



COMET-ME 2020 ANNUAL REPORT



COMMUNITY
ENERGY
TECHNOLOGY
IN THE MIDDLE EAST

EXECUTIVE SUMMARY

This report contains a summary of Comet-ME's activities from mid-2020 to mid-2021, constituting one of our largest and most ambitious project cycles to date. This was a technically, operationally, and politically challenging year, beginning with the looming threat of annexation and conducted under the constraints of the COVID-19 crisis and under the watchful eye of settlements, outposts, and the Israeli Civil Administration. We expanded our team to 23 to achieve our ambitious installation goals for this and the coming years, and to manage the growing size and geographical scope of our install base.

The highlight of the year was the installation of our largest renewable energy system to date. Large by global standards, the micro-grid in Ras Ein al-Auja near Jericho provides 120 kW of total rated power through 288 solar panels. The micro-grid has two interconnected electricity rooms, each with 12 charge controllers, 3 inverters, 3 strings of batteries of 2300 AH, a battery monitoring system, live monitoring system, and a backup diesel generator in the main room. The system serves 120 households, a school, and a mosque.

In our energy program, we installed renewable energy systems for 267 households in six new communities, providing 1,400 beneficiaries with reliable 24/7 access to electricity, enough for illumination, refrigeration of food, water, and medicine, cell-phone charging, television and radio, washing machines, and butter churns.

In our energy maintenance program, reaching 95 communities and over 8,000 beneficiaries throughout Area C, we completed the upgrades

of several of our earliest micro-grids (installed in 2010-2012) and provided ongoing maintenance and management of the systems in order to ensure the longevity of our systems and the sustainability of the services they provide.

In our water program, we installed 30 household water pumping, distribution, and filtration systems, reaching 180 individuals in 14 communities in the southern West Bank. In our water-quality monitoring program, we worked to upgrade both the monitoring program and the design of our filtration systems to address broader WASH and user-behavior issues to provide access to clean drinking water in a dynamic strategic context.

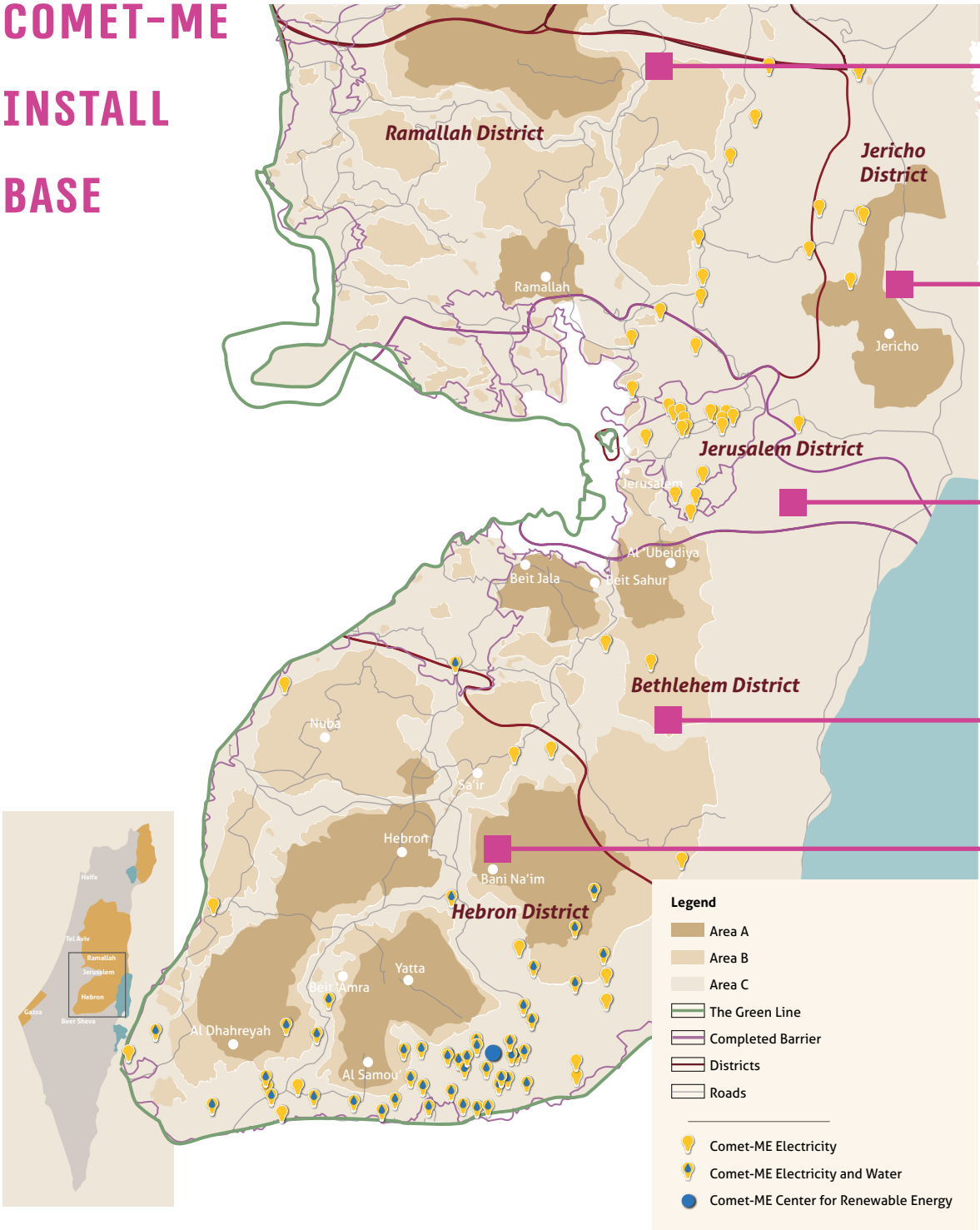
On the legal and political front, we handled two major demolition order cases along with our diplomatic donors.

On the R&D front, we continued with the development of our Solar Magnetic Piston/Plunger Pump (SMPP), a game-changing water pumping solution targeting smallholder farmers in the Global South. The last year has been dedicated to developing the two versions of the SMPP (Piston for low head-high flow applications and Plunger for high head low flow applications) and bringing them to a pilot ready state. The SMPP's innovative concept results in outstanding robustness, lowest cost of ownership, and fast ROI, lowering the risk for both farmers and lending organizations, thus setting the groundwork for increasing the pace of solar-pump adoption.



Photos Top left: Ryan Brand, Top right: Khalil Abu Sabha, Bottom three: Al-Diar Productions

COMET-ME
INSTALL
BASE



Ramallah & Nablus districts – Since 2016
Communities: 9
Households: 190
Total beneficiaries: 1,054

Jericho District – Since 2017
Communities: 7
Households: 219
Total beneficiaries: 1,089

Jerusalem District – Since 2017
Communities: 16
Households: 359
Total beneficiaries: 2,031

Bethlehem District – Since 2015
Communities: 4
Households: 58
Total beneficiaries: 250

Hebron District – Since 2009
Communities: 59
Households: 594
Total beneficiaries: 3,749

Water Install Base – Since 2013
Communities: 46
H2O systems: 380
Total beneficiaries: 2,981

Install Base December 2021

Total communities
95

Total energy beneficiaries
8,203

Total water beneficiaries
2,981

Total households
1,420

Total family-based systems
755

Total micro-grids
41

Total rated power
1.46 MW

CLIMATE OF OCCUPATION



Pastoralist communities around the world manifest various practices of climate resilience and flexibility—adapting the ways in which the herd is tended to and tasks are organized throughout the day, to different seasons and seasonal changes, preparations for unexpected climate events, and seasonal movement. For the Palestinian herding communities in Area C, climate hazards and challenges are inseparable from the way in which people experience the Israeli Occupation, which disrupts their everyday environmental conduct through formal state-led confiscations and demolitions, displacement and enclosure of land for military use or settlement, settler violence, restriction of grazing areas, and more. Denied all basic infrastructure and under constant threat of forced displacement, lack of energy is thus part of an overall climate precarity reproducing these communities over and over again as (climate) refugees, an assemblage of people and their herds, who, despite their great resilience and knowledge of existing in and adapting to harsh conditions, are forced to this climate refugee status.

Reliable access to electricity, provided through Comet-ME's systems, not only provides relief from the hardships of day-to-day life and broadens the range of coping mechanisms available to the communities (through access to lighting, refrigeration of food, water, and medicine, cell-phone charging, washing machines, television, fans, butter churns). Powering appliances and lights, electricity may also reshape the conduct of life, division of labor within the household, as well as gender and power relations. Women and children are naturally the main beneficiaries of the introduction of electricity, as they are responsible for most household tasks, taking care of the ill and children, and tending to the herds within the domestic space—feeding, milking, and producing the dairy products. Being exclusively responsible for all household tasks they are experts on the local use of electricity and a pivotal window into how electricity may reshape, improve, and stabilize life in new ways. (excerpted from an impact study conducted in cooperation with the Arava Institute for Environmental Studies, Dr. Miri Lavi-Neeman).



"When you used to drive by here at night all you saw was darkness. Now it looks like a village." (Abu Haitham, Ras Ein al-Auja)

Photo Ryan Brand

SERVICE AND SUSTAINABILITY



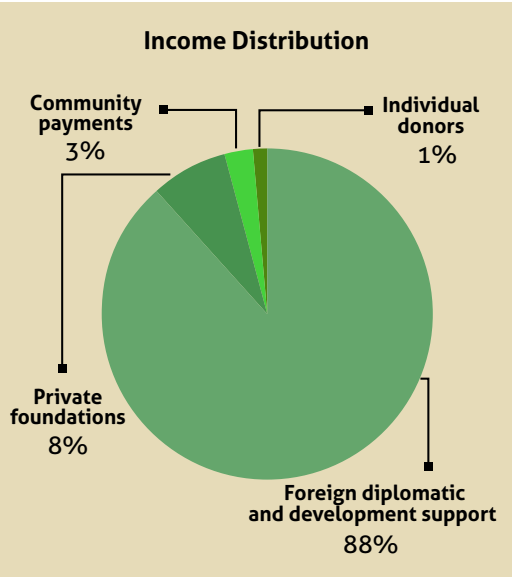
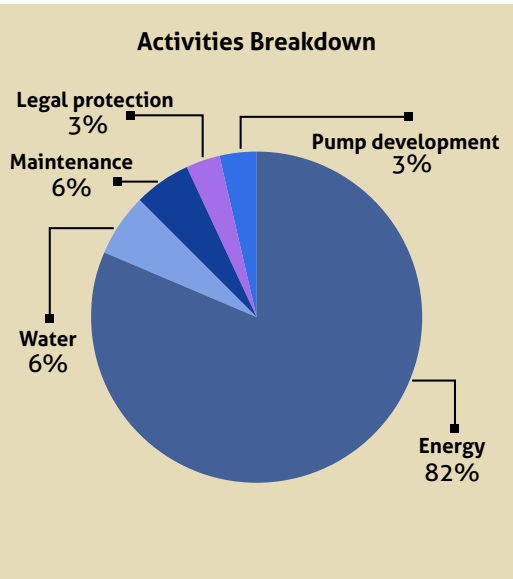
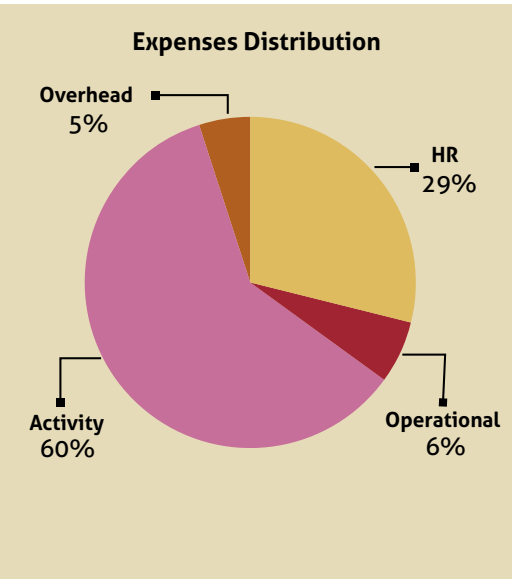
Photo Al-Diar Productions

The leader in rural electrification in Area C of the occupied Palestinian territories, Comet-ME designs, installs, and maintains renewable energy systems that provide electricity 24 hours a day, 365 days a year. Our renewable energy installations range in size from single-family systems to community-scale micro-grids, designed according to the needs and situation of each community. The energy systems provide 2.5 to 3.5 kWh daily per household—enough for illumination, refrigeration (of food and medicine), cell-phone charging, television, radio, and computers, water pumping, and use of basic appliances, in particular washing machines and butter churns.

But our projects do not end once installations are complete. Comet-ME ensures the sustainability of all of its past installations through reliable maintenance and management of systems—functioning in the day to day as a mini-utility company for 95 off-grid communities, 1,420 households, and over 8,000 beneficiaries to date. Our long-term engagement in the communities, through ongoing maintenance and management, legal support, and diplomatic advocacy to protect the systems and the communities they serve, ensures reliable and uninterrupted basic services to the communities and a modicum of normalcy within a highly stressful and coercive environment. Thus, Comet-ME has played a key role in the humanitarian development nexus in Area C and contributed significantly to building community resilience.

COMET-ME FINANCIALS

Total annual budget 9.5 million ILS
For the period April 2020-March 2021



An amendment enacted by the Israeli Knesset as part of the governmental campaign against Israeli civil society obliges us to point that most of the sources for Comet-ME's budget are donations from foreign governmental entities. Needless to say, we are proud to have on our list of donors democracies who share with us the belief that electricity and clean water are basic human rights for all people, and specifically for those living under military occupation.



Photo Elad Orian

WHO WE ARE

Comet-ME is an Israeli-Palestinian organization providing renewable energy and clean-water services to off-grid communities in Area C of the occupied Palestinian territories. Initially a volunteer initiative, Comet-ME conducted its first installations in 2006 and formally incorporated as a public benefit company in Israel in September 2009.

Our work over the past more than a decade has developed out of a long-standing relationship and commitment to the marginalized Palestinian communities in Area C. Today, we are a vertically integrated utility, providing basic energy services to 1,400 households in 95 communities, encompassing over 8,000 people. In 2013 we entered the field of off-grid water pumping and filtration solutions, and since then have brought our clean-water services to 380 households throughout our energy install base.

Today Comet-ME is the leading provider of sustainable rural electrification services in the region and an innovator in the field of off-grid water pumping technologies. Over a decade of experience in the field, we have seen how the provision of basic energy and water services to the marginalized communities in Area C has proven to be an effective means for community empowerment and economic development, helping communities remain and live in dignity on their lands.

BOARD OF DIRECTORS

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Dr. Yoav Lehahn, Yael Wagner Toby

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Noam Dotan, Technical Manager

Deputy Manager
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Ryan Brand

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Tamar Cohen

Financial Manager
Basheer Abu Baker, CPA

THANKS

Comet-ME is grateful for all the local and international donors, partners, research institutions and individuals who have made our work possible through support, advice, and collaboration.

DONORS

Netherlands Ministry of Foreign Affairs
German Foreign Office
British Consulate General Jerusalem
Irish Aid
Osprey Foundation
Rockefeller Brothers Fund
Swiss Olive Oil Campaign

And to all the individual donors who have supported our work and placed their trust in us.
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DelAgua Group
Hugh Piggott and Scoraig Wind
Wind Empowerment Association

GET INVOLVED

Our work is made possible through the generous donations of friends and supporters. Please consider supporting our work by making a donation at comet-me.org/donate/

Comet-ME is always looking for supporters, partners, and volunteers. Sign up for our newsletter or just get in touch at info@comet-me.org

For more information visit our website, comet-me.org

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Comet-ME 2020 Annual Report

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Text Tamar Cohen

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