



WAVE ELECTRICITY RENEWABLE POWER OCEAN

**BLACKBIRD**INTERNATIONAL

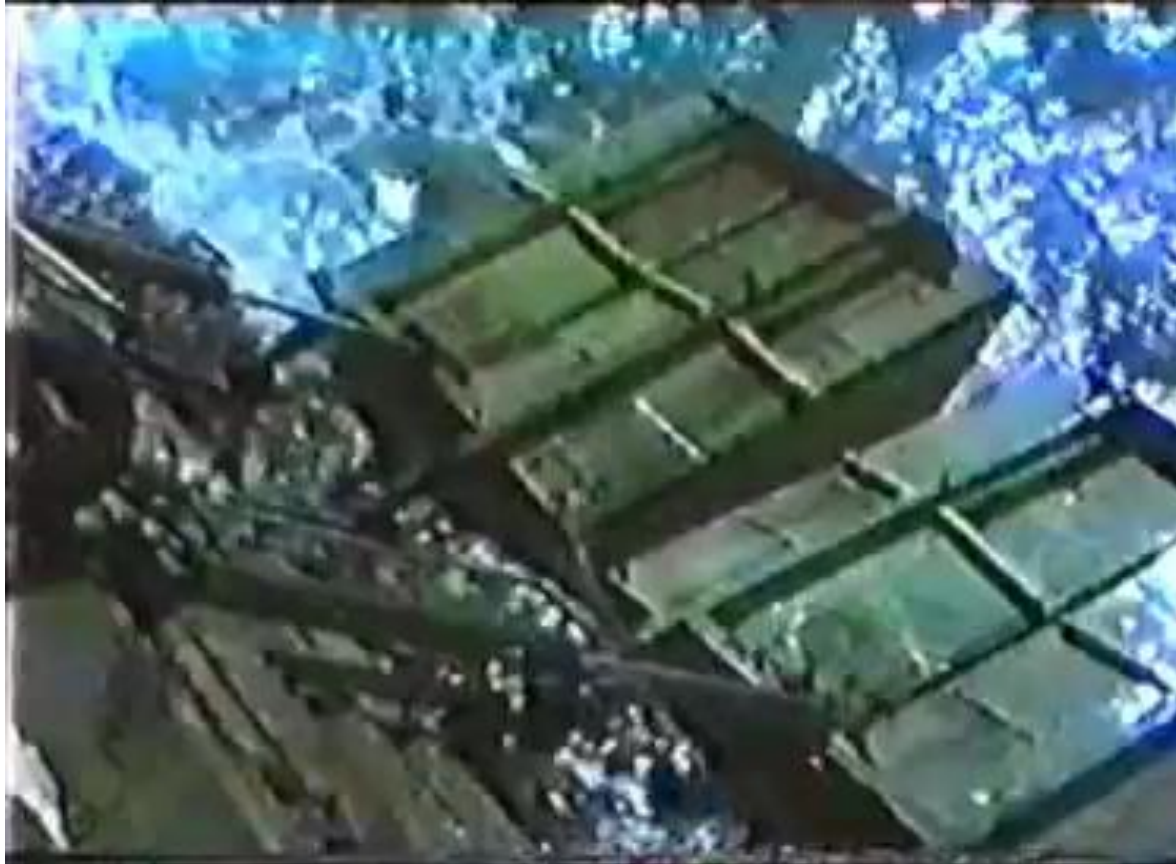
Business Plan 29.9.14

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# Operational Model at Jaffa Port



<https://www.youtube.com/watch?v=Bf5fOr8XjpY>

# New 150kW Sent to China



# Working Model

A large working model located in the company's offices in Tel-Aviv, Israel simulating the production of green energy from sea waves.



Video available at <https://www.youtube.com/watch?v=XadIXe0RBU0>



# The Company

WERPO has developed a unique and innovative sea wave technology to produce electricity.

WERPO was founded in 1996 with the aid of private and government funding encompassing a \$5 million (USD) seeding grant. We have since moved on to test and develop twelve different models of sustainable wave energy technology.

Our vision is to make wave energy production a significant force in the renewable energy sector. We at WERPO have the ability to realize this vision with the best available technology and decades of experience.

# WERPO's Technology

WERPO's technology is based on the utilization of sea waves to yield hydraulic pressure that produces electricity, while exploiting the full potential of wave speed, height, depth, rise and fall, and currents beneath the surface of the water.

WERPO's unique technology is the best choice in renewable energy systems due to its high energy efficiency, lower cost for power generation and low risk to the system. The system is made of modular components which require little space on land and can be implemented in any terrain easily.

# The Need for Clean Energy

Beijing 2013,  
The Guardian

“The lack of electricity is causing an environmental pollution since every hotel and factory uses a private generator without any filters and pollute the air with dangerous gas.



# The Need for Clean Energy

## – **Environmental Benefits**

- Renewable energy technologies are clean sources of energy that have a much lower environmental impact than conventional energy technologies.

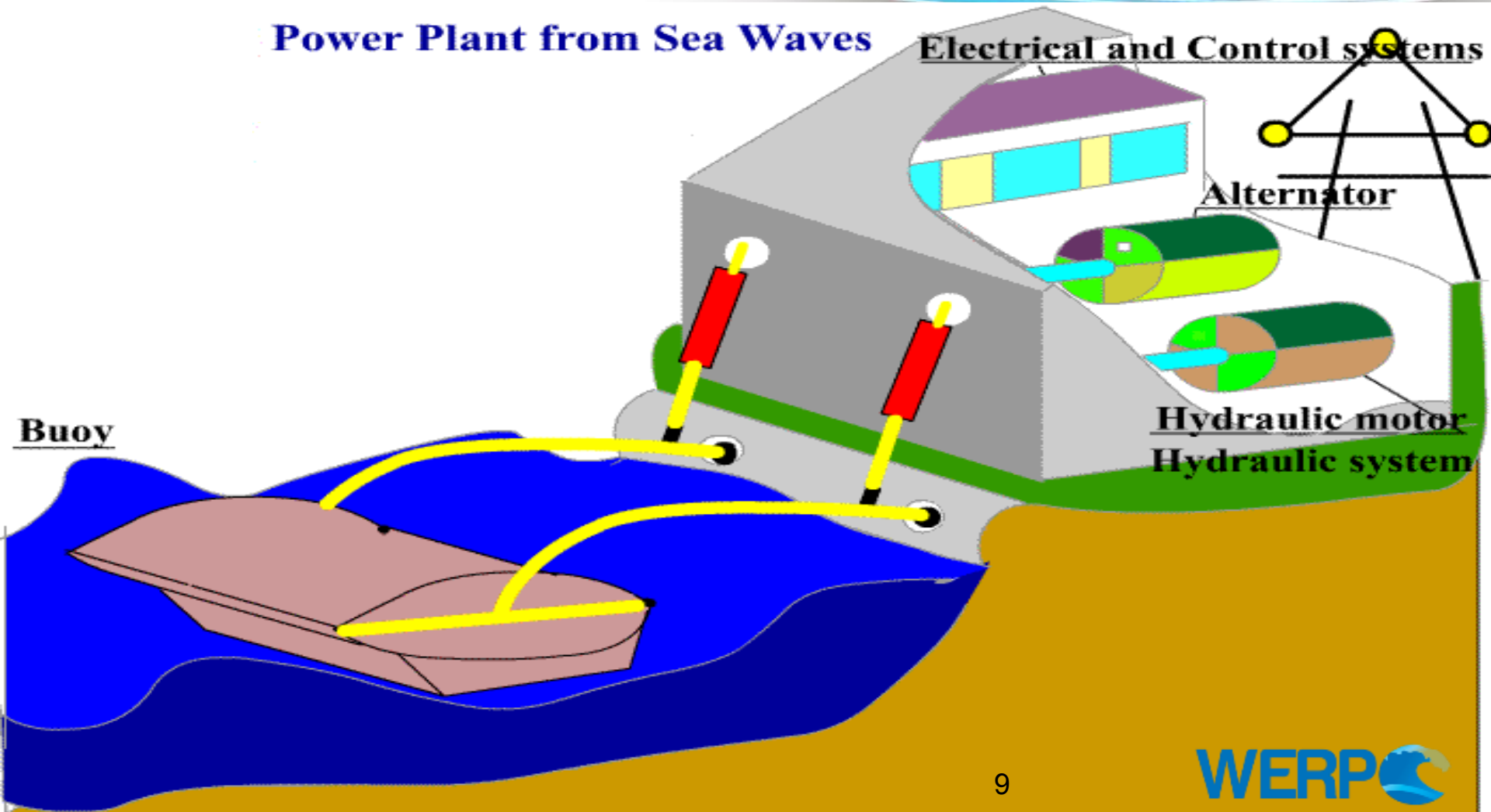
## – **Energy for the coming generations**

- Renewable energy will not run out. Ever. Other sources of energy are finite and will some day be depleted.

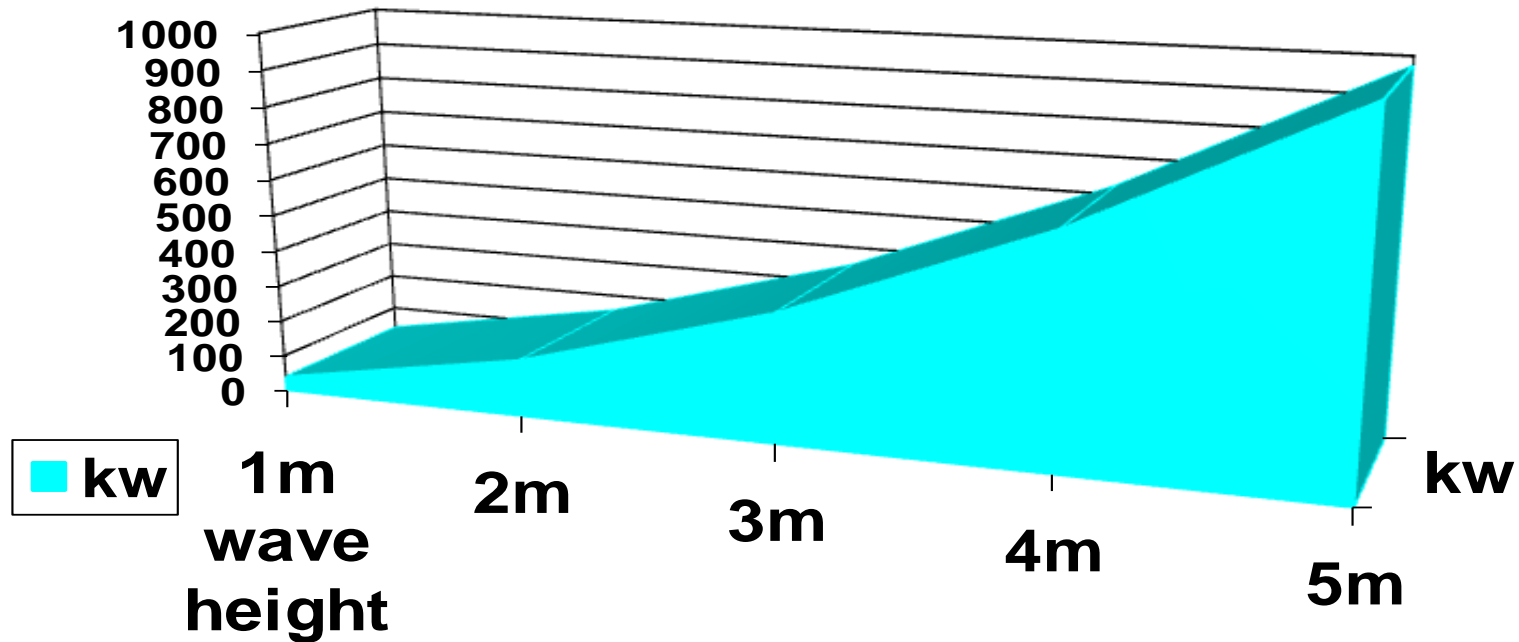


# How Does the System Work?

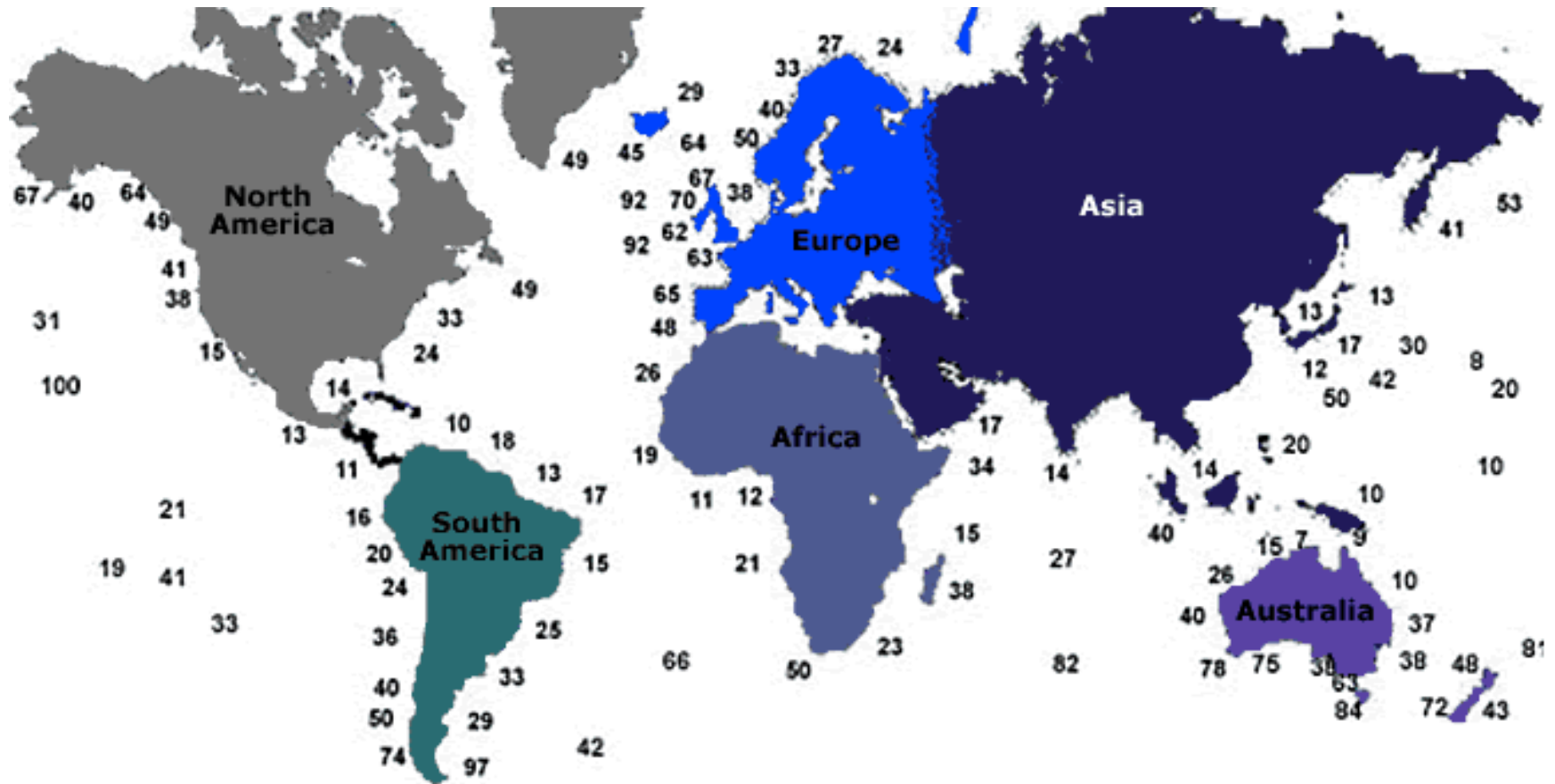
## Power Plant from Sea Waves



# Energy Wave Graph (Kw Quantity per Wave Height)



# Average kW Power per Meter of Wave



# Jaffa Port Pilot Report (2010)

The company has constructed several 60 KW models on a 4 m stretch of beach in Jaffa.

The models worked for a number of years in comfortable sea conditions. The models were tested and confirmed in a report by independent engineers.

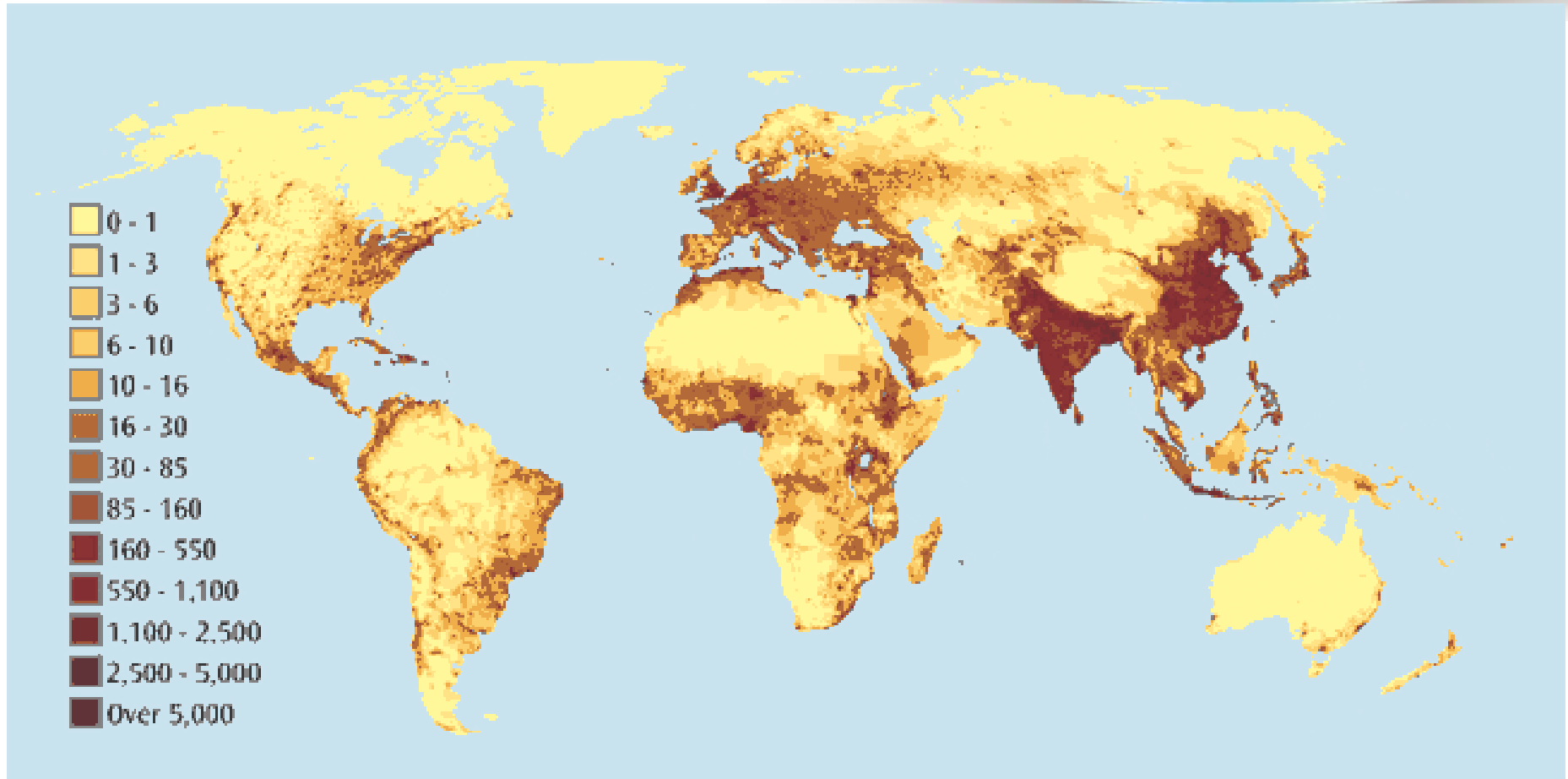
	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
<b>Avg wave height (m)</b>	1.33	1.58	1.32	1.44	1.45	0.82	0.93	1.34	1.19	0.82	0.77	2.78
<b>Kwh per 1 meter wave (Kw/h)</b>	25	30	25	28	28	10	11	25	23	10	8	100



# Advantages of the Technology

- Environmentally friendly
- Low production cost
- Low maintenance and low operating costs
- Relatively short construction time
- The system is easy to use and operates automatically
- The system can be tailored to any sea condition, providing there is wave potential
- The system can help protect wave breakers
- The system has several features to guard itself during severe weather conditions


# Worldwide Population Concentration



# Patents and Current Initiatives

- WERPO currently holds a PCT international patent (registration number 116027), as well as a large number of patents, and patents pending, worldwide..
- WERPO currently holds a Patent in Israel, China and Sri Lanka

# Other Renewable Energies

	Pottential Efficiency	Production cost of a 1 MW (\$)	Production cost per Kw (\$)
	65%	Around 1M	0.02
Wind Energy	24%	1.8 M	0.12
Solar Energy	22%	1.9 M	0.16

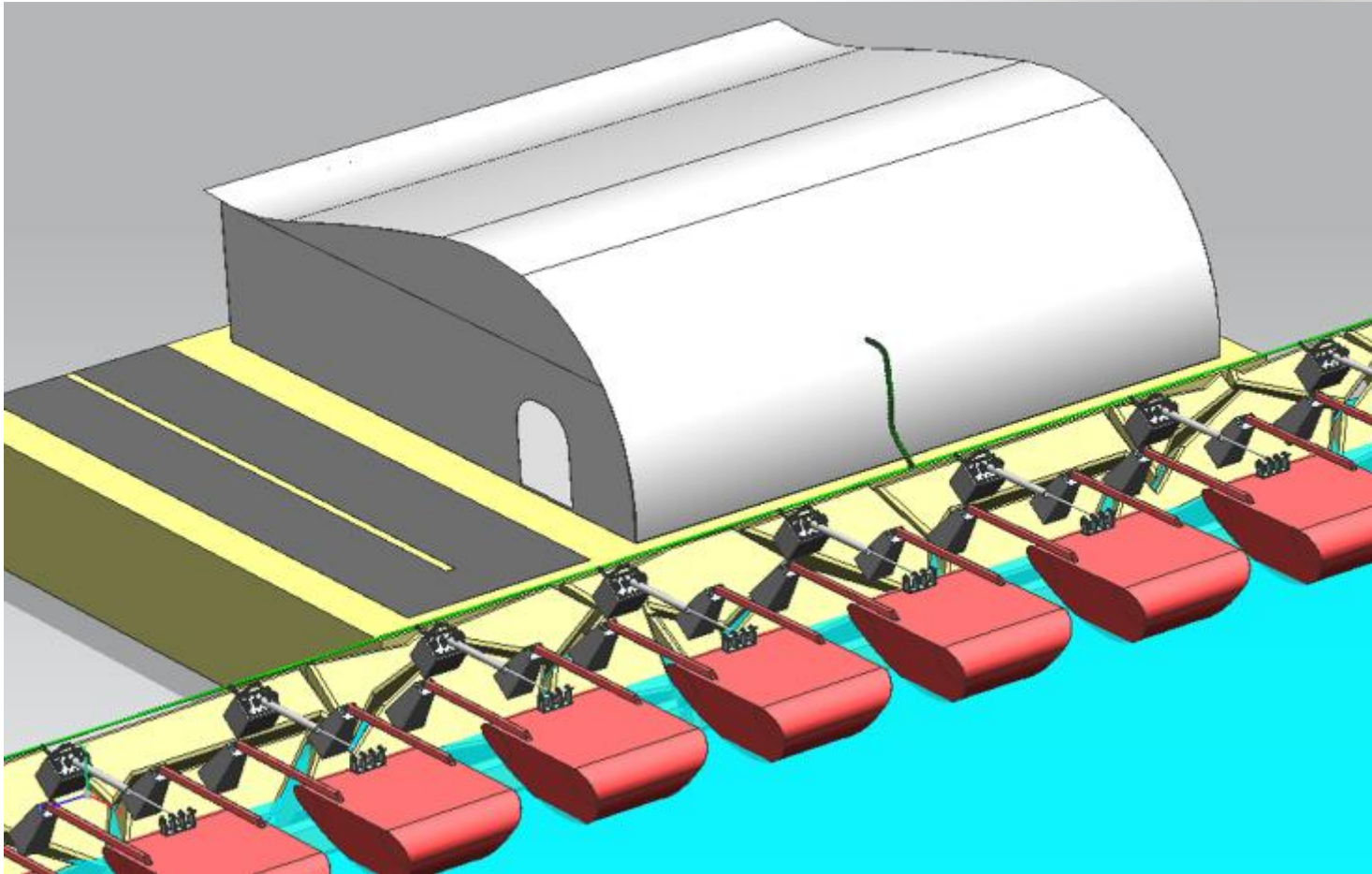


# WERPO's Experience

***Independent team of scientists on behalf of “Pure Energy Systems” have tested our models and ranked our technology as number one in the world in their category.***

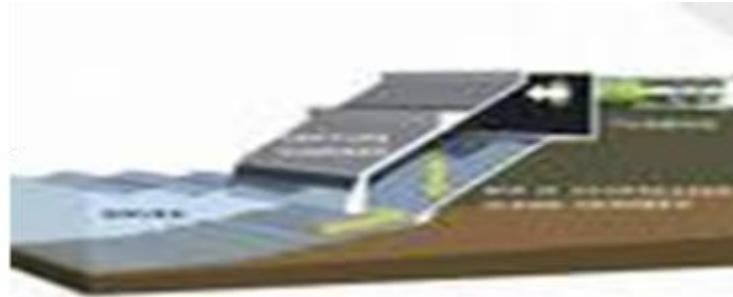
The company has built 12 models and has established 11 joint ventures with local partners in 9 different countries. Construction of the last power plant in Israel, Jaffa port, of a 60 KW has exceeded expectations, achieving the highest efficiency rate in the world.

# Illustration of our Power Plants



# Main Competitors

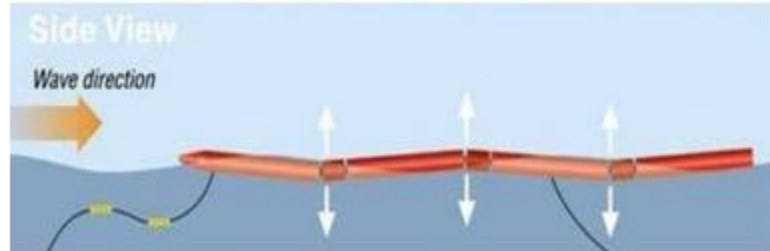
OSPREY (Wavegen)  
Scotland



Aquamarine  
Power



Pelamis



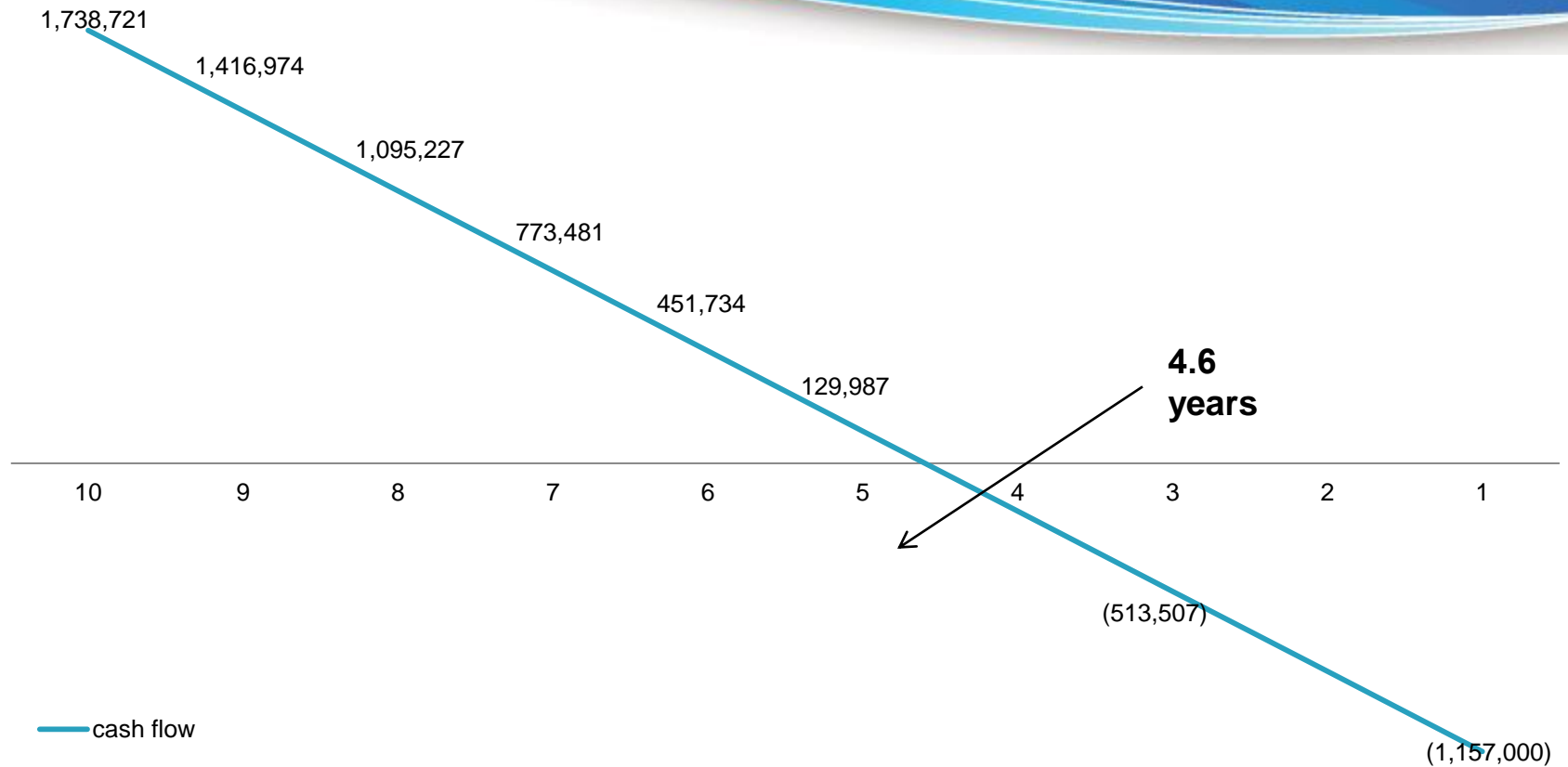


# Competitors Cons

- Construction costs are higher than average
- Limited power station size due to technological complications
- High maintenance costs
- Very dependent on sea conditions
- Systems can not be disabled during storms

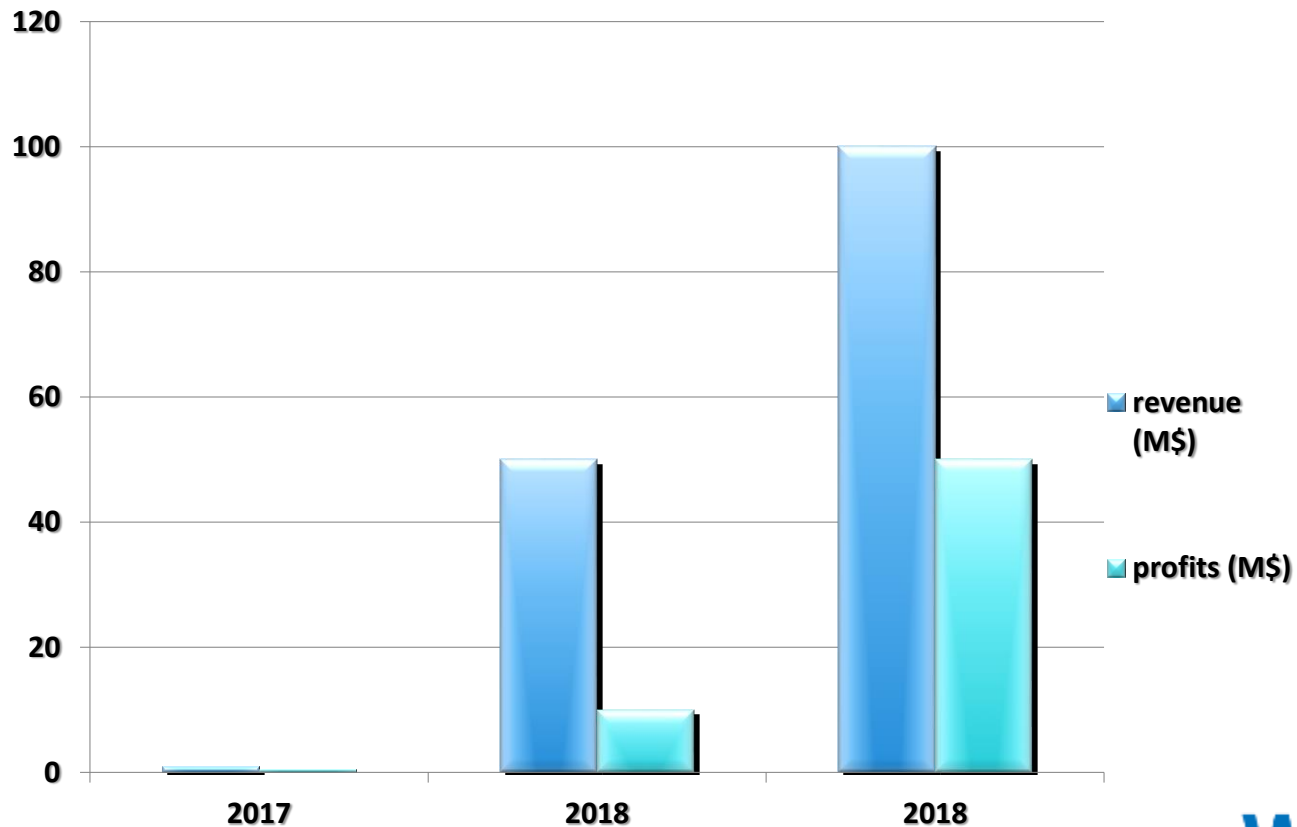


# Estimated Cash Flow



# Company Revenue Projections

Projection of profits base on the assessment of income mainly from the sale of PP, as well as technical expertise, factoring in expenses.



# Investment Opportunities

- **Stock Market**– we completed a reverse merger for a public shell in Canada BBRD and thus transitioned into a publicly held company.
- **Project in Guinea Bissau** – we have a signed PPA and the government as a partner for 30% of the project. An initial 100 MW project to be expanded to 500 MW.
- **Project in the Republic of Conakry** – we have a signed MOU and the governments request to visit in order to move forward with a PPA for a 100 MW station.

Please keep in mind these are mere examples and for any further opportunities or information you may contact WERPO personnel directly.

# Success Cases

From the establishment of the company, the company has built 12 models in the Jaffa port, Israel.

We implemented a Power plant in China of 150 KW . The implementation is in collaboration with our Chinese partners.





# Production Estimations for 1MW

Quantity	Units	
Production	kW/h	1,000
Hours per Year	hours	8,760
Days without Waves	percentage	25%
Uptime	percentage	90%
Total Production	kW/h yearly	591,300,000
Feed in Tariff \$	kW/h	0.18
Total income \$ (gross)	USD	106,434,000
Costs per year (\$)	USD	23,652,000
Cost per kW/h (\$)	USD	0.04
Selling price kW/h	USD	0.08

**ROI within 2.5 years !**

# A Short Overview

For a quick overview of our company, please find our video at the following link:

<https://www.youtube.com/watch?v=cvBIPFHVbbA>



**Thank You,**  
Shmuel Ovadia  
CEO and Inventor

**שמואל עובדיה**  
**ממציא פטנטים**

