

# Terra Venture Partners



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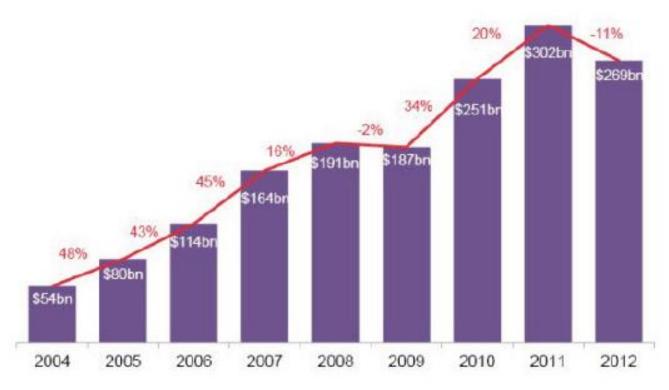
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# Total global investment in clean energy





Source: Bloomberg New Energy Finance

## Clean Technologies





#### Clean energy

- Wind
- Solar
- Renewable fuels
- Marine
- Biomass
- Geothermal
- · Fuel cells
- Emerging
- . Measurement & analytics



#### Efficiency

- · Smart grid
- · Green building
- Building automation
- LED lighting
- Data centers & devices
- · Smart appliances
- Semiconductors
- Collaborative consumption systems
- Infrastructure



#### Transportation

- + Vahicles
- Traffic management
- · Fleet management
- Fueling/charging infrastructure
- Vehicle-to-grid
- · Battery swapping
- Alternative fuel conversion



#### Water

- Production
- Treatment
- Transmission
- Efficiency
- Monitoring & compliance



#### Agriculture

- · Crop farming
- Controlled environment agriculture
- · Sustainable forestry
- · Animal farming
- Aquaculture



#### Energy storage

- Batteries
- Thermal storage
- · Mechanical storage
- · Super/ultracapacitors
- Hydrogen storage



#### Air & environment

- Emissions control
- Bioremediation
- Recycling & waste
- Materials reclamation
- Waste treatment.
- · Monitoring & compliance
- Sensors, measurement/ testing hardware



#### Clean industry

- Materials innovation.
- Design innovation
- Equipment innovation
- Production
- · Monitoring & compliance
- Advanced packaging

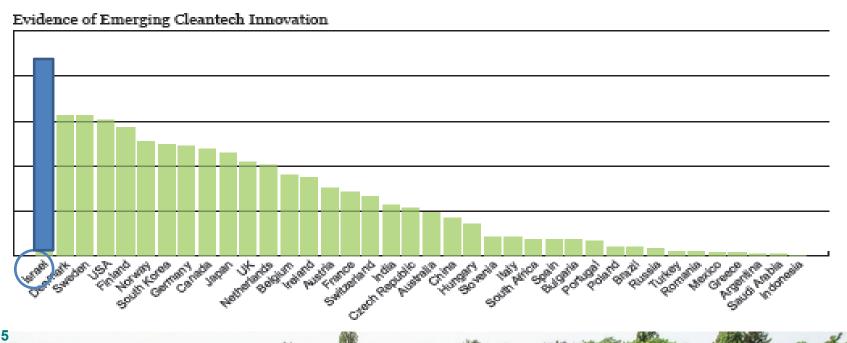
Source: Kachan & Co.

## Cleantech in Israel: Market Potential



Cleantech Global Innovation Index 2012: Israel is the world leader in emerging cleantech innovation companies

- Shortage of cleantech-dedicated money: 6% of venture money in Israel vs. 25% worldwide creates considerable opportunities
- **Government support**: Israel has **earmarked \$1B** to help cleantech become a leading sector and reduce oil dependency.
- Israel expertise: Water, Solar thermal, Efficiency, Green IT



# **Executive Summary**



#### > Terra Venture Partners II

Terra is the **leading Israeli multi-stage fund** investing in novel clean technology companies. We focus on efficiency, sustainability and wellness from pre-seed to early & growth stage.

Terra II won a governmental tender to operate a new Israeli technology incubator (Terralab Ventures), resulting in an exceptional 85% matching funds (5.5X) from the State of Israel (i.e. 550K\$ for each of Terra's seed investment of 100K\$).

Terra II leverages the success of the first fund, which has initiated some of the best companies in water and energy in Israel.

Terra Venture Partners II is targeting a **Final Closing of US\$60M** (with a First Closing of **US\$20M already secured** by many of Terra VP's original investors).



## The Management Team





## **Dr. Astorre Modena**, Founder & Managing Partner

- More than 12 years in venture capital
- Principal at Israel Seed Partners, a seed-stage Israeli VC with more than \$260 million under management
- Consultant at McKinsey Paris and Milan
- PhD in physics from Imperial College and post-doc from Ecole Polytechnique in Paris with more than 25 scientific papers including Nature
- Fluent Italian, Hebrew, English and French



## **Dr. Harold Wiener**, Founder & Managing Partner

- More than 20 years' industrial and operational experience
- A veteran in the world of biotechnology, chemistry and nutraceuticals (food supplements)
- Product development and marketing processes for early- and growth-stage companies
- Co-founder and Business Development Manager for Algatechnologies, VP R&D/Business Development at Aromor Flavors and Fragrances and the
- CTO of the Misgav Incubator, the leading medical devices incubator in Israel.
- PhD in applied chemistry from the Hebrew University of Jerusalem with more than 20 scientific papers and patents

## The Terra Venture Team





# **Barak Goldstein,** CEO Terralab & Venture Partner

- •Serial entrepreneur, created successful cleantech companies and a portfolio of renewable projects (\$1B)
- •8+ years in Private Equity
- •MA in economics, Executive program, INSEAD



#### Tovi Riegler, VP New Ventures

- •15 + years playing relevant roles as entrepreneur, manager, mentor, corporate buyer and investor in the areas of Internet and Enterprise Software.
- Head of Technology Ventures at SAP Labs in Israel (investments and M&A)
- •LLB & MBA



#### Itzik Ronen, CTO Terralab

- •22 years of managing multi-disciplinary R&D groups (4+ in cleantech).
- •Served in various senior R&D positions at: DIP-Tech, Orbotech, Sagitta and Nur.
- BSc, engineering, University of Bridgeport, Connecticut



#### Raphael Nejman, COO Terralab

- •7 + years in VC and fund raising.
- Corporate lawyer specialized in establishment of VC funds
- •Cross-border corporate finance, including Private Placement, M&A and IPOs
- •LLB and MBA



#### Larry Gross, Venture Partner

- •20 years' C-level executive, 7+ in Cleantech
- •Vice chairman, Idealab (managed \$1B high-tech start-up portfolio)
- •BSc, Engineering, Cal Tech Executive Prog. Stanford University

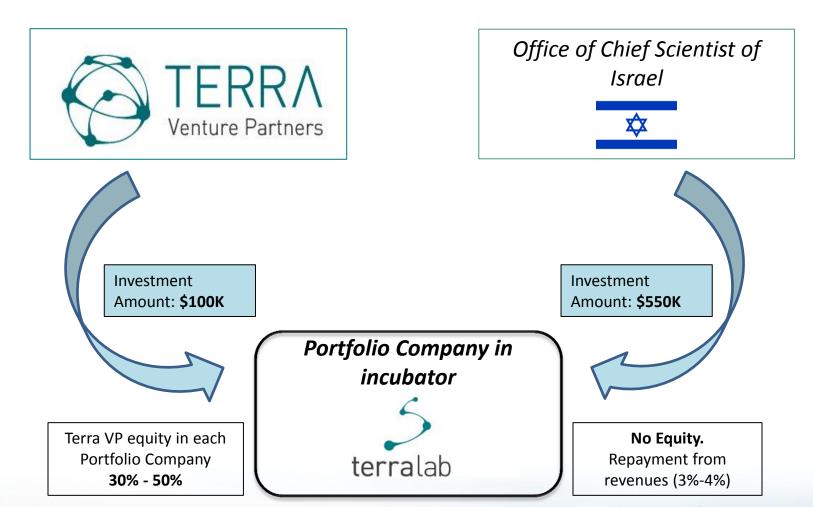


#### Benji Pushett, Director of Finance

- 12 years experience in venture financing
- 7 years at KPMG, focusing on high-tech
- Australian CPA

# Unique Investment Model





# **Risk Mitigation**



2 Year Incubation Period in Terralab 16-20 investments (4-5 per year)

"Cherry Picking" by Terra VP after incubation



TERRA
Venture Partners

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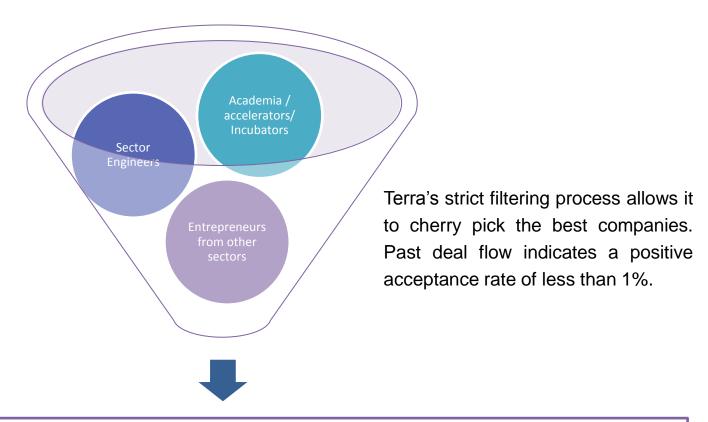
\$700K per portfolio company (including OCS matching fund)

\$1 – 3 Million follow-on funding by Terra VP

## Terra's Rich Deal Flow



## 1,200+ deals (1-2 new deals per day) from:



1,200 potential investment deals currently in Terra's database → 12 Viable Investments

# Value Creation Through Partnerships



Terra has strong and long-term relationship with industry leaders and signed strategic alliances with leading global corporations:

- Provides insight on markets and technologies, strategic benefits to Terra's portfolio companies, beta testing facilities and technical due diligence
- Additional corporate partnerships are being formed to strengthen Terra's unique network

EDP ranks among Europe's major electricity operators, as well as being one of Portugal's largest business group.



GE is a multinational conglomerate and a global key player in most fields of cleantech.

Enel is one of the largest utilities in Europe, active in 40 countries worldwide, with a strong focus on RE projects.



Veolia is a leading environmental services corporate in the fields of water, waste and mobility.

Cleanweb is a worldwide movement committed to solving the world's resource constraints problems through the application of IT

## Cleanweb Movement



The Cleanweb Initiative is a **member-driven organization** consisting of individuals and organizations who are building and **supporting the growth** of the cleanweb marketplace. Terra has been **selected as exclusive representative** of the Cleanweb movement in **Israel**.

## **Leadership and Support**





















#### **Communities**

The economic and impact potential of the cleanweb has inspired thousands of innovators to form local communities of cleanweb enthusiasts in 18 cities around the world.

# **Selected Top Stories**



Company	Sector	Buyer/IPO	Price / IPO Valuation
TESLA	Transportation	NASDAQ®	\$1.7 Billion
waze	Cleanweb	Google	>\$1 Billion
power-one-	Power Equipment	ABB	\$1 Billion
SilverSpring	Smart Grid	NYSE EURONEXT.	\$750 Million
SolarCity	Solar	NASDAQ®	\$584 Million
zipcar.	Transportation	avis budget group	\$500 Million



## Terra VP I: Overview



## \$25M Cleantech VC fund; among the top venture funds worldwide (vintage 2007)

- Israeli seed and early-stage companies; a diversified portfolio of 9 companies
- Four companies achieved significant up-rounds two write-offs
- Average stake in companies: ~40% ownership
- Investors: funds of funds, corporate and family offices mainly from Europe, USA and Australia.
- Rich interaction with numerous investors providing access to deals and expertise

#### The Terra VP I Portfolio



















# Terra VP I Portfolio: Phoebus Energy



# Installs new hybrid water heating systems for hotels, hospitals and other customers in combination with an AC efficiency unit

- The system combines a very efficient electric unit with smart algorithms and a controller.
- 70+ projects operating in the field, with an average 65% savings, 80% pollution reduction and a 1-3 year ROI
- Selected projects: Ramada, Crowne Plaza, Fatael chain, Holiday Inn, Marriott, Ichilov Hospital and many more



# Terra VP I Portfolio: WI-Charge





## Breakthrough system for wireless charging

- Sends safely charging power up to a distance of 10 meters
- Target applications: mobile phones, laptops, LCDs, speakers and other home/office appliances
- Recruited top CEO in Israel (> \$300M exit)
- Working prototype (up to 5 meters)
- Recently attracted investment from two top US funds, received large investment from key industry player for first product launch

# Terra VP I Portfolio: SmarTap



## Intelligent systems for reducing water consumption

- Digital shower system that replaces the old mechanical-thermostatic shower system and diverter.
- Great shower experience together with high water saving with simple installation and low cost
- Product is production-ready after certification, received initial orders from top industry players and hotel chains after very successful pilot
- Eco-innovation Award at the Cleantech 2013 summit

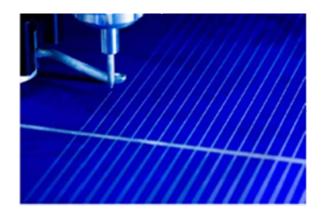




## Terra VP I Portfolio: PVNanocell







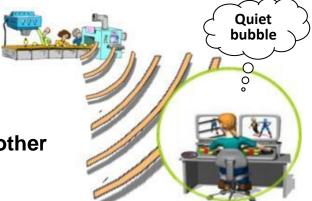
## Developing inks for solar cells metallization inkjet printing

- Inkjet printing can bring down by tens of % the cost of PV and allow it to reach grid parity
- Finalized development of its first ink and is in final qualification at a key customer
- After qualification the company will start shipping in quantities in 2013
- © Company roadmap: Move to copper to significantly reduce the cost and enter other mass production applications in printed electronics

## Terra VP I Portfolio: Silentium







# Breakthrough solution to reduce noise in appliances and other applications

- Noise-reduction ranges from 5-30dB (more than an order of magnitude)
- Target applications in HVAC, range hoods, aviation, home applications, IT/servers
- Quiet seat/bubble close to becoming a key product with applications in airplanes, cubicles, snoring, and more
- Selling to key customers Intel, Philips, Siemens, JCI, LG, Faber

# Terra VP I Portfolio: Linum Systems





**Very Innovative Solar Air Conditioning System** 



- Hybrid and seamless system based on a very innovative approach
- ROI<3years (compared to 10-15 of current technologies)</p>
- Key to naturally reduce peak electricity consumption for utilities
- Target areas: US sunbelt states, Southern Europe, Australia, South-East Asia, Central and South America
- Prototype working with good results







# Terra VP II - Fund Terms



Target Size	US\$60M	
Number of Investments	16-20 Seed Investments (TerraLab companies), at ~\$700K in total per company (Terra VP + government matching) 10-15 Early & Growth Stage Investments (mostly "cherry picked" from incubator)	
Average Investment Per Company	Total of \$2-\$4M per company during the lifetime of the company	
Focus	Primarily: Israeli and Israeli related Cleantech	
Fund Period	5 years for new investments,+ 5 years follow-up and divestment	
Management Fee	2% of Committed Capital	
Preferred Interest	20% Carried Interest to General Partner	
Target yearly IRR	~ 30%	
<b>GP Commitment</b>	4% up to \$2M	
First Closing	November 2012	
Final Closing by	Q1-2014	
Capital Calls	Capital Calls over 6-8 years	

## Well Positioned for Success



## Leadership

International team of managers with unique experience in cleantech.

Skill set and experience to position itself as leading venture capital in Israeli cleantech industry, enabling it to cherry pick best companies.

# Venture Partners

#### **Innovation**

Israel is one of the major technological innovation hubs outside of the U.S.

**Israel ranked #1** in the world of emerging innovation cleantech companies.

Terra can serve as a unique gateway to Israeli innovation.

### **Partnership**

Terra has **long-lasting partnerships** with some of the biggest industry names, allowing it to better understand the market needs and ensure clear exit strategy for its portfolio companies.

- ☑ Ensure industry potential
- ✓ Clear exit strategy

#### **Investment**

Innovative **investment model as coinvestor** with the Israeli government (state matching 85% (5.5X) for each of Terra's seed investment

- Risk minimizing
- ☑ Return potential maximizing



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