

Will the Government Meet its Cleantech Goals?

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Tel Aviv

11/2011

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Operating the renewable energy technology center
Join Venture with the Government of Israel

Unique Holistic Model

Research

- Invest in Applied Academic Research
- Government to enhance RE in the academia

Ventures

- Invest in early stage start ups
- Including on-going investments

Test & Validation
Center

- Innovation to implementation



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INVESTING IN
RENEWABLE
ENERGY
TECHNOLOGIES

Our investors

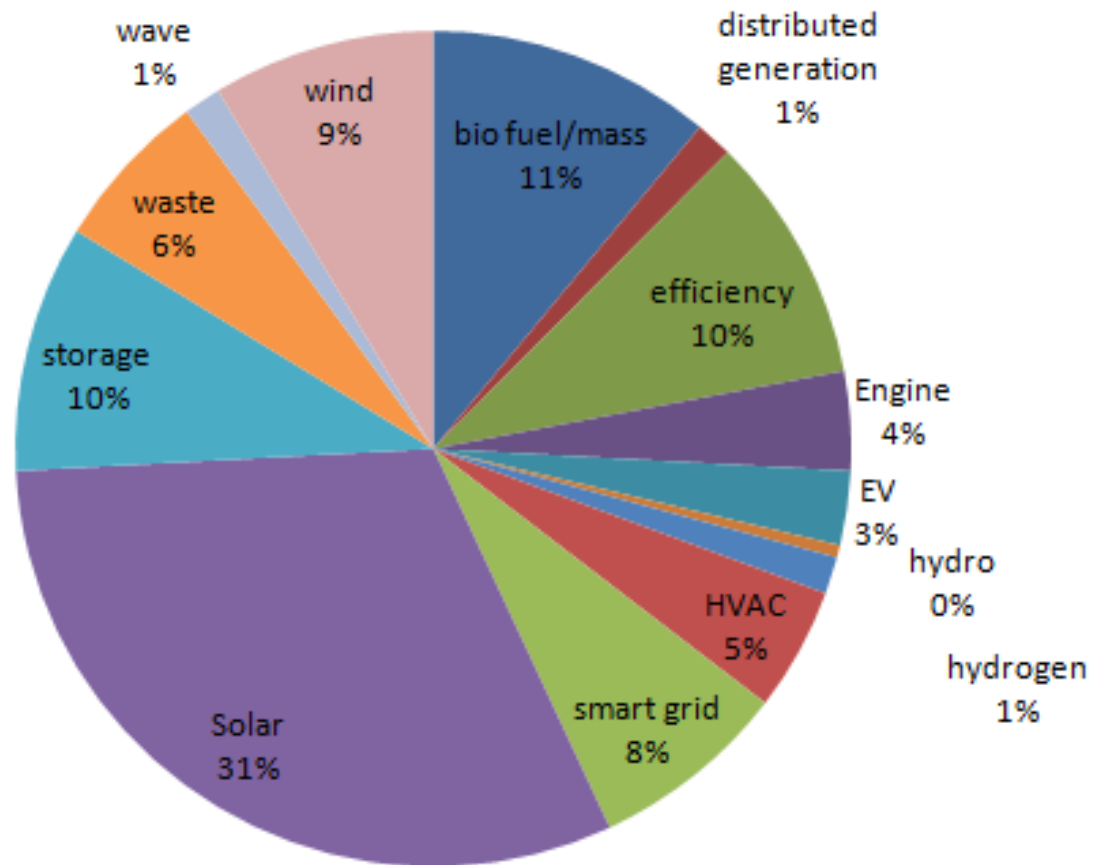


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Capital Nature Evaluated of over 200 companies and ideas in 1 year

Many related to the Israeli high-tech industry

Deal Flow Segmentation



Crossing the Valley of Death

Test & Validation Center

- Provide infrastructure and services for testing renewable energy systems
- 8 projects already in operation
- High exposure and business development opportunities
- Performance validation - on the way to bankability

Other Government incentives


- 50 MW quota for pilot projects
- OCS grants
- MNI strategy and pilot project grants
- Oil substitutes program
- Land without tender

More to do

- Encourage round A and VC financing
- Attract pilot projects by foreign innovation players




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FIELD TEST YOUR
RENEWABLE ENERGY
TECHNOLOGY IN THE
ARAVA REGION



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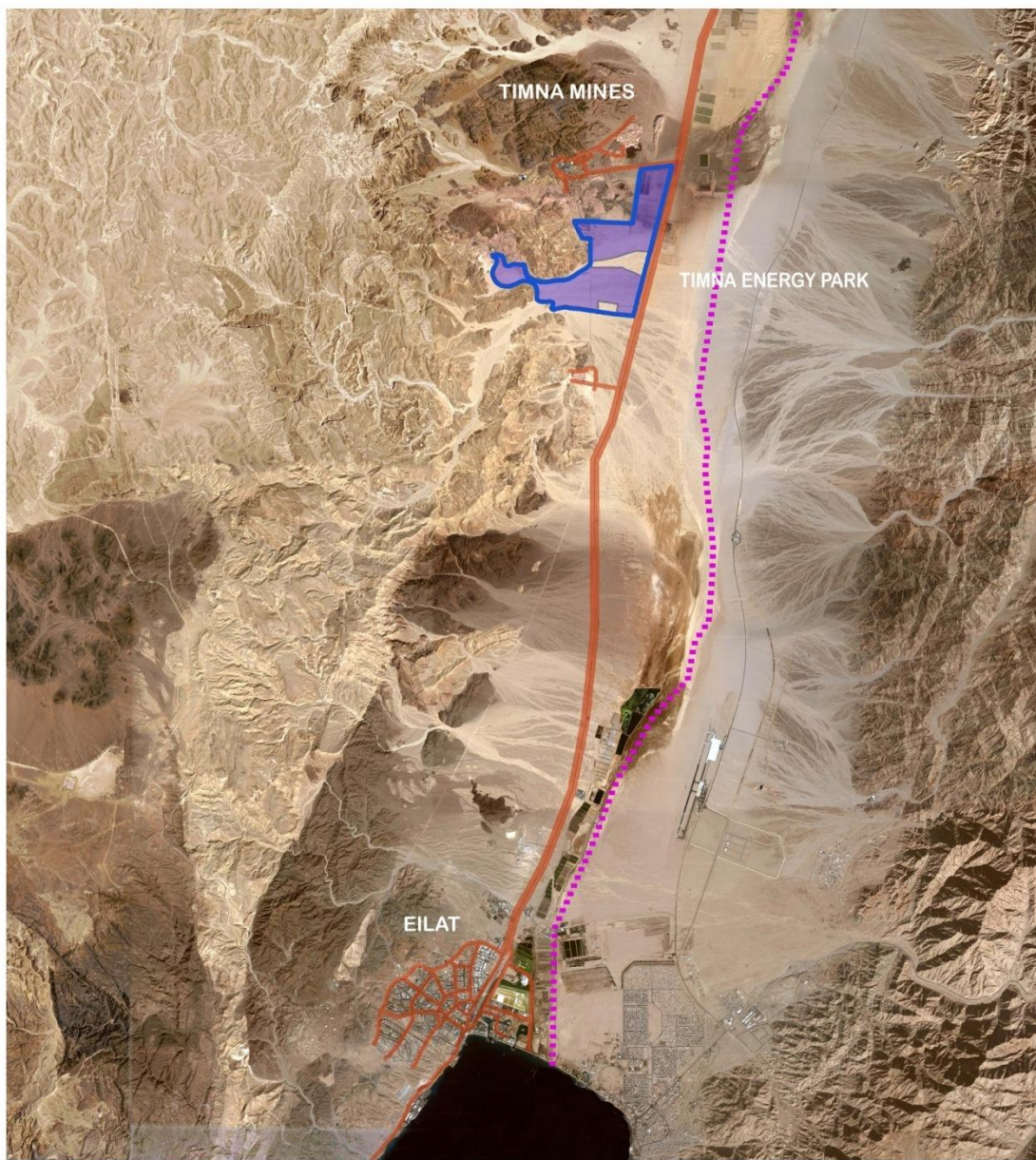
Aerial View of the CNE Area in the Arava



Solar Tower

Aora-Energy Solar Pilot Plant





Timna – 200MW solar project
First stage – 60MWp + max
output + innovation (?)

AIRPHOTO



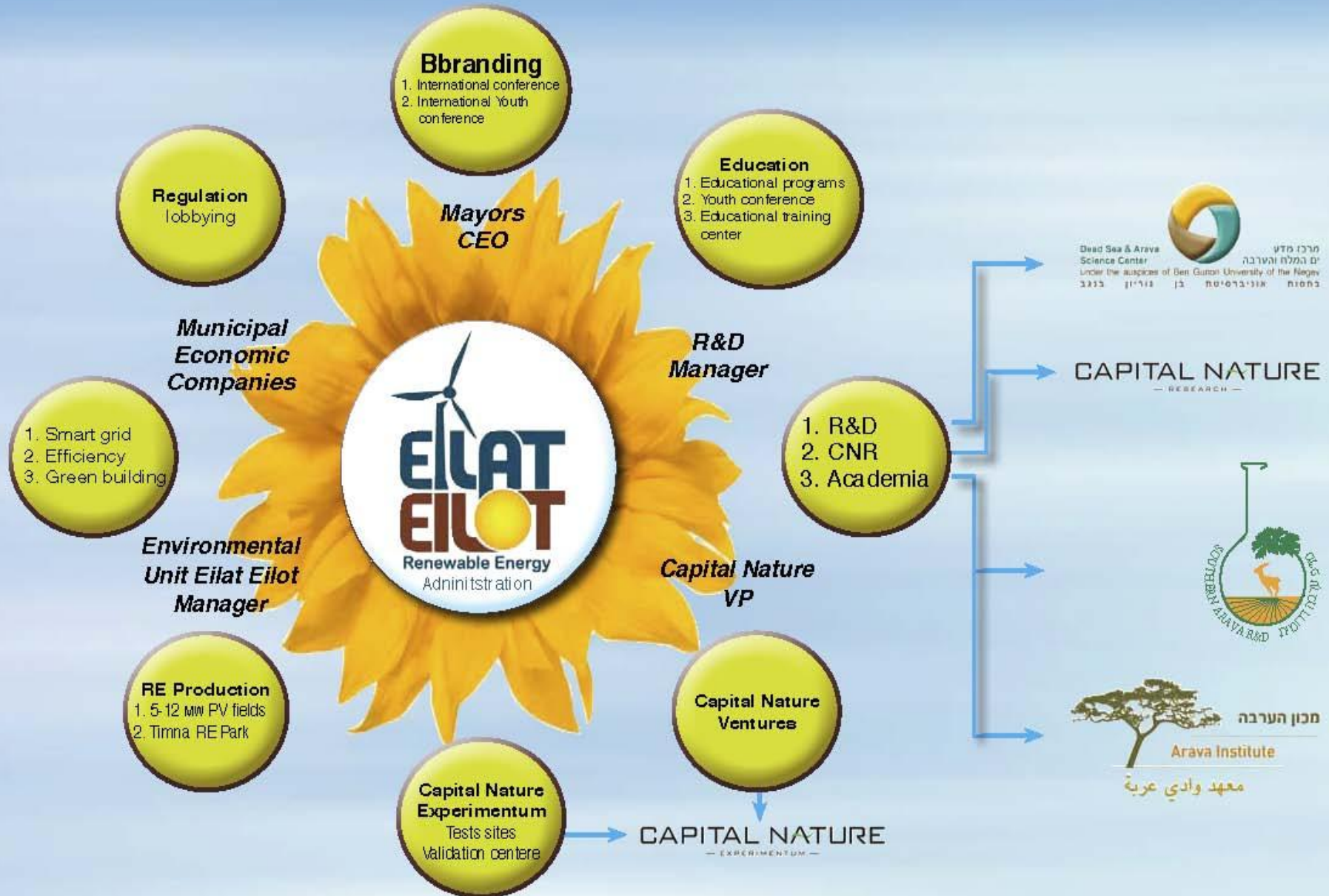
משרד התעשייה המסחר והתעסוקה



משרד התשתיות הלאומיות

מקיף פיתוח ותשתיות בע"מ
 MAKIF Development & Infrastructure Ltd.
 knafo + klimor architects

Eilat-Eilat RE Initiative Model





EILAT-EILOT RENEWABLE ENERGY
4th International Conference & Exhibition
Feb 22 - 24, 2011 - Eilat, Israel



Business – Innovation – Implementation - Policy

Over 1800 top level speakers and participants

Exceptional Business Networking

Leading RE Startups Presented

Launched at the Conference:

National RE Tech Center

Government Oil Substitutes Program

Government Emission Reduction Program

First Large PV Power Plant in the Arava

Next Conference - November 2012



Government targets in the energy market

- ✓ Renewable energy to constitute 10% of total generation by 2020.
- ✓ Energy efficiency measures to reduce total consumption by 20% by 2020 – reducing forecast demand from 80TWh to 64TWh
- ✓ Private generation of electricity to constitute 20% of total generation by 2020.

FIT for 20 years for specified quota

Rated Power	Quota [MW]	Licensed	Grid connected [MW]	FIT [NIS/kWh] [Euro/kWh]	Remarks
Solar Energy					
<15 kW	Not Limited		30	1.67 0.35	Until the end of 2011
<50kW	200		170	1.51 0.30	Connection to distribution lines
<12MW	360	300	8	1.44 0.28	Connection to distribution lines, applications received for 1600MW
<60MW >60MW	200			1.07 0.22 0.97 0.20	Connection to transmission lines, CSP ONLY
15MW<	200			0.98 0.20	Connection to transmission lines, PV ONLY

FIT for 20 years for specified quota

Rated Power	Quota [MW]	Licensed	Grid connected [MW]	FIT [NIS/kWh] [Euro/kWh]	Remarks
Wind Energy					
<15kW <50kW	30		0	1.59 0.32 1.24 0.25	Connection to distribution lines
>50kW	800	Not yet released		0.49 0.10	Not yet released
Biogas					
	210		23 (Biogas)	0.64 0.13	

Expected market penetration of renewable energies (installed capacity, in MW)

Year	Small PV	Medium PV	Solar up to 60 MW	Solar above 60 MW	Small wind	Large wind	Bio-gas	Waste and biomass	Total
2011	180	30	0	0	0	0	0	0	210
2012	250	150	0	0	0	20	0	0	420
2013	280	250	80	0	0	100	20	0	730
2014	310	360	120	130	30	200	50	20	1220
2015	310	360	160	200	30	300	70	50	1480
2016	310	360	200	270	30	400	90	50	1710
2017	310	360	230	340	30	500	110	50	1930
2018	310	360	260	410	30	600	160	50	2180
2019	310	360	260	470	30	700	160	50	2340
2020	310	360	260	470	30	800	160	50	2440

הרשות
לשירותים
ציבוריים

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Israel, a Solar Pioneer

Mature Israeli Solar Technology Companies

(Future of CSP?)

- **Siemens CSP – CSP Trough**
- **BrightSource - Utility scale solar tower**
- **Ormat – Geothermal and CSP**
- **SolarEdge - Inverters**
- **Tigo - Inverters**



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ENERGIES

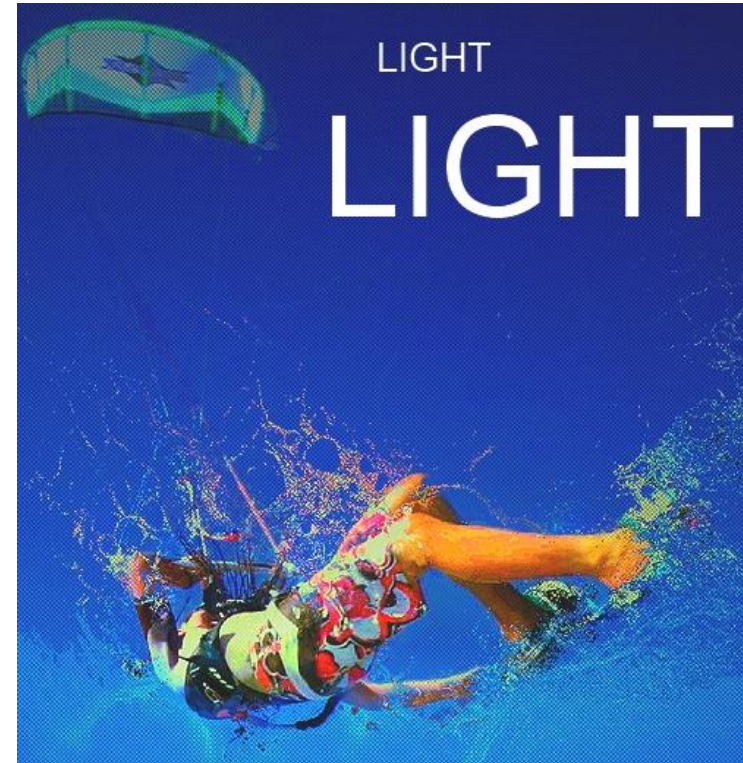
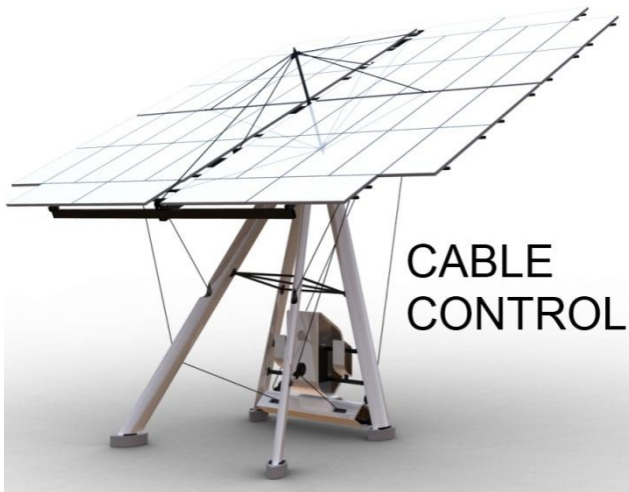
Renewable Energy Startups (advanced)

- Heliocus – Solar Steam to boost existing power plants
- MST – Utility scale CPV
- Pythagoras Solar – Solar windows
- Aora Solar – Distributed solar tower
- B-Solar – bi facial PV
- Zenith Solar – CPV cogeneration
- Solaris – Low CPV on water
- Verilite – Simple design CPV
- EnStorage – low-cost Fuel-Cell (RFC) energy-storage-system
- Watts & More – Micro inverters
- X jet
- Winflex – Inflating wind turbines



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Eternergy: Unique Design Concept



Market-leading solar power innovation
Excellent design and strong IP

Israel, Expert on Agriculture

Oil Substitutes Startups

- HCL – Cellulose Ethanol
- Univere – Holistic system for algae biodiesel
- Symbiotic – utilizing flue gas from coal burning power stations for algae cultivation
- Evogene - Castor Bean as a viable 2nd generation feedstock for Biodiesel and Biojet
- TranseBiodiesel - Enzymes for Biodiesel production
- Kaima - Doubles Chromosomes To Make More Plant Power
- EBZ – Bio-coal



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Smart Grid Startups

Will Israeli high tech giants join?

- Greenlet - energy management and Peak Shaving
- Panoramic Power - full transparency of its energy flow and usage
- Grid On - Fault Current Limiter (FCL) platform of solutions engineered to protect electrical distribution and transmission networks
- PowerCom - Smart Metering Technology
- Peak Dynamics - Meter data analytics
- Incom - Demand response and peak shifting



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The Sleeping Giant

Energy Efficiency Start-ups

- **Metrolight** - electronic ballast solutions for HID lighting systems
- **Phoebus Energy** - hybrid water heating system
- **PowerSines** - energy efficiency and electrical savings in outdoor lighting
- **Linum** – Home Solar AC
- **Better Place** - Electrical car infrastructure



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