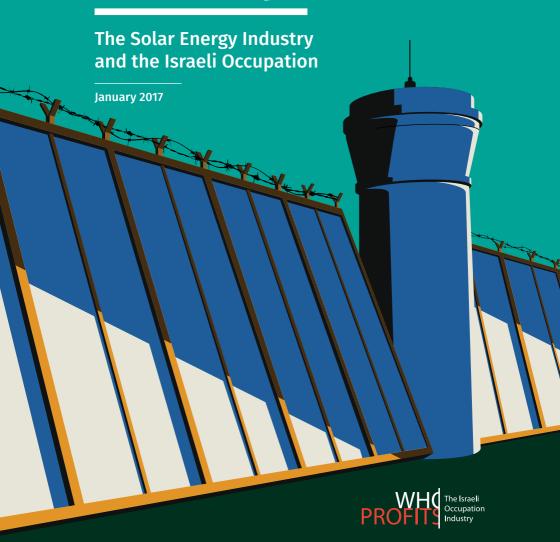
Greenwashing the Occupation



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The Solar Energy Industry and the Israeli Occupation

January 2017





Who Profits from the Occupation is a research center dedicated to exposing the commercial involvement of Israeli and international companies in the continued Israeli control over Palestinian and Syrian land. Who Profits operates an online database, which includes information concerning companies that are commercially complicit in the occupation. In addition, the center publishes in-depth reports and flash reports about industries, projects and specific companies. Who Profits also serves as an information center for queries regarding corporate involvement in the occupation. In this capacity, Who Profits assists individuals and civil society organizations working to end the Israeli occupation and to promote international law, corporate social responsibility, social justice and labor rights.

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Methodology

This report is based on both desk and field research. The desk research includes the collection and analysis of information from various public sources, such as company records and publications, public tenders, documents of the Registrar of Companies, newspapers and other media sources, archives of photography agencies and publications by various state authorities (including Israeli government ministries). Some of these sources are publicly available, while others were obtained by submitting queries in accordance with the Israeli Freedom of Information Act. Fort this report information requests were submitted to the Civil Administration, Electricity Authority and Israel Electric Corporation. Additional information was obtained from interviews conducted with local NGOs that address human rights violations in the oPt. The field research consisted of visits to Israeli settlements, settlement industrial zones and all of the commercial solar fields in the occupied West Bank. Prior to publication, we contacted all the companies mentioned in this report and requested their comments and responses. On 1 September 2016, SolarEdge, an Israeli-based multinational company, sent a response letter to Who Profits; on 10 October 2016, PADCON, a German-based company, also responded to Who Profits in writing. The full statements of both companies can be found in appendix I and appendix II (respectively). As of the date of publication, no other responses have been received.

Acronyms and Abbreviations

The oPt The occupied Palestinian territory (including the West Bank, Gaza Strip

and East Jerusalem)

IEC Israel Electric Corporation

MNIEW Ministry of National Infrastructure, Energy and Water Resources

IEA Israeli Electricity Authority

PV Photovoltaic systems: Energy systems that rely on solar panels to

systems generate electrical power.

MW Megawatts: A unit of power used to measure the rate at which electricity

is being used in a specific moment. This unit is usually used to measure the output of a power plant or the amount of electricity required by an entire city. One megawatt (MW) = 1,000 kilowatts = 1,000,000 watts.

kWh Kilowatts per hour: A unit of power measuring the amount of electricity

used by households and large appliances. Kilowatt-hours are used in

residential electricity bills.

GWh Gigawatts per hour: A unit of power equal to one billion watts. Gigawatts

are usually used to measure the capacity of large power plants or of

many plants.

IHL International Humanitarian Law

UNGP United Nations Guiding Principles on Business and Human Rights

CSR Corporate Social Responsibility

ICI International Court of Justice

VAT Value Added Tax

Executive Summary

High-tension cables, electricity poles, infrastructure and power stations are often reduced to mere technical systems, whether strung overhead or buried underground. As such, they become almost invisible to the eye, regarded as having little to no political influence. Yet, despite its subterranean nature, electrical infrastructure plays a pivotal role in shaping the politics and political economy of any society, all the more so in a state of prolonged occupation.

Under the Israeli occupation and Israel's misappropriation of Palestinian electricity networks, the Palestinian population and economy suffer immensely from a chronic electricity crisis, which directly precludes economic growth and impedes long-term development.

At present, the total energy consumption in the occupied Palestinian territory is the lowest in the region and electricity prices remain the highest. With depleting energy resources and illegal Israeli exploitation of non-renewable natural resources, the Palestinian territory faces a pressing and unanswered need for renewable and sustainable energy.

On an international level, green electricity – particularly the kind generated from solar (PV) energy – is regarded as a promising and emerging technology of clean and sustainable resources, which can alleviate global ecological challenges and supplant limited natural resources, such as oil and gas.1

In the oPt, solar energy could relieve some of the obstacles imposed by the occupation. With their plentiful sun and open areas, the West Bank in general and the Jordan Valley in particular are highly conducive for harnessing solar energy, which can reduce Palestinian dependence on Israeli energy imports. However,

¹ International Energy Agency, Technology Roadmap: Solar Photovoltaic Energy (2014), p. 9.

not only are Palestinians deprived from tapping into the potential of solar energy production in the occupied territory, they are left to witness the Israeli development of solar commercial and residential fields, which expand the settlement enterprise on their own lands. As a result, while an uninterrupted electricity flow is a matter of normalcy in Israeli settlements, it is often an unattainable privilege and a daily struggle in neighboring Palestinian towns.

Israel's intention to develop solar energy was already voiced in 1956, when the state's first Prime Minister, David Ben-Gurion, stated that "the largest and most impressive source of energy in our world and the source of life for every plant and animal, yet a source so little used by mankind today is the sun... Solar energy will continue to flow toward us almost indefinitely." The same notion was reiterated in a greenwashing³ statement made in May 2015 by Israel to the global initiative Sustainable Energy for All (SEforAll), which had been launched by UN Secretary-General Ban Ki-moon.⁴ In that forum, Israel's Ambassador to the UN, Ron Prosor, called Israel "a hub for renewable energy research and development" and guoted "one of Israel's sustainable energy pioneers" who called "to realize that **the same** sun that shines equally on all of us, is owned by none of us, and can supply energy in abundance, inherently promotes peace." Prosor closed his statement by exclaiming: "May our desire to build a world where sustainable energy **is available** to all, be a reason for unity and solidarity" (emphasis added; see the entire statement in appendix III). Those idyllic words could not be further from the truth: Greenwashing the Israeli occupation with such statements is designed to conceal and beautify Israel's illegal acts as an occupying power, and paint it as a protector of both the environment and the people under its control.

As will be detailed in this report, the sun does not shine equally on all under an occupation. Over the last few years, four Israeli commercial solar fields have been constructed in the West Bank: three in the Jordan Valley and one in the South Hebron Hills. All four fields are connected to the Israeli electricity grid and provide green electricity purchased by the Israeli Electric Corporation (IEC). As this report will expose, both Israeli and multinational corporations have been reaping enormous profits from the initiation and operation of commercial and residential

² Renee Ghert-Zand, "Counting Down to 'Ben-Gurion's Solar Revolution," Forward, 31 May 2011.

³ Greenwashing is a critical term that describes a form of deception employed by an entity or organization, when it deceptively uses green PR or marketing to promote its policies and products as environmentally friendly and ethically benevolent.

⁴ Sustainable Energy for All website: http://www.se4all.org.

projects in the oPt, and in the process boosting the Israeli settlement enterprise and Israel's economy of occupation as a whole. By providing technological equipment and facilitating the construction, maintenance and operation of those solar fields, private companies strengthen Israel's hold on Palestinian land and resources

In addition, the Israeli development of solar energy fields and projects on occupied Palestinian land is undeniably connected to Palestinian economic dedevelopment. The Palestinian electricity sector is a captive market, and it suffers from various hindrances, the most significant of which are the electricity debts allegedly owed by the Palestinian Authority to the IEC.

This report will scrutinize the Israeli solar energy industry by exposing corporate involvement in commercial solar fields and residential solar systems that have been built on occupied Palestinian land, particularly in the Jordan Valley. It will also provide a legal analysis of Israel's violations of international law as an occupying power and the companies' breaches of business and human rights frameworks. Finally, the report will illustrate the intricacies of the captive Palestinian market, highlight the Israeli politics of debts and examine the viability of the Palestinian renewable energy market under occupation.

The Israeli Industry of Renewable Energy

Green Electricity: A Booming Industry

In keeping with Ben-Gurion's vision, Israel has been accelerating the development of the renewable energy sector over the past decade. Specifically, the Israeli industry of solar energy has gathered impetus and momentum, quickly becoming a booming industry with soaring profits. Since solar energy entails no fuel price risks or constraints and improves the security of supply, it was strategic for Israel to economically and geopolitically invest in that industry.⁵ By the end of 2016, the Israeli Electricity Authority (IEA) has licensed and regulated solar energy projects in Israel and the oPt with a capacity of over 800 MW, all connected to the Israeli grid. The IEA projected that in 2016, photovoltaic systems will generate nearly NIS 1.6 billion in electricity payments.⁶

As will be detailed below, the recognized potential of the Israeli solar industry is not limited to any geographic area – and as is true for other industries in the economy of the occupation, it is completely blind to the Green Line.⁷ Although Israeli solar energy knows no borders, it does differentiate between its beneficiaries and those who fall victim to it. While the Israeli electricity sector is developed through new avenues of green energy, providing Israeli citizens with a secure and efficient electric network, Palestinians are still struggling with a malfunctioning

⁵ Eitan Parnas, "You Can, Too: How to Produce Electricity" (Hebrew), Ynet, 4 February 2014.

⁶ The Electricity Authority, "Arrangements of Photo Voltaic Structures in Israel – Installed Quantities, Prices and Annual Payments" (Hebrew), 31 August 2015.

⁷ Initially formed in the 1949 Armistice Agreements, this line was set as a demarcation line and not a permanent border. After the 1967 War, territories captured beyond the Green Line by Israel came to be occupied by it.

conventional electricity system, and the increase in Palestinian energy demand is left unanswered

The full privatization of the Israeli renewable energy industry was rapid. Resolution 2264 of the Ministerial Committee for Social and Economic Affairs, issued back in 2002, actively encouraged the privatization of solar-based electricity production.8 The resolution had set a target of 10% for the share of Israeli renewable energy consumption by 2020 and opened the door for private contractors to lead the enticing industry.9 Since then, more "green reform" resolutions and government decisions¹⁰ have been passed, and by offering financial benefits Israel attracted investments of private Israeli and international companies. 11 From the construction and administration of solar projects, to the provision of solar panels and electricity converters, and ending in maintenance services – private companies are the most prominent actors in this field.

Targeting the Occupied West Bank

Due to its plentiful nature, open areas and political subjugation under the occupation, the West Bank was a convenient target for the Israeli solar energy industry. On 22 October 2014, the government approved Decision 2117 and introduced commercial solar fields into the occupied territory. 12 Promoted by Silvan Shalom, the Minister of National Infrastructures, Energy and Water Resources, the approved plan allocates Israeli solar projects of 30 MW in capacity to the area of the West Bank alone - sufficient to power approximately 15,000 to 20,000 houses.¹³ According to Minister Shalom, the decision is expected to save the State

⁸ Ministry of National Infrastructures, Energy and Water Resources, "Renewable Energy Sources," energy. aov.il.

Ibid.

¹¹ Lior Gutman, "Silvan Shalom Proposes Financial Safety Net for Electricity Facilities in Judea and Samaria" (Hebrew), Calcalist, 3 February 2014.

¹² Lior Gutman, "Government Approves Financial Safety Net for Establishment of Solar Electricity Facilities in Judea and Samaria" (Hebrew), Calcalist, 22 October 2014.

¹³ This is a rough estimate, made by Who Profits after consultations and interviews with humanitarian agencies that produce solar energy for marginalized communities.

NIS 2.5 billion over the next two decades, ¹⁴ not including profits made by private contractors, which will be detailed below.

Following this decision, the IEA began issuing permits for the construction of solar fields on occupied Palestinian land. A press release published by the Ministry of National Infrastructures, Energy and Water Resources (MNIEW), which administers and licenses Photovoltaic systems, stated that the plan is aimed at promoting renewable energy, developing the market and reducing electricity prices and the cost of living.¹⁵ In addition, the plan provides a financial safety net to Israeli solar facilities in the West Bank, showering them with government support that could reach hundreds of millions of shekels.¹⁶

All electricity generated from Israeli solar fields, including those in the West Bank, is sold to the Israel Electric Corporation (IEC), a government-owned and public company that "generates, transmits, distributes and supplies most of the electricity used in the Israeli economy." The price paid by the IEC for solar-based electricity is four times higher than for regular electricity. ¹⁸ As will be illustrated below, the IEC greatly benefits from the solar energy industry: Its annual profit could reach NIS 5 million per commercial field and hundreds of thousands of shekels for residential photovoltaic (PV) systems.

Incentivizing Private Investment

"Sun is money," a slogan used by an Israeli company operating in the West Bank,¹⁹ conveys the economic value of the sun and the potential profit for the green

¹⁴ Ministry of National Infrastructures, Energy and Water Resources, "Government Approves Proposal of Minister of Infrastructures, Energy and Water Resources, Which Will Save the Market NIS 2.5 Billion" (Hebrew), energy.gov.il, 22 October 2014.

¹⁵ Ibid.

¹⁶ Lior Gutman, "Silvan Shalom Proposes Financial Safety Net for Electricity Facilities in Judea and Samaria" (Hebrew), Calcalist, 22 October 2014. re: http://www.calcalist.co.il/local/articles/0,7340,L-3643171,00. html

¹⁷ Israel Electric Corporation, "What Does the IEC Do?," iec.co.il.

¹⁸ Liora Lukatch-Givon, "What Is a Solar System, and the Israeli Aspect" (Hebrew), greentops.co.il.

¹⁹ This slogan appears in the corporate logo of Green is Us, an Israeli renewable energy company in the industry of renewable energy involved in West Bank activities (see below).

energy industry. In the summer of 2008, the government approved the decision to subsidize solar energy; consequently, many companies have entered that field.²⁰ In addition, to incentivize private investment in the solar industry, Israel grants an accelerated tax depreciation of 25% on solar systems bought by private companies.21

As repeatedly shown by Who Profits, companies in various Israeli industries in the West Bank cite Israeli tax benefits in their annual reports, and some even celebrate specific government grants supporting their corporate ventures on occupied land. The solar energy industry is no exception. For example, SolarEdge, an Israeli-based and publicly traded company in the US market (see profile below), reported that in addition to benefiting from regulated tax incentives, it also received a total of USD 400,000 from the Office of the Chief Scientist in the Israeli Ministry of Economy in the fiscal year 2015.²²

Companies generally receive tax benefits as "benefited enterprises" under the Law for the Encouragement of Capital Investments, 1959 (hereinafter: the Investments Law).²³ The laws encouraging capital investments do not currently apply to Israeli industries in the West Bank, as this territory was not officially annexed by Israel, and therefore similar benefits have been granted through government decisions and administrative arrangements.²⁴ Since it is more complicated to apply tax benefits to an entire area in which Israeli law does not apply, the government instead promoted an amendment to the Income Tax Order, under which the benefits will apply to Israeli individuals in the West Bank.²⁵ Amendment No. 226 - which stipulates that an Israeli resident of the West Bank, who is eligible for benefits under the Investments Law. will receive similar income tax benefits passed its final reading in the Knesset on 27 June 2016.26 By providing financial incentives and actively industrializing the settlement enterprise, the amendment constitutes a "financial annexation" of the occupied territory, which only supports

²⁰ Leon Kraversky, "The Economic Profitability of Photovoltaic Facilities Under the Incentives Plan of 2011" (Hebrew), The Israeli Portal for Civil Engineering, Construction and Environment, September 2011.

²¹ Ibid.

²² SolarEdge, Annual Report 2015, 19 January 2016, p. 25.

²³ Law for the Encouragement of Capital Investments, 1959 (Hebrew). See Article 51(a) on benefited enterprises, which was added by Amendment no. 60 (2005).

²⁴ The Social Guard, "Proposed Amendment to the Income Tax Order (No. 226)" (Hebrew), hamishmar.org.il, 28 August 2016.

²⁵ Ibid.

²⁶ The Knesset, "Amendment to the Income Tax Order No. 226 (2016)" (Hebrew), knesset.gov.il.

the geographic annexation already underway.²⁷ Moreover, by applying only to Israeli residents of the West Bank, this law continues the Israeli legacy of segregation laws applied within an apartheid legal system in the occupied West Bank.²⁸

Israel's active encouragement of Israeli and international private investments in the solar energy industry has brought a swift liberalization of the market. Since the first government regulations and licensing of solar fields, the solar industry was under government control and supervision. However, in 2015 the government ceased to issue heavily funded licenses, and those projects became completely driven by private capital.²⁹ In other words, supported and facilitated by the State of Israel, the privatization process has matured to a point in which companies win tenders for new project without the need for large-scale government support.

The following chapters will present a close examination of the role private companies play in the Israeli industry of solar energy in the occupied West Bank. Additionally, the various effects Palestinian bear as a result, both directly and indirectly, will be depicted in detail.

²⁷ According to the Association for Civil Rights in Israel (ACRI), "Over the years, diverse policy tools have been developed in order to intensify Israeli control of these areas, thereby facilitating the pushing out of Palestinians from areas in which Israel is interested and into areas that Israel does not wish to rule or annex." See: ACRI, "49 Years of Control Without Rights," acri.org.il, 1 June 2016.

²⁸ John Dugard, John Reynolds; <u>Apartheid, International Law, and the Occupied Palestinian Territory</u>. Eur J Int Law 2013; 24 (3): 867-913.

²⁹ The Electricity Authority, "Starting in 2015 the Electricity Authority Will Approve Solar Projects on a Lowest Price Basis" (Hebrew), 30 September 2014.

The Israeli Solar **Industry in the West Bank**

Greenwashing the Occupied West Bank

The Israeli economic strangulation of the West Bank, where the oPt's most significant reserves of natural resources are located, has been taking place for over four decades, benefiting the Israeli market and generating mounting profits for Israeli and multinational corporations. Alongside different methods of land appropriation, building restrictions, closure policies and continuous pillage of occupied land - Israel has woven a tangled web of military laws and economic policies that serve its own geopolitical interests, keeping the Palestinian economy in a perpetual state of de-development and subordination to the Israeli economy. While Israel flaunts its green energy solutions and ecofriendly policies, it continues to abuse Palestinian land and resources. The exploitation of vast areas and the restrictions on Palestinian movement and economic growth have been particularly crucial for the development of the Israeli solar energy industry.

The Occupied Jordan Valley

Israeli Development

The Jordan Valley has suffered the most because of the Israeli solar energy industry. Solar energy fields take up large swaths of land in that region, further undermining the possibility of a Palestinian agricultural economy by depriving Palestinian farmers from harvesting their lands, which are their main source of income.

According to Who Profits' findings, Israeli commercial solar fields have taken up 285,000-300,000 square meters of land in the Jordan Valley, with prospects of future expansion.

The Jordan Valley has been a longstanding target of Israeli exploitation of natural resources. Immediately after the 1967 War, Major General Uzi Narkiss issued two military orders: Order 150, which regulated "absentee properties" in the Jordan Valley; and Order 151, which declared much of the Jordan Valley as a closed military zone, preventing "absentee Palestinian landowners," even if present, from reaching their lands.³⁰ Those lands are a closed military zone to this day.³¹ In the 1980s, Israel transferred some of that area to the World Zionist Organization, which leased it to Jordan Valley settlers for agricultural cultivation and geographic expansion.³²

The entire occupied area of the Jordan Valley is approximately 2,400 square kilometers. It is situated in the eastern part of the West Bank, bordering Jordan, and accounts for some 28.5% of the West Bank's area. With its favorable climate, fertile land and plentiful water supply, the Jordan Valley has long been a target for the Israeli agriculture sector – and now the renewable energy sector, as well.³³ Although Israeli settlements in the Jordan Valley have a relatively small population, 86% of the area falls under the jurisdiction of their regional councils.³⁴ Currently, 94% of the Jordan Valley is under direct Israeli control (Area C).³⁵

³⁰ Hillel Cohen, <u>The Present Absentee: Palestinian Refugees in Israel Since 1948</u> (Arabic translation), Institute for Palestine Studies, 2003, p. 85.

³¹ Palestinian land in the occupied territory has frequently been declared as a closed military zone for alleged security reasons. In such cases, Israeli authorities restrict the movement of Palestinians who live inside those zones and prohibit non-residents from entering, but allow Israeli settlers to move freely. Military zones declared immediately after the 1967 War enabled the expansion of the Israeli settlement project. Currently, nearly 1,765,000 unams (about 436,000 acres) – almost one-third of the land in the West Bank – is designated as military zones and effectively closed to the Palestinians. See: Amos Harel, "How Israel Keeps Palestinians Off a Third of All West Bank," Haaretz, 25 September 2015.

³² Idan Landau, "Lies and Roadblocks: Economic Prosperity on Army Spears in the Jordan Valley" (Hebrew), idanlandau.com, 12 January 2013.

³³ For more information see: Who Profits, <u>Made in Israel: Agricultural Exports from Occupied Territories</u>, April 2014.

³⁴ Lara El-Jazairi, Fionna Smyth and Marwa El-Ansary, <u>On the Brink: Israeli Settlements and Their Impact on Palestinians in the Jordan Valley, Oxfam International</u>, July 2012.

³⁵ MA'AN Development Center and Jordan Valley Popular Committees, Eye on the Jordan Valley, 2010.

Palestinian De-development

The small area of the Jordan Valley encompasses two polarized images: Opposite the massive development of Israeli settlements and enterprises, de-development policies are implemented to hamper Palestinian economic growth.

Isolated from adjacent Palestinian cities and villages and enveloped by Israeli checkpoints and roadblocks, the Jordan Valley is one of the most restrictive areas for Palestinian freedom of movement. The living conditions of the Palestinian residents are extremely strenuous, and socioeconomic levels are considered to be among the lowest in the West Bank.³⁶ Impoverished communities in villages in the northern parts of the valley still live by gas lamps and hike for miles to purchase water. At the same time and in the same territory, Israeli electricity and water infrastructure is constructed and developed underground and overhead, at times causing forcible displacement and house demolitions of Palestinians (see below).

For solar energy production, the Jordan Valley is a slice of heaven. According to NASA, the area receives 3,000 hours of annual sunshine³⁷ and high radiation levels.³⁸ Its open areas and low population density make it particularly conducive for harnessing solar energy. Building only one solar energy field with an area of 8 square Kilometers can generate 500 MW of electricity. This would only cover 1.34% of the land in the Jordan Valley and generate about 600 GWh per year.³⁹ Such a field would cater to 11% of the current Palestinian electricity needs. However, Israeli commercial solar fields - serving Israeli households - are being built instead. This state of affairs strengthens Israel's hold over the Palestinian economy and population and is a further violation of international law.

³⁶ United Nations Office for the Coordination of Humanitarian Affairs, "Humanitarian Fact Sheet on the Jordan Valley and Dead Sea Area," February 2012.

³⁷ M. M. Mahmoud and I. H. Ibrik, "Field Experience on Solar Electric Power Systems and Their Potential in Palestine," Renewable and Sustainable Energy Reviews, Vol. 7, No. 6, 2003, p. 531-543.

³⁸ Radiation levels reach 5.40-5.98 kWh/m2 per day, according to data obtained from NASA's Surface Meteorology and Solar Energy (SSE) website.

³⁹ M. M. Mahmoud and I. H. Ibrik, "Field Experience on Solar Electric Power Systems and Their Potential in Palestine," Renewable and Sustainable Energy Reviews, Vol. 7, No. 6, 2003, p. 531-543.

Israeli Commercial Solar Fields in the West Bank

Kalia Solar Field

Owned by the Israeli settlement Kibbutz Kalia, the Kalia solar field is one of the three largest commercial solar fields in the Jordan Valley. The Kalia settlement is located on the northern shore of the Dead Sea, and it falls under the jurisdiction of Megilot Regional Council.

The Kalia field takes up about 133 dunams (133,000 square meters) of Palestinian land and generates 10.8 MW of electricity, enough to power approximately 5,000 houses. According to the Ministry of National Infrastructures, Energy and Water Resources (MNIEW), on 16 August 2012 the Israeli company Kalia Clean Energy, a subsidiary of Clal Sun, was issued an official operating license for the entire field. The actual construction of the field commenced in April 2015, and by December 2016, with approximately 104,000 solar panels installed, it was already connected to the Israeli high-voltage power grid. An article on the Kibbutz Movement's website notes that this is a record time for such an infrastructure project and quotes Yosef Tzofi, a major shareholder of Kalia Clean Energy and board member of several companies operating in Kalia, who takes pride in "the speedy implementation of this project, which will constitute a significant means of production added to [Kalia's] income sources."

The connection of the Kalia field to the high-voltage grid was accompanied by a 20-year contract with the IEC, in which the latter committed to buying all the

⁴⁰ Ministry of National Infrastructure, Energy and Water Resources, "Arrangement of Medium-Sized PV in Judea and Samaria" (Hebrew), energy.gov.il.

⁴¹ The Kibbutzim Site, "Kalia Energy Was Connected to the Electricity Company" (Hebrew), kibbutz.org.il, 11 January 2016.

⁴² Ibid.

electricity generated by Kalia's solar field for the next two decades.⁴³

As with other solar fields in the West Bank, the Kalia field is a target for many Israeli and multinational companies seeking to capitalize their investments in the solar energy industry on occupied Palestinian land. The main private companies invested in this commercial field are Clal Sun and its US-based shareholder SunEdison. In addition to those two companies, other multinational corporations are complicit in Kalia field's profitable venture, exploiting occupied land and resources.





The Kalia solar field | Kibbutz Kalia settlement, - Occupied Jordan Valley I June 2016 | Photo by Who Profits and Dror Etkes

Clal Sun

Profile: One of the biggest Israeli companies in the field of renewable energy. Clal Sun specializes in the development and construction of photovoltaic energy projects.

In the Kalia field, Clal Sun was heavily involved from the early stages of locating the site and regulating the project, through the actual construction, up until the connection to the grid and subsequent maintenance.

The company's subsidiary, Kalia Clean Energy, has been licensed since August 2012 by the Electricity Authority to operate Kalia's solar field.

Clal Sun's parent company, <u>Clal Industries</u>, is one of Israel's largest industrial and trading conglomerates. With Clal Industries' other subsidiaries, such as Nesher, Taavura Holdings, and Golf & Co., the company gains enormous profits from various sectors of the Israeli occupation industry.

Ownership: Clal Industries (52%), SunEdison (2.5%), HND Investment (19%)

CEO: Yehuda Ben-Ezra

Subsidiaries: Nesher, Egged, Taavura Holdings, Hadera Paper, Nova Measuring

Instruments, Golf & Co., and Clal Energy

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Website: www.eng.sunisrael.co.il

SunEdison

Profile: A US-based, global renewable energy company. This publicly traded company manufactures, finances, installs, owns and operates renewable power plants. It also provides electricity to its residential, commercial, government and utility consumers.

Through its shares in Clal Sun, SunEdison operates the Kalia Project, a joint project of Clal Sun and Kibbutz <u>Kalia</u>.

Traded: Publicly traded in the New York Stock Exchange (NYSE).

Ownership: 84.7% of SunEdison's shares are institutional holdings. Among the main institutional holders are Openhimer Funds (10.7%), Valinor Management (8.2%), Vanguard Group (7.5%), Greenlight Capital (6.9%), BlackRock Fund Advisors (3.9%) and BlackRock Institutional Trust (3.2%).

Revenues: SunEdison's revenues reached USD 2.48 billion in 2014; its revenues in the solar energy industry alone totaled USD 1.5 billion that year. On 21 April 2016, with more than USD 11 billion in debt, the company filed for bankruptcy protection. Despite its massive debts, as of the date of this report SunEdison continues to operate.⁴⁴

Subsidiaries and Partners: Subsidiaries: SunEdison Israel (100%). In addition, SunEdison operates over 80 subsidiaries in the US and around the world, among which 51 are wholly owned and located in France (2

⁴⁴ Michael McDonald "SunEdison Continues Operations Despite Bankruptcy and Lawsuits," oilproce.com, 22 April 2016.

subsidiaries); Germany (4 subsidiaries); Greece (1 subsidiary); Italy (35 subsidiaries): the Netherlands (2 subsidiaries): Spain (4 subsidiaries): and the United Arab Emirates (1 subsidiary).

Head Office: 13736 Riverport Dr., Maryland Heights, MO 63043, USA

Phone: +1-314-770-7300

Website: www.sunedison.com

Global Presence: The oPt, Israel, France, Spain, Italy, Greece, Germany, South

Korea, UAE, the Netherlands

First Solar

Profile: A US-based, global provider of solar energy equipment. The company designs, manufactures and sells Photovoltaic (PV) solar modules.

Field visits by Who Profits revealed heaps of the company's solar panels in the Kalia field. As noted above, the Kalia field has approximately 104,000 solar panels. During the field visits conducted by Who Profits, all of the solar panels documented, both installed and uninstalled, were manufactured by First Solar.

Traded: Publicly traded in the Nasdag stock market.

Ownership: 56% of the company's shares are institutional holdings. The top 5 among the institutional holdings are: Vanguard Group (10.8%), Wellington Management Group (9.7%), State Street Corp. (4.59%), BlackRock Institutional Trust (3.7%), AQR Capital Management (3.6%).

CEO: James Hughes

Revenues and Income: First Solar's net sales reached USD 3.5 billion in 2015.

Subsidiaries: United States: First Solar Electric, First Solar Electric (California), First Solar Development, First Solar Asset Management, Maryland Solar Holdings, Maryland Solar, First Solar FE Holdings Pte. Malaysia: First Solar Malaysia Sdn Bhd. Germany: First Solar Manufacturing GmbH, First Solar GmbH. Vietnam: First Solar Vietnam Holdings; First Solar Vietnam Manufacturing. India: First Solar Power India Pvt. Chile: First Solar Eléctrico (Chile) SpA, Parque Solar Fotovoltaico Luz del Norte SpA. Australia: First Solar (Australia) Ptv.

Head Office: 350 West Washington St., Suite 600, Tempe, Arizona 85281, USA

Telephone: +1-419-662-6899

Global Presence: The oPt, US, Mexico, Brazil, Chile, Dubai, South Africa, Turkey,

India, China, Japan, UAE, Australia.





First Solar Panel Boxes | The Kalia field, Occupied Jordan Valley | September 2015 | Photo by Dror Etkes



First Solar panels installed in the Kalia field | Kibbutz Kalia settlement, Occupied Jordan Valley | June 2016 | Photo by Who Profits

PADCON

Profile: A German manufacturer and supplier of solar energy equipment. Among its products are monitoring systems for PV power plants. In June 2016, Who Profits documented the PADCON's electrical and software components in the Kalia solar field.

Ownership: Owned by Belectric, a German-based, global company that operates and maintains photovoltaic (PV) and solar power plants.

Partners: Belectric, EDF France, Suncycle

Global Presence: The oPt, US, Chile, Australia, India, Japan, Algeria, Greece,

Mauritius, Jordan, Romania, Puerto Rico, Spain

Revenue: USD 10.3 million in 2015.

Head Office: Steigweg 24, Gebäude 44, 97318 Kitzingen, Germany

Tel.: +49-321-2680-200 Website: www.padcon.de





A PADCON Electricity System | Kibbutz Kalia settlement, Occupied Jordan Valley | June 2016 | Photo by Who Profits

Meitarim Solar Field

Located in Meitarim Industrial Zone in the Jordan Valley, the Meitarim solar field takes up 98,749 square meters of Palestinian land. The field is connected to the Israeli grid, and with 16,120 solar panels it generates 5 MW of electricity, enough to power 2,500 houses. The field is owned by Energix Renewable Energies (50.1%), a publicly traded Israeli company, and by the Company for the Development of Mount Hebron (49.9%),⁴⁵ a private Israeli company that invests in Israeli industrial projects in the Mount Hebron area.

Note: Access to the field itself is impossible due to the complete closure of the area.

⁴⁵ Energix Group, "Meitarim," energix-group.com.



Entrance to the Meitarim solar field | South Hebron, - occupied West Bank 9 November 2016 | Photo by Dror Etkes

The field was constructed in November 2015 and is located in the South Hebron Hills in the West Bank east of the Palestinian displaced village of Khirbet Zanuta. While the settlement industrial zone has been expanding through production sites of steel, cosmetics and construction materials, and now a 5 MW solar field, the surrounding Palestinian villages in Mount Hebron have been suffering from forcible displacement, demolitions, lack of basic services and overall economic strangulation.





The Meitarim solar field | South Hebron, - occupied West Bank 9 November 2016 | Photo by Dror Etkes

The nearby village of Khirbet Zanuta, for example, has suffered immensely from the Israeli occupation, and after enduring countless demolitions it currently faces the threat of complete eradication. Bordering the Green Line, the village is enclosed by the Israeli separation wall, bypass roads for settlers, the Meitarim Industrial Zone and the settlements of Shim'a and Teneh Omarim. Israeli expansionist projects have resulted in the confiscation of 200 dunams (200,000 square meters) of the village's land. 46 Its remaining land is designated as "open spaces" by Israeli authorities, meaning no building permits can be issued to the residents, and only one dunam is designated as for such construction.⁴⁷



A herd of sheep on a hillside near Khirbet Zanuta | South Hebron Hills 28 August 2012 | Photo by ActiveStills

As for electricity, like other Palestinian villages in the Jordan Valley, the entire village of Khirbet Zanuta is not connected to any electricity network. It is also completely cut off from any telecommunication, water or sewage infrastructure.⁴⁸ For the remaining 130 residents of Zanuta, there are no schools, healthcare facilities or pharmacies; without access to cars, a 10-kilometer walk to Ad-Dhahiriya is required for any of those services. Since Khirbet Zanuta is currently defined as "an archaeological site" by the Israeli Civil Administration, the villagers are currently facing forcible displacement, and the village's remains await their fate to be reduced to rubble 49

The Meitarim solar field, situated just a few kilometers west of Khirbet Zanuta, secures large profits for its two Israeli owners: Energix, which is also the field's construction contractor, and the Company for the Development of Mount Hebron (CDMH). In August 2016, Who Profits sent a freedom of information request to the Civil Administration, enquiring about the companies that operate solar fields in the West Bank; in a response dated 28 September 2016, it was confirmed that the operating companies are the shareholding companies, Energix and CDMH.

⁴⁶ The Applied Research Institute - Jerusalem, Khirbet Zanuta Profile, 2009, p. 7-8.

⁴⁷ Ibid.

⁴⁸ Ibid.

Amira Hass, "IDF Razes Palestinian Infrastructure in West Bank Communities," Haaretz, 30 August 2012.

Energix Renewable Energies

Profile: One of the largest renewable energy companies in Israel, currently active in the field of solar and wind energies. Energix constructs and owns long-term renewable energy projects. The electricity generated by the company from its solar fields is subsequently sold to the IEC. Among its solar projects is the Meitarim industrial solar filed, operating since 2015. According to Energix, Meitarim is expected to be "the most efficient out of all of our projects." While the annual operating cost of the Meitarim solar field is NIS 300,000, the revenues from selling the electricity to the IEC reached NIS 4.5 million in 2015.

In 2015, the company signed a contract establishing a designated company for the ownership of a massive turbine field, located in the occupied Golan Heights, to generate electricity from wind energy.⁵¹ The Golan Heights wind farm generates 155 MW of electricity, and the annual income generated from it amounted to NIS 180 million in the fiscal year 2015.

Traded: Publicly traded in the Tel-Aviv Stock Exchange (TASE).

Ownership: The company is controlled by Alonei Hetz Properties and Investments. 27.5% of the company's shares are publicly held.

Partners: The Company for the Development of Mount Hebron

Revenues: In 2015, Energix generated annual revenues of NIS 207 million: NIS 115 million from the sale of electricity, and NIS 92 million from other corporate activities. The company's current market value is estimated at NIS 900 million. However, the company predicts its income will be quadrupled in the coming years, reflecting the escalating tempo and economic development of the Israeli renewable energy industry as a whole.

Head Office: 7 Jabotinski St., floor 49, Ramat Gan, 5252007, Israel

Phone: +972-3-566-8855

Website: www.energix-group.com

Global Presence: The company is currently engaged in mutual energy projects

with Polish companies, with a total capacity of up to 400MW.⁵²

⁵⁰ Energix Group, "Meitarim," energix-group.com.

⁵¹ Energix Group, Annual Report (2015), p. 59 section 4.2.2.1.

⁵² Energix Group, "The Company," energix-group.com.

The Company for the **Development of Mount Hebron**

The Company for the Development of Mount Hebron is a private company, established in 1984 by the Hebron Regional Council together with surrounding settlements and cooperatives from the Kirvat Arba settltment. The company was established in order to develop industrial projects in the area of the South Hebron Hills.

By declaring most of the regional councils of West Bank settlements as "national priority areas," the Israeli government is officially able to allocate 65% more grants for settlement's councils than local councils inside Israel.⁵³ In Kiryat Arba, for example, this status was translated into grants worth NIS 3,085 per capita in 2002, more than twice the average amount of grants per capita for local councils inside Israel.⁵⁴ The policy of showering the settlements with government grants and corporate investments, as implemented in the South Hebron Hills, further boosts the settlement industry diminishing economic prospects for Palestinians.

Netiv Hagdud Solar Field

The Netiv Hagdud settlement and industrial solar field, one of the first Israeli solar fields established in the West Bank, is located 20 kilometers north of Jericho and falls under the jurisdiction of the Jordan Valley Regional Council. This solar field occupies 50 dunams (50,000 square meters) of Palestinian land, consists of 13,000 solar panels and generates 4 MW of electricity – enough to power 2,000 to 2,500 homes.55 In September 2016, in response to a freedom of information request by Who Profits, the Civil Administration confirmed that the operating company of the Netiv Hagdud solar field is Orot Nativ Hagdud [sic], licensed by the Electricity Authority since April 2016.

Green Is Us, an Israeli company, and Enerpoint Israel, a subsidiary of the Italian

⁵³ Yehezkel Lein and Eyal Weizman, Land Grab: Israel's Settlement Policy in the West Bank, B'Tselem, May 2002, p. 73-76.

⁵⁴ Ibid., p. 80.

⁵⁵ Uri Blau, "Solar Energy Access Drives New Wedge into Israeli-Palestinian Conflict," TakePart Magazine, 6 November 2015.

company Enerpoint, have invested in this solar field and was involved from its initial stages of construction to the provision of equipment and maintenance. Both companies profit tremendously from the joint venture: The solar field's worth is estimated to garner a profit of NIS 25 million, with prospects of a considerable increase in coming years.⁵⁶ Additional companies provide this solar field with equipment and technologies.

As is the case with many other companies profiting from the occupation industry, when asked by a journalist about his company's activities on occupied land, Enerpoint Israel's CEO Danny Danan was "reluctant to discuss these operations" and stated: "Don't involve me with politics."57





Netiv Hagdud solar field | Occupied Jordan Valley | June 2016 | Photo by Who Profits

Enerpoint and Enerpoint Israel

Profile: The company installs and supplies photovoltaic panels for solar energy production. In February 2011, the Italian-incorporated Enerpoint completed the acquisition of the Israeli company Friendly Energy and established its Israeli subsidiary, Enerpoint Israel.

Together with the Israeli company Green Is Us, Enerpoint invested more than USD 6 million in the industrial solar field Netiv Hagdud. In addition, the company has smaller scale solar projects in the West Bank settlement of Mishor Adumim and in other settlements in the occupied Syrian Golan.

⁵⁶ Energia News, "First Solar Farm in the Territories" (Hebrew), 26 April 2015, Energia news.

⁵⁷ Uri Blau, "Solar Energy Access Drives New Wedge into Israeli-Palestinian Conflict," TakePart Magazine, 6 November 2015.

Ownership: The Israeli subsidiary, Enerpoint Israel, is owned by Enerpoint SPA (80%), private investor Avi Mann (5%) and Friendly Energy (15%). The Italian parent company, Enerpoint, is owned by the founder and shareholder, Paolo Rocco Viscontini (62%), and Equiter of Intesa Sanpaolo (20%), the largest banking group in Italy. 34 private investors own the remaining 18%.

CEO and President: Paulo Rocco Viscontini (Enerpoint), Danny Danan (Enerpoint Israel)

Income: Enerpoint Israel's annual income exceeds NIS 60 million, and Enerpoint's income reached EUR 300 million in 2010.

Partners: Trina Solar Limited (NYSE: TSL)

Head Office: Enerpoint Israel - 21 Hamlacha St., Rosh Ha'ayin, 4809157, Israel

Phone: +972-72-250-6205 Website: enerpoint.co.il

Enerpoint - Via Assunta 61, 20834, Nova Milanese (MB), Italy

Tel. +39-36-248-8511

Global Presence: In addition to its Italian headquarters in Nova Milanese (near Milan), Enerpoint has offices in Quedlinburg (Germany), in Tel Aviv (Israel), in London (UK) and in Mechelen (Belgium).

Green Is Us

Profile: An Israeli manufacturer and supplier of solar systems.

The partnership between Green Is Us and Enerpoint Israel has invested more than USD 6 million in the Netiv Hagdud industrial solar field. In addition, the company's PV systems were installed in the Givat Yoav settlement in the occupied Golan Heights.58

Ownership: Privately owned by investors Oren Carmer (50%) and Eyal Eizeman (50%).

Partners: Solar Sphere, Enerpoint Israel

Head Office: Galilee St. 52, Tiberias, 1420089, Israel

Phone: +972-4-670-8501

⁵⁸ As shown in a photo published on Solar Sphere's official website.

Suntech Power

Profile: A China-based, global manufacturer of solar panels. The company manufactures, develops and delivers solar energy products. In June 2016, Who Profits documented Suntech's solar panels in the Netiv Hagdud industrial solar field. Furthermore, in a joint partnership with the Israeli company Solarit Doral, Suntech co-built a solar power station in Katzrin, an Israeli settlement in the occupied Golan Heights. The Katzrin solar project generates 85,000 kWh a year.⁵⁹

Traded: A publicly traded company.

Ownership: Owned by Shunfeng International Clean Energy, the largest independent solar energy provider in China.

Revenues: The owner, Shunfeng Clean Energy Group, reported a revenue of RMB 7.03 billion (approximately USD 10.1 billion) for the entire group in 2015.⁶⁰

Partners: Enerpoint Israel and Super Ploy⁶¹

Head Office: 9 Xinhua Road, New District, Wuxi Jiangsu Province, 214028, China

Phone: +86-510-8531-8000

Website: www.suntech-power.com

Global Presence: UK, Greece, Romania, France, Turkey, Italy, Spain, South Africa,

Australia, Japan, Singapore, Switzerland





Suntech solar panel boxes | Netiv Hagdud solar field, - Occupied Jordan Valley

⁵⁹ China View, "Chinese PV Pioneer Helps Build Israel's Biggest Solar Power Station," xinhuanet.com, 9 December 2008.

⁶⁰ Shunfeng International Clean Energy, Annual Report 2015, p. 6.

⁶¹ China View, "Chinese PV Pioneer Helps Build Israel's Biggest Solar Power Station," xinhuanet.com, 9
December 2008.

Refu Elektronik

Profile: A German manufacturer and provider of hybrid power solutions. Through its business unit REFUsol, the company develops and sells solar inverters for Photovoltaic systems and solar fields. A site visit by Who Profits revealed stacks of REFUsol's solar panels in the Netiv Hagdud solar field.

Ownership: Owned by the German-based PRETTL, a major global holding company in the automotive and electronics sector.

Partners: Renewable Energy India, Solar Power International, Intersolar Middle

East, Power Trends, Intersolar Summit

Head Office: Marktstrasse 185, 72793 Pfullingen, Germany

Phone: +49-157-3576-4003

Website: www.refu-elektronik.de

Global Presence: The oPt, India, UAE, US, Iran, the Philippines





REFUsol solar panels | Netiv Hagdud solar field- Occupied, Jordan Valley I June 2016 | Photo by Who Profits

Shadmot Mehola Solar Field

Located in the northern part of the Jordan Valley, the Shadmot Mehola settlement and industrial solar field fall under the jurisdiction of the Jordan Valley Regional Council. The Shadmot Mehola solar field covers 49,242 square meters of Palestinian land and generates 5 MW of electricity – enough to power some 2,500 houses.⁶² In September 2016, in response to a freedom of information request by Who Profits, the Civil Administration confirmed that the operating company of this solar field is Energy Sde Ilan 2012, licensed by the Electricity Authority since August 2016.

The Israeli settlement Shadmot Mehola was established in 1979 on Palestinian agricultural land belonging to the Al Fukha family from the nearby Palestinian village Ein El-Beida. The construction of Shadmot Mehola's solar field began in April 2015, exploiting 10 dunams of Palestinian land. Upon completion, several international and Israeli companies were already making a profit from the electricity generated by this field.⁶³

Not far from the well-developed settlement and solar field of Shadmot Mehola lies the Palestinian village of Khirbet al-Malih. As with the other solar fields mentioned above, here, too, the contrast between the Israeli and Palestinian realities is horrendously stark. While the Shadmot Mehola residents live in comfortable houses within a fenced settlement and enjoy electricity and water, the residents of Khirbet al-Malih live in tents and mud-brick houses, are not connected to the electricity and water grids and suffer from severe poverty. According to the village mayor, Arif Daraghmeh, the Israeli Civil Administration refuses to issue the 200 residents building permits for permanent structures.⁶⁴ To add insult to injury, the Palestinian village receives demolition orders on a regular basis for lack of building permits, which compel its dwindling population to uproot their tents and move their cattle time and time again. In the past few years, the number of demolition and eviction orders has soared, leaving the local residents with little to no opportunity for a dignified living.

⁶² Uri Blau, "Solar Energy Access Drives New Wedge into Israeli-Palestinian Conflict," TakePart Magazine, 6 November 2015.

⁶³ Jordan Valley Solidarity, "SolarEdge Working in Illegal Israeli Settlement," jordanvalleysolidarity.org, 2 August 2015.

⁶⁴ Edmund Sanders, "Palestinians in West Bank's Area C Suffer in Limbo", Los Angeles Times, 18 May 2013.





Shadmot Mehola solar field | Occupied Jordan Valley | June 2016 | Photo by Who Profits

SolarEdge

Profile: A global provider of electronic optimizers, monitors and inverters for solar power systems, headquartered in Israel and publicly traded in the Nasdag stock market. The company's solar systems were installed in the Shadmot Mehola solar field, in the northern part of the Jordan Valley. The company received USD 400,000 from the Office of the Chief Scientist in the Israeli Ministry of Economy in the fiscal year 2015. SolarEdge is backed by venture capital, and the investors include GE Energy Financial Services, Norwest Venture Partners, Lightspeed Venture Partners, ORR Partners, Genesis Partners, Walden International, Vertex Venture Capital, JP Asia Capital and Opus Capital Ventures.

Traded: Publicly traded in the Nasdaq stock market.

Ownership: Owned by Affiliates of Opus Capital Venture Partners (11.58%), Genesis Partners (11.58%), Affiliates of Pacven Walden Ventures (14.64%), Norwest Venture Partners (9.11%), Lightspeed Venture Partners (11.52%), NWC SolarEdge Holdings (5.03%) the directors Guy Sella (1.83%), Dan Avida (11.58%) and Yoni Cheifetz (11.52%) and executive officers (all 16 directors and executive officers together own 34.55%).

CEO and Chairman: Guy Sella, formerly the Director of Technology for the Israeli National Security Council.

Founders: SolarEdge was established in 2006 by Guy Sella, CEO and Chairman, and vice presidents Lior Handelsman, Yoav Galin, Meir Adest, and Amir Fishelov.

Revenues: USD 325 million USD in 2015.

Subsidiaries and Partners: The company has offices in the US, Germany, China, Italy, Japan, Australia, the Netherlands, UK and Turkey.

Subsidiaries: SolarEdge Technologies (Israel), SolarEdge Technologies China (China), SolarEdge Technologies (Australia), SolarEdge Technologies (Japan), SolarEdge Technologies (Canada), SolarEdge Technologies GmbH (Germany), SolarEdge Technologies B.V. (the Netherlands), SolarEdge Technologies SARL (France), SolarEdge Technologies (UK).

Partners: Tesla Motors (US), Flextronics (US), Pontchartrain Mechanical Co. (US), Solco (Australia), Elletronord (Italy), AliusEnergy (the Netherlands), Sveigaard (Denmark) and Yomatec (France). SolarEdge is also partnered with Gadot Solar Solutions (Israel) for the distribution of SolarEdge technology across Europe.

Head Office: 1 Hamada St., Herziliya Pituach, POB 12001, 4673335, Israel

Phone: +972-73-240-3100 **Website:** www.solaredge.com

Global Presence: SolarEdge products have been installed in solar PV systems in 74 countries, including the US, Australia, Belgium, Canada, China, France, Germany, Israel, Italy, Japan, the Netherlands, Singapore and the UK.

M.G.A Energy Solutions

Profile: An Israeli provider of renewable energy solutions. The company provided its services as an engineer and constructor to the Shadmot Mehola solar field in 2015. The company was documented by Who Profits during a site visit.

Ownership: Owned by Eli Menachem Holdings and Gil Menachem Holdings.

CEO: Gil Ovnish

Subsidiaries and Partners: Solarsphere

Head Office: 20 Ben-Gurion Ave., Beit Shean, 1176913, Israel

Phone: +972-4-606-0613



SolarEdge & M.G.A logos in the Shadmot Mehola solar field | Occupied Jordan Valley | June 2016 | Photo by Who Profits

Residential Solar Systems: Access to the Sun Under an Occupation

In many ways, the West Bank in general and the Jordan Valley in particular are a microcosm of the Israeli occupation. Due to lack of access to land, water, gravel quarries and other agrarian sources of income, Palestinians suffer from a permanent state of dispossession. The denied access to natural resources in the Jordan Valley is particularly devastating for the local Palestinian community as an agrarian community. And while the sun equally shines on all human beings, under the occupation this ceases to be the case.

Aside from commercial solar fields, residential solar systems (usually installed on rooftops or in parking lots) also play an essential role in the production of green electricity. Israel vigorously encourages settlers to utilize means of solar energy. Residential photovoltaic systems powering settlers' houses have become a growing trend, and green electricity is gradually lighting up Israeli hilltop settlements across the West Bank. All of this is of course in addition to the steady flow of regular electricity. By contrast, many Palestinian houses across the oPt suffer from either an interrupted electricity supply or no electricity at all.

While perceived as an unattainable privilege, solar energy is of particular necessity for Palestinians under occupation. The dire lack of a secure, sufficient and uninterrupted flow of electricity is acutely felt in most Palestinian households in the occupied territory, including cities like Ramallah and Bethlehem. In theory, large residential solar systems offer the most pragmatic solution for the electricity crisis caused by the occupation and Israel's policies of de-development and dispossession (see below). However, the mass use of residential solar energy is limited to settlers and is kept out of reach for many Palestinian communities.

As noted above, the IEC functions as the sole buyer of all electricity generated by renewable means. To encourage the production of solar energy, the company buys

solar-based electricity at a price that is 4 times that of regular electricity, for both commercial and residential systems. 65 If the residential solar system produces electricity in an amount that exceeds the actual household consumption, the surplus electricity in each household is then sold to the IEC, generating profit for the solar system's owners. With no construction permits for Palestinians, this financial incentive to install rooftop solar systems only benefits Israeli settlers in the West Bank, who enjoy the advanced electricity production and financial profit, thereby contributing to the settlement apparatus as a whole.

In December 2011, the Civil Administration issued Regional Outline Plan 55/1, a planning document for photovoltaic facilities in the West Bank. This regional plan ushered in a new era for solar systems in settlements: Since the plan's approval in 2011, the connection of PV systems to the Israeli electricity grid became available to all Israeli citizens in the West Bank.⁶⁶ According to the organization Bimkom - Planners for Planning Rights, an Israeli NGO focusing on Israeli planning and human rights violations, Regional Outline Plan 55/1 introduced PV solar systems in a regulated manner and ensured the connectivity of residential systems to the grid, something that had not been previously available to Israeli settlers.⁶⁷ Bimkom submitted an objection to the planning authorities on the grounds of discrimination against the occupied Palestinian population, which cannot benefit from this plan in light of the lack of building permits and the threat of demolitions. So far, no remedy has been offered for this dismal state of affairs.

Electricity in Palestinian residential areas in both the West Bank and Gaza continues to be a major hardship in people's daily lives. In the West Bank, particularly in Area C, the malfunctioning electricity is yet another policy aimed at forcibly relocating Palestinian communities into Areas A and B. In Area C, the lack of residential building permits means automatic ineligibility to obtain a permit to install solar panels.68

⁶⁵ In June 2008, the Electricity Authority passed regulations to incentivize the installation of PV residential systems. The regulations stipulate that the price of solar-based electricity will be NIS 2.04 per unit (kWh), 4 times that of regular electricity, which is estimated at NIS 0.5 per unit. See: Solar Israel. "The Price of Electricity" (Hebrew), solar-israel.co.il; Liora Lukatch-Givon, "What Is a Solar System, and the Israeli Aspect" (Hebrew), greentops.co.il.

⁶⁶ The Civil Administration for the Judea and Samaria Area - High Planning Committee, Regional Outline Plan 55/1: (Partial) Regional Outline Plan for Photovoltaic Facilities (Hebrew), December 2011.

⁶⁷ An interview with Bimkom representatives, conducted by Who Profits on 2 November 2016.

⁶⁸ Uri Blau, "Solar Energy Access Drives New Wedge into Israeli-Palestinian Conflict," TakePart Magazine, 6 November 2015.

In Gaza, even in the most critical times of year, electricity is still widely unavailable. Last winter, 41% of households in the Gaza Strip could not heat their homes due to insufficient provision of gas by Israel, and families had to endure the cold spell by huddling together in small spaces.⁶⁹

Private companies benefit not only from commercial solar fields on occupied land, but also from the residential solar systems they sell and install in Israeli settlements

Sphere Energy Systems

Profile: An Israeli provider and installer of residential solar systems for rooftops and parking lots. The company also provides its services to obtain construction permits for large solar panel projects. Sphere Energy Systems installed dozens of rooftop solar systems that generate electricity for the exclusive use of Israeli settlements in both the West Bank and the occupied Syrian Golan Heights.

The company's projects in West Bank settlements include: A solar system in Nokdim (4 KW), approved by the Gush Etzion Regional Council; 5 solar systems in Mevo Horon (4 KW); 3 solar systems in Alfei Menashe (4 KW); 8 solar systems in Elkana.

The company's projects in Golan Heights settlements include: 6 solar systems in Ma'aleh Gamla (13.6 KW); 2 solar systems in Afik (4 KW); 2 solar systems in Givat Yoav (15 KW).

The solar panels in these projects were manufactured by Sharp, Suntech, Solartechnics and Yingli, and the electricity convertor was provided by SolarEdge.

Ownership: Ra'anan Riter (75%) and Lior Nemri (25%)

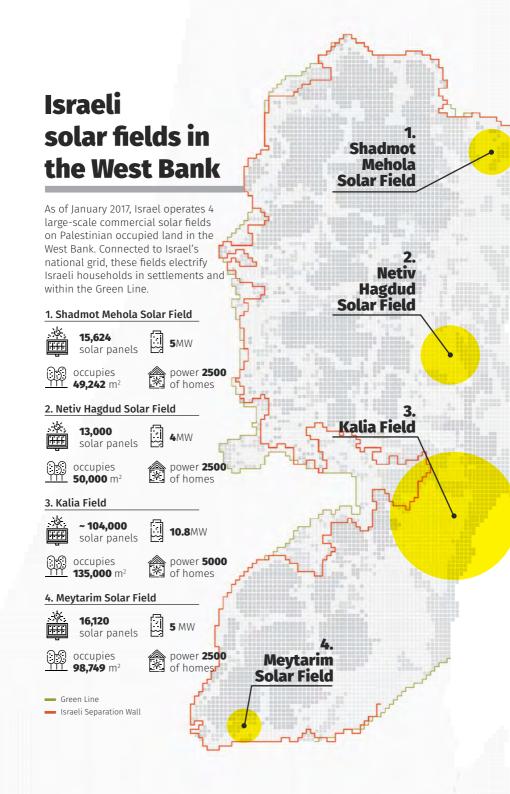
CEO: The company owners Ra'anan Riter and Lior Nemri

Subsidiaries and Partners: Danbit Insurance Agency, Green is Us, Solar Clean

Head Office: 21 Simtat Shahaf, POB 254, Kfar Saba, 4410201, Israel

Website: www.solarsphere.co.il

⁶⁹ Rayan Rifai, "Gaza Faces Harsh Winter after Israel Cuts Gas Supply," Al-Jazeera, 13 January 2016.



The Gaza Strip: A Chronic Energy Crisis

In Gaza, light, heat and working electronic appliances are hardly common. The overpopulated strip has been suffering from a chronic electricity deficit exacerbating the already severe humanitarian crisis under the illegal Israeli blockade. The destruction of Gaza's sole power plant during the Israeli assault of air strike in July 2014 has worsened the lives of 1.8 million people, who have been enduring power cuts of 12 to 20 hours a day over the last decade. More generally, the Israeli damage caused during the mentioned assault is estimated at about USD400 million, which has had an enormous spillover effect on most economic sectors in Gaza.

As a captive market for Israel, Gaza is completely dependent on the Israeli import of electricity and fuel. According to United Nations Office for the Coordination of Humanitarian Affairs, in early 2014 the electricity supply in the Gaza Strip met only 46% of the estimated demand. ⁷⁴ Gaza currently has three sources of electric power supply: 10 power lines from Israel providing 120 MW; 2 electricity lines from Egypt with 25 MW; and Gaza's local power plant, which generates 60 MW. ⁷⁵ According to Mohammed Thabet, director of public relations at Gaza Electricity Distribution Corporation, "These sources combined, which provide 205 MW of electricity, do

⁷⁰ The Israeli government argues that since the disengagement from Gaza in 2005, it does not militarily occupy the Gaza Strip – a claim rejected by the United Nations Human Rights Council and by Human Rights Watch because Israel continues to maintain control over Gaza's airspace, territorial water and borders.

⁷¹ Harriet Sherwood, "Gaza's Only Power Plant Destroyed in Israel's Most Intense Air Strike Yet," The Guardian, 30 July 2014.

⁷² United Nations Office for the Coordination of Humanitarian Affairs (OCHA), "Chronic Electricity Crisis in Gaza: Rolling Power Cuts Increase from 12 to 20 Hours Daily," August 2015.

⁷⁴ United Nations Office for the Coordination of Humanitarian Affairs (OCHA), "The Humanitarian Impact of Gaza's Electricity and Fuel Crisis," March 2014.

⁷⁵ Rasha Abou Jalal, "Gaza's Electricity Crisis Sheds Light on Gap Between Social Classes," Al-Monitor, 23 March 2016.

not meet the population's power supply needs that equal a total of 450 MW. This implies an ongoing power deficit of 55%."76

Since firewood, liquid fuel and gas are unavailable under the blockade, Gaza is left with no alternatives to generate sufficient electricity. In its economic monitoring report from 2015, the World Bank stated that electricity is "a serious problem for Gaza's citizens," with electricity usually provided in 5-8 hour on and off intervals."

Recently, solar energy has been playing a more active role in generating electricity for the Gaza Strip; different public institutions, such as schools and hospitals, are already using solar energy as an electricity source. However, it is hardly a feasible option for the majority of Gazans under Israeli occupation. First, access to solar power is too expensive for the majority of Gaza's population. The equipment needed for a residential solar system costs USD 1,000-7,000 (depending on the amount of solar panels) - an exorbitant price for most Gazans, who are either unemployed or underpaid.78 Second, Israel blocks the import of solar panels to Gaza and requires military authorization for them. For each shipping, a permission is required even if imported by authorized merchandisers, making them rare in the Gazan market. Finally, even if accessible, solar energy alone cannot meet Gaza's needs, since the Strip's total area is 365 square kilometers leaving little room for its own population, let alone commercial solar fields.79



Electricity cuts, Gaza Strip | 9 August 2014 | Photo by ActiveStills | Gazans walk the streets in darkness after the Israeli bombing of the main electricity plant caused a continuous 7-day power cut throughout the Gaza Strip.

⁷⁷ The World Bank, Economic Monitoring Report to the Ad Hoc Liaison Committee, 27 May 2015, p. 21.

⁷⁸ Rasha Abou Jalal, "Gaza's Electricity Crisis Sheds Light on Gap Between Social Classes," Al-Monitor, 23 March 2016.

⁷⁹ Ibid.

Legal Analysis

As a result of Israel's 1967 occupation of Palestinian territories, it is an Occupying Power bound by the laws of occupation. Likewise, the Palestinians are entitled to the protections provided under the same legal framework to civilian populations under occupation, or "protected persons." The main sources of the following legal analysis are: The Regulations Annexed to the 1907 Hague Convention (IV) Respecting the Laws and Customs of War on Land (hereinafter: the Hague Regulations), which are considered to be customary international law that binds even those who are not party to it, as is the case with Israel; the Fourth Geneva Convention Relative to the Protection of Civilian Persons in Time of War (hereinafter: the Fourth Geneva Convention), to which Israel is party; its additional protocols; and other instruments of international law and corporate social responsibility.

While international law might be slow to keep up with issues relating to technologies of renewable energy and related conflicts, it provides a coherent and clear set of rules from which one can derive obligations and rights relating to the Israeli industry of solar energy in the oPt. This analysis is presented below.

⁸⁰ International Conferences (The Hague), <u>Hague Convention (IV) Respecting the Laws and Customs of War on Land and Its Annex: Regulations Concerning the Laws and Customs of War on Land</u>, 18 October 1907.

^{81 &}quot;Persons protected by the Convention are those who, at a given moment and in any manner whatsoever, find themselves, in case of a conflict or occupation, in the hands of a Party to the conflict or Occupying Power of which they are not nationals." See: International Committee of the Red Cross (ICRC), <u>Geneva Convention Relative to the Protection of Civilian Persons in Time of War (Fourth Geneva Convention)</u>, 12 August 1949, 75 UNTS 287, Article 4.

The Exploitation of **Land for Solar Energy Projects**

The Israeli commercial solar fields presented above take up vast swaths of occupied land to maximize solar energy and electricity production. In doing that, Israel exploits Palestinian land as a means of electricity production for the sole benefit of the Israeli market, whether through private corporations or the public IFC.

Article 55 of the Hague Regulations designates the Occupying Power as only the administrator and usufructuary of public immovable properties such as land. Accordingly, Israel's use of land in the oPt is limited to mere administration, and it is only allowed to function as a trustee of occupied public property.⁸² Hence, Israel is prohibited from exploiting the land in a manner that quashes the economy of the occupied population and benefits its own inhabitants or national economy.83 In the case of commercial solar fields, not only does the appropriation of land undermine the Palestinian economy's development and growth, it also further exacerbates forcible displacement and hinders the access of Palestinians to their lands - the fundamental resource of agrarian income.

Moreover, under the international humanitarian law (IHL) rules of usufruct, the Occupying Power is prohibited from using any of the land of an occupied territory for any purpose other than a military necessity.⁸⁴ As Israeli solar farms in the oPt are in no way a military necessity, there is no legal justification for this blatant violation of international law

Rather than being a military necessity, the abovementioned solar farms benefit the Israeli economy and serve the industrialization, expansion and economic growth of settlements. The solar fields are part and parcel of the Israeli land grab in the oPt, in blatant contravention of international law (as will be further detailed below).

⁸² Article 55 of the Hague Regulations states that "The occupying State shall be regarded only as administrator and usufructuary of public buildings, real estate, forests, and agricultural estates belonging to the hostile State, and situated in the occupied country. It must protect the capital of these properties, and administer it in accordance with the rules of usufruct."

⁸³ Claudia Nicoletti and Anne-Marie Hearne, Pillage of the Dead Sea: Israel's Unlawful Exploitation of Natural Resources in the Occupied Palestinian Territory, Al-Haq, July 2012, p. 27.

⁸⁴ Orna Ben-Naftali, "PathoLAWgical Occupation: Normalizing the Exceptional Case of the Occupied Palestinian Territory and Other Legal Pathologies," in: Ben-Naftali (ed.), International Law and International Human Rights Law, Oxford: Oxford University Press, 2011, p. 140.

Finally, according to the Fourth Geneva Convention, the occupant is also prohibited from destroying public property except for reasons of military necessity.⁸⁵ As will be exemplified in the following chapters, Israel has been demolishing solar panel projects built for the benefit of Palestinian communities – yet another direct breach of international law

Exploitation of the Sun as a Renewable Natural Resource

Viewing the sun as a renewable natural resource under IHL is not an explicit derivative of IHL regulations and presents an innovative legal reading, incorporating new and developing areas into it, such as renewable energy resources. Until now, Article 55 of the Hague Regulation was interpreted to include only non-renewable natural resources, such as oil, water and gas, while other renewable sources of energy, such as wind or sun, have been overlooked despite being exploited in similar manners.

The Israeli utilization of the sun as a renewable natural resource for the production of solar energy is contingent upon the misuse of Palestinian land, which is a public property of the occupied population. Thus, this section cannot be read separately

from the above description of Israel's illegal exploitation of occupied Palestinian land. Having said that, the sun, or more specifically solar energy, can arguably constitute what IHL defines as "fruits" reaped from the occupied land.

According to interpretations of Article 55 of the Hague Regulations, the Occupying Power may enjoy fruits of the occupied public property. The occupant "may sell the crops from public land [...] and make other uses of the 'fruit' of local public property."⁸⁶ Since the aforementioned commercial fields are on occupied public property, and assuming solar energy here constitutes fruits reaped from occupied land, one might claim that the Israeli exploitation of solar energy on occupied land is legal; however, this claim simply does not hold water.

⁸⁵ Gamal Abouali, "Natural Resources Under Occupation: The Status of Palestinian Water Under International Law," Pace International Law Review 10:2, September 1998, p. 468.

⁸⁶ Ibid., p. 467.

To begin with, as the Occupying Power, Israel does not have the right to use public property in the occupied territory for purposes other than public order and safety.87 By constructing solar fields and exploiting the land and its fruits of solar energy. Israel is going beyond its role as an administrator of Palestinian public property, in violation of Article 55 of the Hague Regulations.88

Furthermore, the exploitation of any fruits by the occupant is prohibited if an undermining effect is caused to the economic benefits of the occupied population.89 In that sense, although solar energy is renewable and cannot be depleted, the electricity generated from it via Palestinian land is used to power Israeli homes through the IEC, contributing nothing to the Palestinian economy or households, while undermining the Palestinian electricity market, among other things, by grabbing vast areas of land with high solar production qualities. In other words, as the Occupying Power, Israel is obliged to manage resources such as land and sun in solar fields for the benefit of the occupied population; since the gains are not invested in the occupied people or economy, it should be considered a clear violation of international law 90

Therefore, through a broader interpretation of international law encompassing renewable energy, the Israeli exploitation of the sun as a renewable natural resource for its own and sole economic benefit may be regarded as illegal.

Solar Panels as Illegal **Structures on Occupied Land**

The Hague Regulations and Fourth Geneva Convention prohibit settlements under occupation and consider them as war crimes. 91 The international community has reiterated IHL provisions, deeming Israeli settlements as illegal. Through various resolutions, the UN Security Council continues to call for complete Israeli withdrawal

⁸⁷ US Military Tribunal at Nuremberg, "United States of America v. Georgia et al." (Judgment, 1 October 1946), in: Trials of War Criminals Before the Nurembera Military Tribunals, Vol. 1, p. 238-241.

⁸⁹ Claudia Nicoletti and Anne-Marie Hearne, Pillage of the Dead Sea: Israel's Unlawful Exploitation of Natural Resources in the Occupied Palestinian Territory, Al-Haq, July 2012, p. 27.

⁹⁰ Gamal Abouali, "Natural Resources Under Occupation: The Status of Palestinian Water Under International Law," Pace International Law Review 10:2, September 1998, p. 467-470.

⁹¹ Article 49(6) of the Fourth Geneva Convention stipulates that "The Occupying Power shall not deport or transfer parts of its own civilian population into the territory it occupies."

from the occupied territory (including East Jerusalem and the Syrian Golan).⁹² The advisory opinion of the International Court of Justice on the construction of the Separation Wall has also reaffirmed the illegality of Israeli settlements in the oPt.⁹³

Israeli solar fields in the West Bank establish facts on the ground and form a vital part of Israeli industrialization in the oPt. By taking up massive swaths of occupied land and contributing to the expansion of settlements, those commercial solar fields facilitate and strengthen the settlement enterprise as a whole. In this manner, the solar panel structures in commercial solar fields constitute an integral part of Israeli settlements. As the UN's Office of the High Commissioner for Human Rights restated in 2014, Israeli settlements "encompass **all physical and non-physical structures and processes** that constitute, enable and support the establishment, expansion and maintenance of Israeli residential communities beyond the Green Line of 1949 in the Occupied Palestinian Territory" (emphasis added). Accordingly, Israeli solar panel structures in the oPt fall under the definition of settlements, and as such they are illegal under international law.

There is also legal ground to include settlement electricity services as non-physical structures that enable and support Israeli settlements and therefore fall under the same definition. In the same line of logic, the financial support and investment poured into the Israeli solar industry in the West Bank can also be regarded as a financial non-physical structure that is part of Israeli settlements.

Financial support for the Israeli solar energy industry in the occupied territory and financial support for the occupation industry in general are herein deemed as illegal structures and processes under international law.⁹⁵

⁹² UN Security Council Resolutions 242 (1967) and 338 (1973) call Israel to withdraw completely from the territories it occupies. UN Security Council Resolution 465 (1980) calls upon all States not to provide Israel with any assistance connected with the settlements in the occupied territories. Most recently, UN Security Council Resolution 2334 (2016) reaffirmed that Israel's establishment of settlements in the oPt "has no legal validity and constitutes a flagrant violation under international law."

⁹³ International Court of Justice, "<u>Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory</u>," *ICJ Reports*, 2004, p. 136-203.

⁹⁴ UN Office of the High Commissioner for Human Rights, "Statement on the Implications of the Guiding Principles on Business and Human Rights in the Context of Israeli Settlements in the Occupied Palestinian Territory," 6 June 2014, p. 1 (footnote 2).

⁹⁵ See, for example: Article 1 Collective, "Financing the Occupation Through Israeli Banks," www. article1collective.org, 12 December 2015.

Corporate Complicity

Shifting to other spheres of international law, corporate social responsibility (CSR) mechanisms establish corporate duties through legal and judicial instruments. Although perceived as "soft" legal tools, many CSR regulatory frameworks have been unanimously endorsed, internationally promoted and judicially enforced.

In June 2011, the UN Guiding Principles on Business and Human Rights (UNGP) were unanimously endorsed by the UN Human Rights Council, reaffirming corporate responsibility to respect human rights and standards of humanitarian law in conflict affected areas.⁹⁶ It was further elaborated by the Office of the High Commissioner for Human Rights that areas under occupation, namely the Palestinian territory, are considered as conflict affected areas, thereby giving rise to human rights and corporate duties under the UNGP in the context of Israeli settlements.⁹⁷

According to the International Committee of the Red Cross, although many companies have adopted International Human Rights Law as part of their CSR policies, very few have so far included policies on IHL, which is of particular relevance in conflict areas such as the Palestinian territory.98

The provision and maintenance of solar panels and converters built on occupied land renders multinational and Israeli corporations complicit in Israel's violations of IHL. It is through their technologies, equipment and investments that this industry is developing on occupied land and at the expense of the protected population.

⁹⁶ According to Principle 13 of the UN Guiding Principles on Business and Human Rights, "The responsibility to respect human rights requires that business enterprises: (a) Avoid causing or contributing to adverse human rights impacts through their own activities, and address such impacts when they occur; (b) Seek to prevent or mitigate adverse human rights impacts that are directly linked to their operations, products or services by their business relationships, even if they have not contributed to those impacts" (emphasis added). As the Principle's commentary states, "For the purpose of these Guiding Principles a business enterprise's 'activities' are understood to include both actions and omissions; and its 'business relationships' are understood to include relationships with business partners, entities in its value chain, and any other non-State or State entity directly linked to its business operations, products or services" (emphasis added). United Nations, Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework, 2011, p. 14-15.

⁹⁷ UN Office of the High Commissioner for Human Rights, "Statement on the Implications of the Guiding Principles on Business and Human Rights in the Context of Israeli Settlements in the Occupied Palestinian Territory," 6 June 2014, p. 3.

⁹⁸ Maria Prandi, "From Armed Conflicts to Peace-Building," in: Maria Prandi and Josep M. Lozano (eds.), CSR in Conflict and Post-Conflict Environments: From Risk Management to Value Creation, Barcelona: UAB/ ESADE, 2012, p. 21.

In the process of writing this report, Who Profits informed all featured companies about their involvement in those violations, leaving no room for the defense claim of ignorance. Only two companies responded, attempting to refute their complicity (see annex I and II). In the first letter, sent on 1 September 2016 by SolarEdge, an Israeli-based, global company involved in the Shadmot Mehola commercial solar field, the company stated that it abides by Israeli and US laws and does not control where its equipment is installed. In the second letter, sent on 10 October 2016 by PADCON, a German company involved in the Kalia commercial solar field, the company claimed that it "regularly supplies electrical equipment to construction companies in Israel that build photovoltaic projects," and that they "don't know nor require to ask where this equipment was installed by the Israeli companies."

The depiction of equipment provision as an insignificant and legitimate business activity is a recurring notion in corporate responses to allegations of logistical support for adverse human rights impact. In such cases, companies reap profits by providing and maintaining equipment and then claim to have no ethical responsibility for the location and usage of that equipment.

By providing their technologies, equipment and maintenance services to Israeli solar fields in illegal settlements, Israeli and international companies facilitate Israeli IHL violations and contribute to adverse human rights impacts on the Palestinian population. Being logistical supporters neither exempts them from liability nor places their complicity on a lower rank of violations. In fact, under the UNGP, all business enterprises, regardless of size or operational context,⁹⁹ are instructed to respect human rights and carry out due diligence in order to identify, prevent, mitigate and account for adverse human rights impacts that are caused or contributed by their own activities or directly linked to their operations, products or services by their business relationships.¹⁰⁰

In the case of the corporate activities featured in this report, some companies were not involved only in providing logistical support, but also in the very construction of commercial solar fields on occupied land, making their infractions more severe. All companies were informed of the adverse human rights impacts contributed by and/or directly linked to their operations in the Israeli settlement enterprise.

See Principle 14 on human rights due diligence: United Nations, <u>Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework</u>, 2011, p. 15.
 Ibid., Principle 17, p. 17-19.

Accordingly, not only do the abovementioned companies bear the responsibility to mitigate future impacts, they are also expected to enable the remediation of past infringements, which they have already caused or to which they have contributed. 101

As long as such companies are able to profit from the settlement enterprise with impunity, Israel has a further incentive to expand and develop this illegal enterprise, which directly affects the collective and individual human rights of Palestinians.

Palestinian Electricity as a Captive Market

As with many other Israeli industries in the Palestinian territory, the electricity industry has been serving Israel through a profitable captive market, whilst securing Israel's hold over the Palestinian land, population and economy. The institutionalized subjugation of the Palestinian electricity sector dates back to 1923, when the Israel Electric Corporation (IEC) was incorporated under the British Mandate following a campaign by Pinhas Rutenberg, who was later the president of the Jewish National Council. For decades, the IEC has been enjoying a monopoly in the Palestinian territory, making exorbitant profits through forced Palestinian consumption and "debt" clearances.

The Oslo Accords of 1993 and its annex, the Paris Protocol, cemented the status quo and among other things upheld the Israeli control over the Palestinian electricity sector.¹⁰² As stipulated in that agreement, the Israeli Civil Administration holds all the powers and responsibilities of the Palestinian electricity sector in both the West Bank and Gaza Strip, which means that all electricity purchases in the oPt are required to be from Israel. 103 Since then, no changes have been made to curtail Israel's mandate over Palestinian electricity, excluding the Israeli disengagement from Gaza in 2005, which had little to no impact in light of the illegal blockade imposed by Israel. In that regard, the Oslo Accords have had a very tangible effect on Palestinian daily lives, basic needs and collective development. To this day, as regulated in the agreement, Palestinians in Area C cannot install any electricity lines, networks and infrastructure, or even develop existing ones, without the

¹⁰² Also referred to as the Interim Agreement on the West Bank and the Gaza Strip. Gaza-Jericho Agreement Annex IV - Economic Protocol, 29 April 1994.

¹⁰³ The World Bank, Assessment and Action Plan to Improve Payment for Electricity Services in the Palestinian Territories: Study on Electricity Sector Contribution to Net Lending, Washington DC: World Bank Group, 25 November 2014, p. 21.

approval of the Israeli Civil Administration. 104 Consequently, that which before the agreement was a **de facto** reality now became codified and regulated in a manner that sustains the Israeli occupation and its lucrative industries.

For the IEC, the occupied territories of the West Bank, Gaza Strip, East Jerusalem and Golan Heights all constitute a secure source of income. In the following sections, the IEC's profit from the occupation will be reviewed, with a specific focus on the West Bank and Gaza Strip.

Israel Electric Corporation

When initially founded in 1923, the company was presented as a promising instrument of modernity and development for mandatory Palestine. However, it was not too long before it was revealed as a highly politicized tool of economic power, shaping the national and financial interests of the new State of Israel.

The company was officially first registered in 1923 under the name Palestine Electric Corporation, which was changed in 1961 to its current name, Israel Electric Corporation. With the main objective of generating, distributing and selling electricity, IEC's mandate ranges from the construction and operation of power stations to full control over all transmission and distribution networks

The IEC is a public and government-owned company, with 99.85% of its shares owned by the state. 105 Excluding two connection points with little supply capacity in Jordan and Egypt, IEC enjoys an almost fully-regulated monopoly over electricity supply both in the oPt and within the Green Line. 106

IEC's monopoly over the West Bank and Gaza tasks the company with price dictation. supply control and full administration of all Palestinian electricity networks. By providing approximately 88% of the total electricity consumption in the oPt, IEC generates profits amounting to hundreds of millions of dollars on an annual basis.

¹⁰⁵ According to IEC's official website, "the Israel Electric Corporation (IEC) is a public and government-owned company, generating and supplying electricity to all sectors in the economy. 99.85% is governmentowned [...] IEC owns and operates 17 power stations with 63 generating units [...] IEC's installed capacity stood at 13,617 MW [...] IEC employs 12,077 workers and provides service to 2.7 million customers (update as of December 2015)." See: Israel Electric Corporation, "Investor Relations," iec.co.il, December 2015.

¹⁰⁶ Ibid.

According to the Palestinian Central Bureau of Statistics, in 2014, electricity imported from the IEC to the West Bank and Gaza reached approximately 4,684 GWh;¹⁰⁷ according to the IEC, in 2015 it exported 3,069 GWh to the Palestinian Authority and 2,128 GWh to the Jerusalem District Electricity Company (the largest electricity company in the West Bank).¹⁰⁸ The government-owned IEC generates hundreds of millions of dollars per year from those exports: The Palestine Economic Policy Research Institute notes that after Israel raised the prices in 2013 (by 33 percent from 2010), the price of electricity imports to the oPt jumped to USD 650 million.¹⁰⁹ Furthermore, supported by the Oslo Accords, IEC personnel and equipment have unrestricted access to the Palestinian electricity grid.¹¹⁰

The Israeli hold over 88% of the Palestinian electricity market hinders any possibility for the emergence of an independent Palestinian industry. All Palestinian electrical companies function as mere sub-distributers and payment collectors for IEC. In the West Bank, there are four Palestinian distributers:¹¹¹ Jerusalem District Electric Company, Southern Electricity Company, Northern Electric Distribution Company and Tubas District Electric Company.¹¹² In the Gaza Strip, the Palestine Electric Company is the main distributer, with limited power and severe supply shortages. All of those companies are obliged to purchase electricity from the IEC for distribution throughout Palestinian localities.¹¹³ The only independent Palestinian source of electricity is ostensibly the power plant in Gaza City; however, its reliance on Israel for fuel imports quashes any opportunity for self-sufficiency.¹¹⁴ The destruction of Gaza's power plant during the Israeli assault in the summer of 2014 has ongoing ramifications,¹¹⁵ which will be detailed in the coming chapters.

¹⁰⁷ Palestinian Central Bureau of Statistics, Palestine in Figures 2015, March 2016, p. 77.

¹⁰⁸ Israel Electric Corporation, Annual Report 2015, p. 75.

¹⁰⁹ Palestine Economic Policy Research Institute, <u>Encouraging Solar Electricity Production in the OPT: Is It Just a Slogan?</u>, 2015, p. 1.

¹¹⁰ The World Bank, <u>Assessment and Action Plan to Improve Payment for Electricity Services in the Palestinian Territories: Study on Electricity Sector Contribution to Net Lending</u>, Washington DC: World Bank Group, 25 November 2014, p. 16.

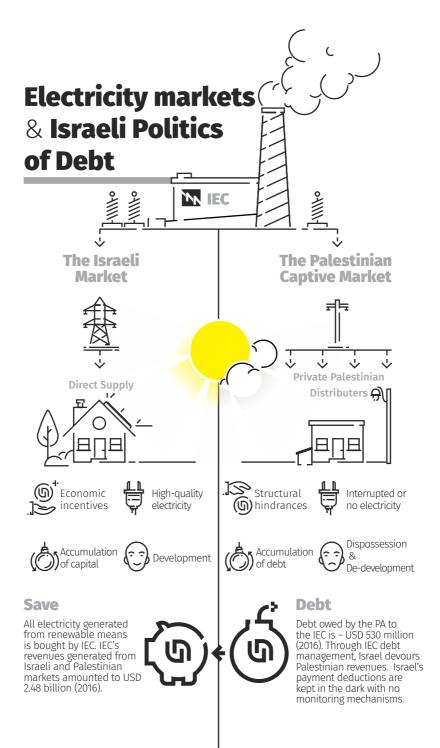
¹¹¹ I.H. Ibrik and M.M. Mahmoud, "Energy Efficiency Improvement Procedures and Audit Results of Electrical, Thermal and Solar Applications in Palestine," Energy Policy Journal, Vol. 33, No. 5, March 2005, p. 651-658.

¹¹² The Jerusalem District Electricity Company is the largest company in the West Bank. It supplies electricity to approximately 120,000 consumers and serves some 500,000 residents.

¹¹³ M.S. Ismail, M. Moghavvemi and T.M.I. Mahlia, "Energy Trends in Palestinian Territories of West Bank and Gaza Strip: Possibilities for Reducing the Reliance on External Energy Sources," Renewable and Sustainable Energy Review, Vol. 28, December 2013, p. 120.

¹¹⁴ Palestinian Academic Society for the Study of International Affairs (PASSIA), "Infrastructure: Agenda 2015," PASSIA Desk Diary 2015, Jerusalem: PASSIA, December 2014, p. 2.

¹¹⁵ Tareq Abu Hamed, Hannah Flamm and Mohammad Al Azraq, "Renewable Energy in the Palestinian Territories: Opportunities and Challenge," Renewable and Sustainable Energy Reviews, Vol. 16, No. 1,



Powering the Palestinian Territory

Due to the distorted structure of electric networks throughout the Palestinian territory, the power generation capacity is limited and many Palestinians are still not connected to any electric network. In 2015, 20 localities in the West Bank had no electricity network or infrastructure available, 7 of them located in Hebron.¹¹⁶

To keep warm, some of these communities resort to using diesel generators for limited periods of time during the cold nights. Diesel electrification harms these communities, as it emits polluting and hazardous gases. Regardless, not all communities can afford diesel electrification, which is extremely expensive.¹¹⁷

The electrification process of the oPt is rife with obstacles and complexities, which are both deliberate and profitable for the Israeli occupier. While turning on the switch in Israeli homes ensures quick and sufficient flow of electricity, many Palestinian homes rely on a defective electrification process and others are not electrified at all. Listed below are a few of the chief hurdles facing the Palestinian electrification process.

Fuel Import

Fuel import is the first step taken in order to electrify any Palestinian house. Most of the fuel entering the oPt is supplied by Israel and imported through the Ni'ilin and Deir Qadis terminals. It is then distributed by the Palestinian Petroleum

January 2012, p. 1083.

¹¹⁶ Palestinian Central Bureau of Statistics, "<u>Distribution of Localities in Palestine by Availability of Electricity Network and Governorate</u>, 2015," pcbs.gov.ps.

¹¹⁷ M.S. Ismail, M. Moghavvemi and T.M.I. Mahlia, "Energy Trends in Palestinian Territories of West Bank and Gaza Strip: Possibilities for Reducing the Reliance on External Energy Sources," Renewable and Sustainable Energy Review, Vol. 28, December 2013, p. 118.

Commission. Only a small fraction is sourced from Egypt and Jordan. 118

The Palestinian reliance on Israel for the majority of its fuel import is a key obstacle, resulting in a high Palestinian demand that is overtaxed by Israel. 119 Since there is no Palestinian storage capacity, fuel has to be imported on a daily basis, which causes severe hindrances to electricity generation.¹²⁰

All steps following fuel import require a solid electric transmission network, completely absent from the oPt. This in turn forces the Palestinian consumption to depend on isolated distribution systems, which send out electricity bought from IEC.

Transmission Disturbances

Another challenge facing the Palestinian electrification process is transmission disturbances. Due to the occupation's dire neglect of Palestinian electric infrastructure, the rate of transmission losses in the oPt is among the highest in the region.¹²¹ As a result, Palestinian electrical networks are characterized by supply shortages and power cuts, disconnecting both residential and industrial structures from electricity. The cost of transmission losses in the oPt is estimated at about USD 4.29 million a year.122

Electricity Prices

The fact that electricity production is almost completely monopolized by the IEC enables it to dictate prices.¹²³ The high prices imposed by the IEC are further increased

¹¹⁸ Tareq Abu Hamed, Hannah Flamm and Mohammad Al Azraq, "Renewable Energy in the Palestinian Territories: Opportunities and Challenge," Renewable and Sustainable Energy Reviews, Vol. 16, No. 1, January 2012, p. 1083.

¹²⁰ Palestinian Academic Society for the Study of International Affairs (PASSIA), "Infrastructure: Agenda 2015," PASSIA Desk Diary 2015, Jerusalem: PASSIA, December 2014, p. 2.

¹²¹ Imad Ibrik, "Energy Profile and the Potential of Renewable Energy Sources in Palestine," in: Michael Mason and Amit Mor (eds.), Renewable Energy in the Middle East: Enhancing Security Through Regional Cooperation, Dordrecht: Springer, 2009, p. 80.

¹²² Ayman Abualkhair, "Electricity Sector in the Palestinian Territories: Which Priorities for Development and Peace?", Energy Policy Journal, Vol. 35, 2007, p. 2217.

¹²³ Ibid., p. 2218.

due to additional costs of electricity distribution in the oPt. With an average price of nearly USD 0.18 per kWh in 2010-2013, the price of electricity was 1.2 times higher than the average price in Israel. 124In addition to the profit derived from forced Palestinian consumption, the IEC generates additional profit through debt clearances. (See below)

Lack of Access to the Electrical Grid

Many communities in Area C, mostly in the Jordan Valley, remain unconnected to the Israeli grid and completely cut off from electricity. With no electrical network to provide them with light and with heating in winter they are either forced to leave or left to survive on limited gas electrification, which is both pricy and dangerous, as explained above.

For those communities, access to solar energy is challenging to say the least. With no grid connection (unlike Israeli settlements in Area C), human rights organizations are compelled to buy expensive batteries and convertors for humanitarian electrification projects in Palestinian communities. As noted above, more often than not this expensive equipment faces Israeli threats of demolition or confiscation by Israeli authorities. By contrast, small to medium scale solar projects in Israeli settlements do not require any additional equipment, such as batteries and generators, as their connectivity to the grid is both facilitated and guaranteed.

¹²⁴ Mohammed Mahmud Ehmidat, The Possible Contribution of Photovoltaic Systems to the Electricity Supply in some Districts in Palestine, Master's Thesis: University of Agder, Department of Engineering, 2013, p. 14.

Dispossessing Debt

Israeli de-development policies, clearly manifested in the electricity sector, have placed the Palestinian market in a perpetual state of economic instability. With a handicapped mode of production under Israeli occupation, the Palestinian economy is doomed to frailty at best and complete bankruptcy at worst. Since the electricity sector reflects the structural barriers embedded in the occupation industry and establishes a Palestinian captive market, it is not surprising that the non-payment of electricity would become an issue, especially with IEC's exorbitant prices.

Unpaid electricity bills began to pile up after 2002, reaching massive numbers by mid-2013, when non-payment was estimated at USD 381 million. 125 According to the IEC, the debt owed by the Palestinian Authority (PA) for unpaid electricity bills amounted to NIS 2 billion (approximately USD 530 million) in 2016.¹²⁶ The high rates of non-payment directly correlate with increased Israeli political power. It is through debt management that the Israeli government, via the Ministry of Finance, is able to devour Palestinian revenues – by reducing the PA's tax and customs transfers.¹²⁷ In other words, in order to settle the IEC's mountainous debt, Israel has been withholding money designated to the PA by deducting it from Palestinian clearance revenues and taxes. The deducted sums are then transferred to the IEC. and the remainder is considered as debt still owed to it. For example, on 3 March 2015, IEC received approximately NIS 300 million subtracted by the Ministry of Finance from tax money owed by Israel to the PA. 128

In this manner, not only is Israeli debt control smothering the Palestinian economy, it also annuls the Paris Protocol's tax regulations. Before the Paris Protocol was signed, the Civil Administration had collected all Palestinian customs and appropriated it in its own treasury. However, under the Paris Protocol, Israel became obligated to return custom revenues to the PA on a monthly basis. 129 Israel

¹²⁵ The World Bank, Assessment and Action Plan to Improve Payment for Electricity Services in the Palestinian Territories: Study on Electricity Sector Contribution to Net Lending, Washington DC: World Bank Group, 25 November 2014, p. 22.

¹²⁶ Barak Ravid, "Israel, PA to Sign Deal Resolving Massive Palestinian Electric Debt," Haaretz, 13 September

¹²⁷ The World Bank, Economic Monitoring Report to the Ad Hoc Liaison Committee, 27 May 2015, p. 11-15.

¹²⁸ Israel Electric Corporation, Financial Reports for the Six and Three Months Ended June 30, 2015, p. 75 (Note

¹²⁹ According to the Paris Protocol, revenue from customs would be transferred to the Palestinian Authority

collects approximately NIS 600-700 million (-USD 155-180 million) each month in customs duties, which are levied on goods that are intended for Palestinian markets and transit through Israeli ports.¹³⁰

Regardless of the negative effects these regulations have by sustaining Israel's financial control over the Palestinian economy, Israel still manages to bypass them when it so chooses. The Israeli deduction of Palestinian revenues circumvents the obligation to return tax and custom revenues to the Palestinian Authority, rendering it meaningless and inapplicable.

Over and above, according to the World Bank, Israel's payment deductions are kept in the dark and there are no mechanisms through which its debt control could be monitored. Thus, duplicate payments or overpayments are highly likely to go unnoticed, and in some cases discrepancies were, in fact, detected.¹³¹

Debt Settlement and New Agreement

In the presence of the Israeli Ministries of Finance and Defense and the Palestinian Ministries of Civil Affairs and Finance, an agreement was signed in September 2016 between the IEC and the PA, in order to settle the unpaid electricity debt.¹³² According to the new agreement, the PA is expected to pay NIS 570 million in one and immediate payment, and the remaining amount of up to NIS 1.5 billion (~USD 390 million) will be paid by the PA in 48 installments over the coming years. A further NIS 500 million in debt will be waived, and Israel agreed to transfer some NIS 1.14 billion in tax funds that it had previously withheld from the PA.¹³³

monthly, and the PA would also be able to collect taxes directly from the residents. See: Gisha, "Will We Always Have Paris?," gisha.org.il, 13 September 2012.

¹³⁰ Times of Israel Staff, "Israel, PA Sign Deal on Massive Palestinian Electricity Bill," Times of Israel, 13
September 2016

¹³¹ According to a World Bank report from 2014, discrepancies were actually detected and the monthly net lending amounts were registered at different rates in the recordings of MOF and the IEC financial data. The World Bank, <u>Assessment and Action Plan to Improve Payment for Electricity Services in the Palestinian Territories: Study on Electricity Sector Contribution to Net Lending</u>, Washington DC: World Bank Group, 25 November 2014, p. 22 and p. 99.

¹³² Iyad Qatrawi, "Why Some Palestinians Don't Trust New Electricity Deal with Israel," Al-Monitor, 27 September 2016.

¹³³ Amiram Barkat, "PA Reaches Settlement over Debt to Israel Electric," Globes, 14 September 2016.

While it may seem promising, a closer look at the agreement reveals a less optimistic picture. The newly signed agreement does very little to relieve the Palestinian market from the burden of IEC's control. Due to its shortsighted vision, the agreement secures the PA's payments to the IEC while maintaining Palestinian economic dependence on the corporation for future Israeli profit. As previously noted by the World Bank, agreements designed to settle the Palestinian electricity debt have limited impact, as "additional debt would continue to accumulate in the future".134 Therefore, current and future settlements will remain futile and failed attempts without addressing "the underlying issues of non-payment for electricity services in the Palestinian Territories".135

On the macro level, such agreements eternalize the economic power relations regulated by the Paris Protocol – tightening the Israeli shackles over the Palestinian captive market and bolstering the occupation industry as a whole.

Debt as a Political Tool

When considering the unpayable Palestinian electricity bills as a trigger for financial crisis, debt becomes a political instrument of economic exploitation and financial inclusion inflicted by the occupying power on the occupied population. While the Palestinian sub-economy is drowning in occupation-made debts, Israel continues to accumulate its driving capital. This reality resonates the work of critical thinker and author David Harvey, namely his observation on "accumulation by dispossession". Through this observation Harvey describes the practices used under "the new imperialism" to centralize wealth and power, including the management and manipulation of debt crises - in this case the national debt created by a prolonged and profitable state of occupation. 136

Exposing the correlation between Palestinian dispossession and Israeli politics of debt can demonstrate the intimate link between policies of de-development and debt as an economic and political construct of power.

¹³⁴ The World Bank, <u>Assessment and Action Plan to Improve Payment for Electricity Services in the Palestinian</u> Territories: Study on Electricity Sector Contribution to Net Lending, Washington DC: World Bank Group, 25 November 2014, p. 5.

¹³⁶ David Harvey, "The 'New' Imperialism: Accumulation by Dispossession," Socialist Register, Vol. 40, 2004, p. 63-87.

Methods of payment collection used by the IEC accentuates the dispossession tactics employed against the Palestinian captive market. First, any delay in the payment of IEC-issued invoices that exceeds 11 days results in a 10% annual late fee charge. ¹³⁷ Furthermore, several Palestinian distributors have already stated that often times IEC invoices are either delayed or fail to reach their destination. Finally, IEC's invoices are quantified based on 230 connection points and meters located in Area C – all inaccessible to the Palestinian distributers, ¹³⁸ preventing them from compiling relevant information or confirming the sums.

Punitive Measures and Collective Punishment

To apply pressure, Israel has made a habit out of disrupting the electricity supply to various cities and villages in the West Bank, affecting Palestinian households and industries – even those who have paid their electricity bills. For example, in March and April 2016, the IEC disrupted the electricity in a number of localities in the West Bank, and the cities of Jenin, Jericho, Bethlehem, Hebron and Nablus were completely disconnected.¹³⁹ In the winter of 2015, the IEC cut off power to the West Bank cities of Nablus and Jenin for almost one hour, to convey a message of punitive measures until the PA's debt is settled.¹⁴⁰ Two days later, the IEC cut off the power again, declaring it as an official warning to the PA to pay its dues.¹⁴¹

Following this, the human rights organization Adalah sent an urgent letter to the IEC and the Civil Administration, demanding that they refrain from future power cuts in the West Bank. According to Adalah, "the reasonable conclusion is that disconnecting Palestinians from power was intended as collective punishment." In that case, the punishment was exacerbated by the cold, harsh weather.

¹³⁷ The World Bank, <u>Assessment and Action Plan to Improve Payment for Electricity Services in the Palestinian Territories: Study on Electricity Sector Contribution to Net Lending</u>, Washington DC: World Bank Group, 25 November 2014, p. 22.

¹³⁸ United Nations Conference on Trade and Development, Report on UNCTAD Assistance to the Palestinian People: Developments in the Economy of the Occupied Palestinian Territory, 6 July 2015, p. 6.

¹³⁹ Ma'an News Agency, "Israel Cuts Off Power to Bethlehem over PA Debt," maannews.com, 4 April 2016. See Also: Globes Correspondent, "Israel Electric to Resume West Bank Power Disruptions," Globes, 25 February 2015.

¹⁴⁰ Jeffrey Heller and Ali Sawafta, "<u>Israeli Electric Company Begins West Bank Power Cuts over Debt,</u>" Reuters, 23 February 2015.

¹⁴¹ Tamar Pileggi, "Israel Cuts Power to West Bank Cities for Second Time," Times of Israel, 25 February 2015.

¹⁴² Ahmad Al-Bazz, "Photos: Israel Cuts off Palestinian Power Twice in One Week," 972 Magazine, 28 February 2015.

Cutting the power to an entire population as a form of pressure amounts to collective punishment, and as such, stands in stark contrast to international humanitarian law. The prohibition of collective punishment is enshrined in the Third and Fourth Geneva Conventions and in the Hague Regulations. As stipulated in the Hague Regulations, "No general penalty, pecuniary or otherwise, shall be inflicted upon the population on account of the acts of individuals for which they cannot be regarded as jointly and severally responsible."143 Furthermore, supported by international court rulings such as the International Criminal Tribunal for the former Yugoslavia¹⁴⁴ and the International Criminal Tribunal for Rwanda, ¹⁴⁵ the imposition of collective punishment is considered to be a war crime. This holds true under any circumstances: According to the UN Human Rights Committee, states parties may in no circumstances invoke a state of emergency "as justification for acting in violation of humanitarian law or peremptory norms of international law, for instance [...] by imposing collective punishments."146



The city of Nablus during an intentional power cut | West Bank | 25 February 2015 | Photo by ActiveStills.

¹⁴³ Article 50 of the Hague Regulations.srticle 50 of the Hague Regulations.lation of debt crises -.

^{144 &}quot;In the Delalić case, the International Criminal Tribunal for the former Yugoslavia stated that 'internment or assigned residence under Article 78 of the Fourth Geneva Convention is an exceptional measure that may never be taken on a collective basis." International Committee of the Red Cross, "Rule 103: Collective Punishments," icrc.org.

^{145 &}quot;The specification that the imposition of collective punishments is a war crime is also to be found in the Statutes of the International Criminal Tribunal for Rwanda and of the Special Court for Sierra Leone."

¹⁴⁶ UN Human Rights Committee (HRC), CCPR General Comment No. 29: Article 4: Derogations during a State of Emergency, 31 August 2001.

Palestinian Renewable Energy: A Possible Alternative?

As described above, neglected infrastructure, absence of an independent electricity sector, transmission losses, a national debt and collective punishments are all hurdles impeding economic development in the oPt. With the mounting obstacles limiting efficient electrification, the high demand for electricity is left unanswered. In 2012, the Palestinian energy requirement in the West Bank was estimated at 820 MW of installed capacity, but the IEC provided only 720 MW.¹⁴⁷ In the Gaza Strip the situation is even worse, with the entire population having electricity for less than 16 hours a day.¹⁴⁸ Due to political and economic constraints, the Palestinian population in the oPt is trapped between a high demand for electricity and the lowest consumption levels in the region.

The abovementioned challenges demand an urgent review of alternatives to redress the Palestinian electricity crisis under the occupation. Solar energy is one of the main avenues with the highest potential of electricity production, and its ability to contribute to a stronger Palestinian energy system is immense. Unfortunately, this alternative is yet to be realized.

As already recognized by Israeli companies, the Palestinian territory in general and the West Bank in particular enjoy a high solar radiation and energy potential. The annual sunshine hours in the oPt reach 3,000 in total, and the yearly average of solar radiation on panels is estimated at approximately 5.6 kWh per square meter. With such figures, small and large scale solar panels could generate high

¹⁴⁷ Mohammad Al Azraq, <u>Community Cooperation in Israel/Palestine</u>: <u>Renewable Energy in Small West Bank Villages</u>, The International Centre for the Study of Radicalisation and Political Violence (ICSR), March 2012, p. 3.

¹⁴⁸ M.S. Ismail, M. Moghavvemi and T.M.I. Mahlia, "Energy Trends in Palestinian Territories of West Bank and Gaza Strip: Possibilities for Reducing the Reliance on External Energy Sources," Renewable and Sustainable Energy Review, Vol. 28, December 2013, p. 123.

¹⁴⁹ A.K. Daud and M.S. Ismail, "Design of Isolated Hybrid Systems Minimizing Costs and Pollutant Emissions," Renewable Energy, Vol. 44, No. 2, 2012, p. 215-224.

production of clean and already available energy in the oPt. In fact, the Palestinian Energy Authority has already devised a strategy and developed an energy plan, according to which the year 2020 will witness renewable energy projects providing 10% of the total power required in the Palestinian territory. 150

However, implementing solar energy in the oPt is easier said than done. For any solar project to materialize, there are high financial and technological requirements, ranging from the availability of space and equipment to construction permits and grid connections. Meeting those requirements under an occupation can be a long and Sisyphean struggle.

First and foremost. Palestinian access to the land and sun - the fundamental resources for energy production - is either severely constrained or completely absent. In the West Bank, over two million Palestinians are divided between dozens of fragmented enclaves, surrounded by a system of roadblocks, walls, checkpoints and Israeli settlements. Area C, composing 60% of the territory, is under direct and exclusive Israeli control. In the Gaza Strip, almost two million people live in extremely crowded conditions, completely surrounded by fences and walls and constantly controlled by Israeli military forces from the air, land and sea. The movement of people, goods and services in and out of Gaza is almost completely blocked; repeated military attacks cause mounting destruction and casualties; and the trade, utilities and financial embargo has added to the economic collapse and exacerbated the resulting humanitarian crisis.

The fragmentation of West Bank enclaves and isolation of the Gaza Strip has dire effects on their economic viability and their residents' daily lives. With regard to solar energy development, the absence of physical contiguity between Palestinian areas hampers the import, storage and export of energy. The extensive Israeli policies of division, settlement construction and crowd control categorically thwart any type of development project, including energy-related activities and infrastructure.151

¹⁵⁰ According to this plan, the 10% target in 2020 is equivalent to 130 MW, and it will be divided as follows: 45 MW on ground and rooftop PVs. 20 MW from concentrated solar power plants, 21 MW of biogas from both landfill and animal waste and 44 MW from both wind farms and small scale wind turbines. See: Zafer Milhem, "Energy Sector in Palestine: The Overall Strategy for Renewable Energy," Palestinian Energy Authority, 8 June 2015. See also: M.S. Ismail, M. Moghavvemi and T.M.I. Mahlia, "Energy Trends in Palestinian Territories of West Bank and Gaza Strip: Possibilities for Reducing the Reliance on External Energy Sources," Renewable and Sustainable Energy Review, Vol. 28, December 2013, p. 128.

¹⁵¹ Tareq Abu Hamed, Hannah Flamm and Mohammad Al Azraq, "Renewable Energy in the Palestinian Territories: Opportunities and Challenge," Renewable and Sustainable Energy Reviews, Vol. 16, No. 1,

In areas where access to the land and sun does exist, solar energy projects are halted due to the lack of financial support and weak electrical infrastructure. It is very rare to find cases where all those hindrances are mitigated, but even when they are, Israel finds a way to destroy them - in the most literal sense (see below).

The Destruction of Palestinian Solar Projects and Forced Displacement

The demolition of solar panels by Israel comes as a complementary policy to house demolitions, ultimately aimed at forced displacement and targeted dispossession. In the last few years, orders for the demolition and confiscation of solar panels have been systemically issued by Israel in the West Bank. As a result, small agricultural communities were either forcibly displaced or deprived of access to electricity.

In March 2016, the Israeli army demolished the Palestinian village of Khirbet Jenbah in the Jordan Valley, forcibly displacing its impoverished community for the third time. After an excruciating struggle to generate electricity from small-scale solar projects donated by international humanitarian agencies, the village had to endure the confiscation of the panels by the Israeli Civil Administration. The confiscation of solar panels is not unique to Khirbet Jenbah: Several other villages, mostly in the Jordan Valley area, have fallen victim to the same illegal policy. 152

A year earlier, in March 2015, the Israeli military confiscated 12 solar panels on the same day they had been installed in the Palestinian village of Khan Al-Ahmar. The confiscated panels, donated by a Palestinian NGO, were intended to produce a small amount of electricity to provide the community with a few hours of electricity a day. 153

Demolitions, confiscations and looming threats of demolition are a common phenomenon with regard to solar panels in the West Bank. Comet-ME is another non profit organization that provides green energy and clean water services to off-grid communities in the oPt..¹⁵⁴ On 2 November 2016, Who Profits conducted an

¹⁵² Haggai Matar, "Photos: IDF Demolishes Palestinian Homes in Occupied Jordan Valley," 972 Magazine, 23 March 2016.

¹⁵³ Jordan Valley Solidarity, "SolarEdge Working in Illegal Israeli Settlement," jordanvalleysolidarity.org, 2 August 2015.

¹⁵⁴ Comet-ME, "About Us," comet-me.org.

interview with one of Comet-ME's founders, who stated that the organization has built 30 energy systems that provide electricity to some 2,000 people in the West Bank, and that 16 of those systems are facing various stages of demolition threats from the Civil Administration. The demolition orders expected to follow will darken the homes of at least 500 Palestinians.



Solar panels set up by Comet-ME in Susya | South Hebron Hills, West Bank | 11 August 2009 | Photo by ActiveStills

Palestinian communities, particularly in the Jordan Valley and East Jerusalem, suffer from aggressive and relentless house demolitions, including the demolition of renewable energy structures. Most cases of demolitions and demolition orders go unheeded, but some garner international attention and even diplomatic disputes. ¹⁵⁵ German-funded solar projects in the South Hebron Hills are one such exception. The German government donated 400,000 Euros to a renewable energy project by Comet-ME, intended to electrify small-scale dairy businesses in 16 Palestinian communities. ¹⁵⁶ As in other cases, the Civil Administration issued work stoppage orders for those projects. In this case, the German government intervened and contacted different Israeli authorities in an attempt to rescind the orders. In response, the Civil Administration stated that "Illegal construction is occurring [...] and legal action has already been taken against it. The plan that

¹⁵⁵ See, for example: Phoebe Greenwood, "Palestinians Prepare to Lose the Solar Panels that Provide a Lifeline," The Guardian, 14 March 2012.

¹⁵⁶ Akiva Eldar, "Israel Demolishes West Bank Villages as Jewish Outposts Remain Untouched," Haaretz, 21 February 2012.

the residents submitted was rejected by the planning committee in June 2011 and for this reason it was decided to enforce it. The solar installations are illegal and therefore a court order was issued against it.."157

Presently, there appears to be an ongoing rise in house and structure demolitions, especially in the Jordan Valley and South Hebron Hills, where the most impoverished Palestinian off-grid villages are located, right next to booming Israeli commercial solar fields. 158 For those communities, solar panels are a last resort for access to electricity. Israel's adamant and continuous refusal to connect Palestinian villages to the power grid is a calculated policy, backed by a lack of building permits and outline master plans. To legalize Palestinian forcible displacement in the Jordan Valley, the Israeli army categorized various areas there as live-fire training zones or "Firing Zone 918," a forcible transfer policy masquerading as a military designation, which is deemed illegal by human rights organization and international bodies. All of the solar systems described above were built without construction permits: Israel provides no legal avenue to secure solar energy for those residents, despite the fact that they already suffer immensely from not being connected to the electricity grid.

The UN Secretary-General Ban Ki-moon has already described the Israeli zoning and planning policy in the West Bank as "restrictive and discriminatory." ¹⁵⁹ According to the UN, in just the first six weeks of 2016, Israeli forces destroyed, dismantled or confiscated 283 homes and other structures, displacing 404 Palestinians and affecting another 1,150, who lost structures related to their source of income. As stated in this context by the UN Coordinator for Humanitarian Assistance and Development Aid for the occupied Palestinian territory, "Most of the demolitions in the West Bank take place on the spurious legal grounds that Palestinians do not possess building permits, but, in Area C, official Israeli figures indicate only 1.5 percent of Palestinian permit applications are approved in any case. So what legal options are left for a law-abiding Palestinian?"160

For Palestinians facing demolition threats, solar panels are not merely electricity generators, but rather a lifeline and means of survival. Their destruction is

¹⁵⁷ Ibid.

¹⁵⁸ Haggai Matar, "Photos: IDF Demolishes Palestinian Homes in Occupied Jordan Valley," 972 Magazine, 23 March 2016.

¹⁵⁹ UN News Center, "Senior UN Relief Official Calls on Israel to Halt Demolitions in West Bank Immediately," un.org, 17 February 2016.

¹⁶⁰ Ibid.

tantamount to forced displacement and contravenes international law. To quote Ali Mohamed Hraizat, head of the village council of Imneizil, a Palestinian village in the South Hebron Hills that is not connected to the grid and whose solar panels have been slated for demolition: "We've been here since 1948. We try to stay and maintain our lives, but people will leave if the electricity is cut off [...] The solar panel isn't doing any harm. I just don't see the point in demolishing it."161

¹⁶¹ Phoebe Greenwood, "Palestinians Prepare to Lose the Solar Panels that Provide a Lifeline," The Guardian, 14 March 2012.

Conclusion

Although very limited in impact and capacity, some small stand-alone solar panels have surmounted the aforementioned challenges, and today they successfully generate electricity for impoverished and displaced Palestinian communities. 162 However, under Israeli occupation, institutionalized obstacles and oppressive policies undermine the promise of solar energy in the oPt and take a great toll on Palestinian daily lives.

The construction and maintenance of solar and other renewable energy projects present formidable challenges anywhere in the world. Whether it is financial support, the provision of technologies and expertise or the construction of infrastructure and transmission lines - all of which are minimum requirements for a well-functioning renewable energy system. But for Palestinians under occupation, even the most basic and standard requirements are out of reach, and solar energy - despite being a desperately needed solution - is perceived as an unattainable privilege.

Israeli and multinational corporations have been reaping immense profits from commercial and residential Israeli solar projects in the oPt. From the planning and construction of solar projects, to providing equipment and technology, and ending in grid connections and maintenance, such corporations both benefit from and support the Israeli solar energy industry. It is thorough those capitalist endeavors that the occupation economy is fortified, at the expense of a crippled Palestinian economy.

Not only is the occupation industry weighing down on the Palestinian economy and

¹⁶² The villages of Atouf, Imneizil, Yarza, Amkahel, Ibzeq and Al-Hadidiya are examples of rural communities that have been electrified using PV systems. These projects were installed under the supervision of the Energy Research Center at An-Najah National University. See: An-Najah National University - Energy Research Center, "Projects: Rural Electrifications," najah.edu.

hindering its development, it is directly exploiting Palestinian natural resources for the sole benefit of the Occupying Power's own citizens and economy, all in blatant violation of international law.

While one arm of the State of Israel develops its commercial and residential solar fields exploiting Palestinian natural resources, the other destroys any potential Palestinian electricity lifeline. Moreover, Israel enjoys complete control over the Palestinian captive market, charging high electricity prices and maintaining the Palestinian Authority in a perpetual state of debt, thereby further undermining the fragile Palestinian economy.

Notwithstanding the occupation's devastating impact, the Palestinian territory has significant potential to produce energy from its own renewable sources. In theory, 25% of the current Palestinian demand for energy could be met by using presently available sources such as solar, biomass and wind energy.¹⁶³

The actual implementation of the oPt's high potential to generate renewable energy shall remain a distant mirage so long as the Israeli occupation and economic subjugation persist. In the meantime, Palestinians suffer from power cuts, an insufficient electricity supply, or no electricity at all - all the while struggling to reach that light at the end of the tunnel.



The city of Nablus during an intentional power cut | West Bank | 25 February 2015 | Photo by ActiveStills

¹⁶³ Hasan Abu Libdeh, "Renewable Energy in Palestine: A Luxury or an Agent of Energy Independence From Israel?," This Week in Palestine, November 2015.

Appendix I SolarEdge Response



September 1, 2016

WHO PROFITS P.O.B 1084 Tel Aviv 6101001 ISRAEL

Re. Your letter dated August 10, 2016

To whom it may concern,

We are in receipt of the above referenced letter containing reference to a project in Shadmot Mechola which you stated contains "your solar systems."

Please note that as a leading provider of intelligent inverter solutions, we sell our products to distributors worldwide. We are not an installer and are not involved in installation projects. As a publicly traded Company (NADSAQ: SEDG), SolarEdge Technologies, Inc. complies with U.S. and Israeli laws and except for specific limitations imposed on selling into certain black listed countries, we do not limit our distributors in their resale of our products. As such, we do not control where they are installed and are not involved in the construction of said site.

Our products are installed in more than 90 countries and are instrumental in generating an optimal amount of solar energy from solar panels, further reducing the need to burn fossil fuels and helping create a cleaner environment.

Nothing contained in this letter shall be construed as a waiver of any of SolarEdge's rights, all of which are preserved in full.

Sincerely, Rachel Prishkolnik VP General Counsel RadieCospositisk, Selvalary **VP General Counsel** Solar dge Technologies, Ltd.

Appendix II PADCON Response

10/10/16

Dear Who Profits Research Team,

We received your letter from 26 September 2016 regarding our components being used in a Solar Field called Kalia.

Thank you for making us aware of this.

Padcon is regularly supplying electrical equipment to construction companies in Israel that build photovoltaic projects.

However, due to the nature that Padcon equipment is a commodity equipment, we don't know nor require to ask where this equipment was installed by the Israeli companies. Therefore, Padcon had no way to know that its equipment was used for that project and had not supply any services to this project.

Furthermore, please note that Padcon does not supply inverters but only electrical and software components.

With best regards Mit freundlichen Grüßen

Silvia Engelhardt

Kfm. Auftragsabwicklung Commercial order processing PADCON GmbH Steigweg 24 - Gebäude 44 97318 Kitzingen / Germany

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Amtsgericht: Würzburg, HRB Nr. 9721 I St.-Nr. 257/135/00383 I Geschäftsführer: Constantin Wenzlik, Robert Jüttner

Appendix III Israeli Statement at the UN Solar Energy for All Forum

Sustainable Energy for All Forum

Statement delivered by Ambassador Ron Prosor, Permanent Representative of Israel to the United Nations

21 May 2015

Mr. Chairman.

First, allow me to congratulate you, the Secretary-General and the leadership of Sustainable Energy for All, for convening this forum.

The world faces serious energy challenges which demand immediate attention. The International Energy Agency estimates that one in five people do not have electricity. Another 2.6 billion use unsafe fuel to cook, inhaling toxic smoke. In order to realize our vision of a world in which everyone enjoys clean and safe energy, we must act now to spearhead this transformation.

Mr. Chair,

With few natural resources and mostly arid land, Israel has always had to do more with less. For decades, Israeli innovators have developed technologies to directly harness the power of the sun, Israel's most abundant resource. Solar water heaters, developed in the 1950s, have been installed in 90% of Israeli homes, and are required by law.

Israel is committed to pursue renewable energy sources. And we have set a national goal to raise total renewable energy generation by 400% by the year 2020.

In the Negev Desert, engineers at the Arava Power Company built the country's largest solar installation, covering an area equal to twenty football fields. The energy it generates will offset over one hundred thousand tons of carbon emissions- the equivalent of planting almost a quarter million trees.

The Knesset-Israel's Parliament- is a model of energy efficiency. This year, the roof of the Knesset building was covered with enough solar panels to lower energy consumption by onethird and save half a million dollars annually.

In addition to solar power, Israel's first hydro-electric plant will be completed by 2018 and will increase power generation capacity and energy security.

Israel is a hub for renewable energy research and development, and is committed to sharing innovation and expertise with developing countries abroad.

In Ghana, for example, an Israeli company gives meaning to the phrase, "one man's trash is another man's treasure." It takes useless organic waste and turns it into useful energy.

In rural Africa, another Israeli company keeps the lights on even after the sun goes down. Innovative tulip-shaped towers absorb solar energy by day and produce electricity by night.

Mr. Chair,

In September, leaders from all over the world will gather in this very hall to adopt a transformative agenda that will guide the future of sustainable development. It is on our shoulders to light a new path for people around the world toward a more sustainable future.

As one of Israel's sustainable energy pioneers once said, and I quote, "to realize that the same sun shines equally on all of us, is owned by none of us, and can supply energy in abundance, inherently promotes peace. The sun doesn't recognize borders." May our desire to build a world where sustainable energy is available to all, be a reason for unity and solidarity.

Thank you

Appendix IV The Response of the Civil Administration to Who Profits' Freedom of Information Request



המנהל האזרחי לאזור יהודה ושומרון משרד קצין המטה לענייני חשמל



2016 ספטמבר 2016 כייה אלול תשעייו סימוכין :78 אי



לכבוד : עו"ד אמילי שפר עומר-מן משרד עו"ד מיכאל ספרד רחוב דוד חכמי 12 תל אביב, 6777812 באמצעות דוא"ל: contact@sfard.co.il

הנדון : פניית עמותת מי מרוויח לפי חוק חופש המידע

- 1. בהמשך לפנייתך לפי חוק חופש המידע, תשנ״ח 1998, בשם עמותת מי מרוויח (ע״ר .580581411 בנוגע לחוות פנלים סולאריים באיו"ש.
- 2. רשימת המתקנים להם הוענקו רישיונות קבועים באיו"ש צפויה להתפרסם באתר המתפ"ש החדש עם עלייתו הצפויה לאוויר במהלך החודשים הקרובים.
 - 3. לנוחיותכם מצ"ב הרשימה.

סעים קאסם מנהל תחום (קמייט) חשמל

ת.ד 20 בית -אל. 90631 ☎:972-2-9977097 ☎

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☐ Http:// www.cogat.idf.il ☐ -בלמ"ס-

· 972-2-9977378 ·



המנהל האזריתי לאמר יתודת ושומרון משרד קצין המטה לצנייני השמל



רשימת בעלי רישיונות ייצור חשמל למתקנים פוטו-וולטאים מעל KW המתחברים לרשת החלוקה באיוייש

מיקום המתקן	יישוב מיתרים- דרום הר חברון	א.ת ברקן- מגרש 64	קיבוץ קליה	יישוב פצאל	א.ת ברקן	נתיב הגדוד	שדמות מחולה
גודל המתקן	2 MW	0.63 MW	10.8 MW	0.63 MW	0.63 MW	4 MW	5 MW
שם בעל הרישיון	אנרג'יקס א.ח דרום הר חברון- שותפות מוגבלת	צבאר סולאר 3 בע"מ	קליה אנרגיה נקייה בע"מ	אנרג'י שדה אילן 2010 בע"מ	צבי מאיר נכסים בע"מ	אורות נתיב הגדוד בע"מ	אנרג'י שדה אילן 2010 בע"מ
תאריך הענקת הרישיון	04/11/2015	17/11/2015	31/12/2015	11/01/2016	07/01/2016	09/04/2016	30/8/2016



Greenwashing the Occupation

P.O.B. 1084, Tel-Aviv 6101001, Israel whoprofits@gmail.com | www.whoprofits.org