case that, inter alia: i) collation of information about more than 10,000 individuals; or ii) the collating entity is a public body;
- limits the right to use the information in a database (including by way of disclosure) only for the purposes for which a database was set up (which should be stated when it is registered);⁹

⁷ Section 2(11) of the Law.

⁸ An interesting preliminary question that should be considered by the legislator or that would require an interpretation by the courts is whether the Law and its requirements are applicable at all in this context. Considering the fact that a unit (home or office) may be occupied and used by more than one person, it can be argued that the information is gathered about a group of people (e.g. a family) and cannot be attributed to one individual, and therefore the Law, which relates to an individual's right for privacy, should not be applied in the case at all. On the other hand, it can be argued that while this may be the case in an office, a family and its life within the privacy of its home, being very closely related to an individual's private matters, should not be regarded as separate from the individual and its privacy should be protected under the Law as well.

⁹ Section 8(b) of the Law.

- sets out certain disclosure obligations upon addressing a person with a request for information that is intended to be stored in a database (e.g. the purpose for which the information is requested);¹⁰
- sets out the right of a person (subject to certain limitations and exceptions) to review the information regarding himself that is contained in a database and to amend it, if it is not accurate;¹¹
- sets out the confidentiality obligation of owners and holders of databases (and their employees);¹² and
- sets out various security related obligations.¹³

The Law and the regulations impose several additional obligations over public bodies (government ministries and other state institution, a local authority and any other body that performs public functions pursuant to a law, and any other entities so identified by the Minister of Justice). Most importantly in our respect, the definition of information is expanded to include all items about a person's private affairs,¹⁴ and public bodies are prohibited almost completely from disclosing, sharing or transferring of information without the prior consent of that person.¹⁵ Such provisions may prove very important, since the Smart Grid's operator (whether IEC or a new operation) may well be considered a public body for the purpose of the Law (since it performs public functions pursuant to the law) and shall have to abide to such strict limitations.

Protection vs. Efficiency

¹⁰ Section 11 of the Law. It should be clarified however, that subject to the general prohibition on infringement of the right to privacy mentioned above, the Law does not prohibit the gathering of information about a person without its consent, but merely requires the registration of any database that includes information about persons and the information was not provided to the database by them, on their behalf or with their consent.

¹¹ Sections 13-14 of the Law.

¹² Section 16 of the Law.

¹³ Sections 17-17B of the Law.

¹⁴ Section 23A of the Law.

¹⁵ Sections 23B-23G of the Law.

The matter of disclosure of the gathered information seems to be very important in this context. Based on the US experience, it seems that in order to reach the full potential benefits of the Smart Grid, it is important that various entities, such as Energy Efficiency Service Providers (EESPs), will have access and will be able to analyze the information gathered about consumers (such as consumption patterns and bills). For example, based on such information EESPs can address the consumers and offer them better consumption schemes and rates, or tools for better control over their electricity consumption. For such purpose, various states in the US have enacted several different laws, aiming to enable such flow of information, while addressing privacy concerns.¹⁶

Similarly, it may be advisable that the Israeli legislator will also consider whether it is satisfied with the current situation, which seems to require the consent of the customer for such disclosure (assuming the Smart Grid's is indeed a public body), or whether it may be advisable to allow some information to be transferred without such consent. Needless to mention that it is also advisable to consider whether the EESPs shall have the right to request already analyzed data or only in its original form, and who should bear the costs associated therewith.

Ownership of the Information

An ancillary matter is the question of the ownership of data, namely, to whom does the gathered information belong - to the operator or to the customer? And does the customer have the right to request the operator to transfer the information relating to it (whether in an analyzed form or in its original form) to a third party without any compensation?

The answers to such questions are not entirely clear and involve various areas of law, and it is therefore advisable that the legislator specifically address this matter.

The Protection of Privacy Law does not address these questions directly. Not surprisingly, its main concern seems to be with the question of disclosure initiated by the owner of the database. As noted above, it only provides the consumers (subject to certain limitations and exceptions) with the right to review the information that is contained in a database and to

¹⁷ A Regulator's Privacy Guide to Third Party Data Access for Energy Efficiency, Dec. 2012, www.seeaction.energy.gov.

amend it if it is not accurate. It should be noted, however, that the Law defines the owner of a database as an “owner” (though it can be argued that such definition relates to the entire database and not to specific information contained therein).

General legislation regarding the rights in non-tangible property also provides only limited help in the attempt to clarify this matter. The Israeli Copyright Act 5778-2007 states that copyright in a work shall not extend to, inter alia, a fact or data, but it shall extend to their expression.¹⁷ Accordingly one can argue that the operator of the Smart Grid does not have any copyright to the crude information gathered by the smart meters. On the other hand, it can also be argued that analyzed data is an expression of such data and therefore, if it complies with the other requirements of the law, it is the property of the operator (who performs such analysis) and should be protected by copyright.

Another general law is the Commercial Torts Law 5759-1999, which, inter alia, provides protection for trade secrets. This statute defines a trade secret as "*commercial information of every kind, which is not public knowledge or which cannot readily and legally be discovered by the public, the secrecy of which grants its owner an advantage over his competitors, provided that its owner takes reasonable steps to protect its secrecy.*" Accordingly, the operator of the Smart Grid may argue that the information about the consumers is its trade secret, and as such is entitled to certain protection under the said law. However, as the question addresses the very essence of the ownership, it is unclear if such law does indeed clarify this matter.

To conclude, as we have noted above, and based on the experience in other similar matters (e.g. the obligation of banks to disclose credit rating of a customer, at its request, to third parties), it seems highly advisable that the legislator will specifically address this matter and clarify the a person has a right to request the operator to disclose the information gathered about him (whether in crude or in analyzed form) to third parties who should bear the costs associated therewith.

Antitrust

¹⁷ Section 5 of the Israeli Copyright Act 5778-2007.

IEC was declared as a monopoly in several areas, including in the supply (production and sale), transmission and distribution of electricity. As such, the law limits its ability to use its position in a way that could impair competition or be contrary to the public good.

In addition, the Israeli courts have adopted and applied the Essential Facility doctrine, which was developed in order to compel, under certain circumstances, the holder of a monopoly to allow others, including its competitors, to use the monopoly's asset or facility.

According to the case law of the Israeli Antitrust Court, three cumulative conditions must be met in order to impose a duty on a holder of a monopoly to allow access to the essential facility:

“(1) control of the essential facility by a monopolist; (2) a competitor’s inability practically or reasonably to duplicate the essential facility; or the denial of the use of the facility to a competitor; and (3) the feasibility of providing the facility.”.

Even if the facility can be duplicated, but the incurred costs, or the period of time required for its duplication, render it financially unrealistic to duplicate the facility given the state of the relevant market and in light of the foreseen competition and its financial attributes, the facility will still be regarded as an essential one, as long as it is shown that the prevention of access to the facility creates a barrier to entry which should be viewed as financially or otherwise impassable under the circumstances. It follows that it is not required that the duplication of the essential facility, or the creation of competition in the relevant market, will be completely unattainable in order for the essential facility to be considered as one: it is enough that under the conditions of the relevant market the erection of an additional facility for the purpose of parallel usage will take too long or cost too much, so that the probability that such a facility will indeed be erected (and the probability for the subsequent creation of competition along the production chain) will be low enough.

In our case, it is quite safe to assume that the operator of the Smart Grid will be considered a monopoly and the Smart Grid itself (and maybe even the information gathered in connection therewith) will be regarded as an essential facility, and the said doctrine will be applied. As a result, the operator of the Smart Grid might not be legally entitled to refuse access to the Smart Grid or decline his competitors' (and other players,' with whom he might not be interested in

cooperating) requests to use the Smart Grid on an equal basis. In light of the above mentioned, it is also possible that the operator of the Smart Grids will also be required by law to allow access to such entities to the information gathered through the smart meters.

In order to ensure the maximization of the efficiency of the Smart Grid, it is highly important to apply the essential facility doctrine and to consider the Smart Grid's operator as a monopoly, so:

- The operator will be prohibited from discriminating between various electricity producers and supplier; and
- The market will be open to EESPs to offer consumers various tools efficiently use the electricity and reduce their bills.

In any event, for obvious reasons it is highly advisable that any such potential impediment, limiting the ability to reach the full potential of the Smart is removed.

Consumer Protection

The consumers of the Smart Grid are also its end-users, and therefore the Consumer Protection Law 5741-1981 will apply to the relationship between the consumers and the service provider. Accordingly, general provisions of such law and the regulations enacted thereunder shall apply in this case as well. However, there are several specific matters that in our opinion should be addressed specifically and separately.

Provision of Information to the Customer

The main issue in this context is the provision to the customer with detailed and clear information regarding the rates and its options as well as regarding its bills, which is important both for protecting the consumers and for enjoying the full potential of the Smart Grid.

In order to maximize the efficiency of consumption (hence fulfill the potential of the Smart Grid), consumers should be able to plan their consumption based on timely and clear information. For example, consumers should be offered lower rates at certain times. Accordingly, it is highly important that the consumers receive and understand in advance the various options and related rates.

Moreover, unlike today's fixed rates and simple method of calculation, the Smart Grid will enable suppliers or EESPs to offer consumers flexible rates and different schemes of consumption, more suitable to their actual needs (e.g. varied rates for those who mainly consume electricity in the evenings etc.). In order to enjoy such benefits, consumers should receive clear information about the alternatives.

The other important aspect is consumers' ability to easily understand their bills. In light of such complex rates and calculations (and based on our experience in matters such as bank accounts and cellular accounts), it is highly important that the bills will contain sufficiently detailed and clear information.

Indeed, such matters were already recognized and addressed in places where some sort of a Smart Grid is already operational. For example, in the United State, there are a few interesting examples of consumer oriented legislation specifically designed to deal with issues arising from the operation of the Smart Grid:

1. **Ohio**- the State of Ohio has specific consumer oriented legislation dealing with services provided by the electric grid, which provides for minimal service requirements on the part of the electricity provider. These requirements are mainly designed to ensure a reliable and clear flow of information to the consumers and include a requirement to clarify the billing method and provide a detailed account of the services rendered.¹⁸
2. **Florida**- due to a concern that the consumers might find reading the smart meters to be difficult, the State of Florida saw fit to obligate the electricity providers to provide their customers with a detailed explanation as to the way the smart meters should be read, as well as a clarification of the billing method.¹⁹
3. **Texas**- Texas has state legislation which refers to utilities such as water and electricity, and determines, *inter alia*, that regarding the supply of electricity, the consumers are entitled to receive a notice from their provider concerning any possibility or right which might benefit them. In addition, the bill provides customers with complete immunity against payment

¹⁸ Ashley Brown and Raya Salter, *Smart Grid Issues in State Law and Regulation*, Galvin Electricity Initiative, September 17, 2010, p. 61.

Id. at 41-42.

requirements for services rendered without their express consent, and even determines that a basic package of the services provided by the Smart Grid must be offered to the consumers in order to ensure that they are able enjoy its basic services without incurring additional costs.²⁰

Equality

While efficiency is desired, it is clear that some equality between consumers of such essential service should nevertheless be maintained, in order to ensure that nobody is deprived of such service or is required to pay unfair fees.

An example to such unfair treatment could be drawn from the case in which the authorities in Massachusetts have rejected (as unfair and contradictory to certain legal protections granted for low income consumers) an attempt to create a program that would switch low income customers from post-pay to pre-pay billing (based on smart cards), and would require them to pay premium rates for electricity used above a predetermined amount.

While we believe that the courts and the relevant authorities in Israel will regard such matters similarly to those of Massachusetts and consider them a breach of the basic right of equality, it may nevertheless be worth specifically stating such matter as part of any new legislation relating to the Smart Grid.

Tort Law - Control and Vulnerability

Many of the Smart Grid's devices can operate in a relatively autonomous manner, utilizing artificial intelligence technology to generate processes and actions with minimal human supervision and control. It is possible that some electric devices, such as a medical device connected to the Grid in a patient's home, might malfunction in the case of interruption in the electricity supply or due to unreliable network data. This type of malfunctions may bare potentially catastrophic results.

²⁰ *Id.* at 68.

This is a significant legal risk, which may be associated with sub-standard software embedded in such devices, hardware malfunctions or external interferences. A software fault in an electric device connected to the Smart Grid significantly amplifies the already existing inherent danger posed by electric grids. For example, a defect in a software design in one device may result in that device generating erroneous data, which may be used by a “smart” electricity transmission device to make electricity routing decisions. Such “smart” electricity transmission devices on the Smart Grid can potentially enter into a “loop,” oversupplying electricity to a particular segment of the Grid, ultimately causing personal injury or property damage. In such cases, it is possible that principles of tort of negligence and product liability laws can be used to hold the operator of the Smart Grid, or the supplier of the technology required for its operation, responsible for losses and damages resulting from device malfunction.

Article 35 of the Civil Wrongs Ordinance (new version) 5728-1986 (the "**Ordinance**") determines the normative basis of the tort of negligence and states:

"Where a person commits an act which, under the circumstances, a reasonable and sensible person would not, or fails to commit an act which under the circumstances a reasonable person would commit, or fails to use the proper skills or to take proper care while being engaged in any occupation in a manner a reasonable and sensible person qualified to engage in such an occupation would use or take under the circumstances, then such an act, or failure to act, is considered to be negligent; and if this negligence was in relation to another person to whom he owes a duty not to act in the manner he has acted under the circumstances, then he is considered to be negligent. Any person who, by his negligent behavior, causes damage to any other person commits a civil wrong."

This Article mentions four components, all of which must be proved to exist in order to demonstrate the tort of negligence: a damage inflicted upon the injured; a duty towards the injured; the breach of such duty; and causal relation between the breach of duty and the inflicted damage.

Firstly, the tort of negligence is constituted by both actions and omissions, which means that inaction under circumstances in which an action was warranted, might be considered to be negligent. Secondly, in order to determine the existence of negligent behavior, there has to be a provision of law which determines a duty to prevent the damage inflicted.

In Israeli case law, the term "duty," mentioned in Article 35 of the Ordinance, is divided into two distinct categories of duty: a conceptual duty of care, and a concrete duty of care. The conceptual duty of care examines the existence of such a duty between the class to which the injurer belongs, and the class to which the injured belongs. For instance, the duty of care a teacher has towards his students. The concrete duty of care examines the actions, or inaction, of the reasonable man in the shoes of the injurer under the relevant circumstances. Under the concrete duty of care, the court examines whether the injurer owes the injured party a special duty of care in relation to the actions which have taken place under the specific circumstances in which the actual damage was inflicted. Finally, it is important to mention that the examination of the components of the tort of negligence is made in accordance with the standard of reasonableness. This standard is flexible, which allows the court to adapt it to the different circumstances of particular cases. In fact, the court determines whether there was a duty of care under the circumstances and whether the injurer has violated this duty of care in a retroactive manner.

As to the causal relation, the court has determined that a negligent act must withstand the foreseeability test, which means that the duty of care towards the injured only exists when the damage is foreseeable. Only a general degree of foreseeability is required: the type of the damage inflicted has to be foreseeable, but there is no need to foresee the exact extent of the damage, as it may be argued that if the type of damage could be foreseen, then it should be foreseen that there is a chance of an extreme damage occurring. An exception to the foreseeability test is the case law-created "remoteness of damage" test, which endeavors to limit the responsibility of the injurer in cases where the damages are considered to be too far removed from the event of the injury. The literature also refers to the "thin skull" rule, which constitutes an exception to the foreseeability requirement. Adopting this rule, the case law acknowledges the injurer's responsibility for the unexpected damages which result from the pre-existing and unforeseeable weaknesses of the injured, and states that any claims on the part of the injurer with regard to the foreseeability of the damage inflicted upon the injured which were caused by a unique weakness shall be rejected, since the injurer must accept the injured as he is.