



Affordable, scalable, renewable energy  
solutions for grid-tied or off-grid systems



# Reliable Renewable Energy Survives Typhoon and is the only Power for Kilometers

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Ideal for streams, canals,  
dam tailraces, bypass flows,  
unpowered dams, tidal flows,  
and industrial water loops.

## Turn Running Water Into Power! Helios PowerWheel™

### Convenient

- ✓ Easy to install and maintain.
- ✓ Integrates with solar, wind, and battery.
- ✓ Generates 3X the power of similar wind and solar systems with up to 50% lower lifetime cost.

### Versatile

- ✓ Optimized for slow, fast, shallow, and sub-zero water.
- ✓ Built to last 30+ years in water.
- ✓ Sizes range from 40 watt to 10 kW and larger.

### Innovative

- ✓ Patented gearless generator and wheel design.
- ✓ Flow-through technology allows aquatic debris passage and retraction during storms and floods.
- ✓ 100,000 hours of product development, and testing.
- ✓ Four patents in 37 countries with more pending.

## Minimal Depth and Flow Requirements

Requires only 15cm of water depth and 1 meter per second of water flow to operate. Perfect for small streams and canals, too small and shallow for conventional hydro.





- ❖ Typhoons, hurricanes, and other natural disasters often disrupt power lines for days, weeks, or even months
- ❖ Rural communities and areas with poor grid infrastructure are hit even harder.
- ❖ These tragic events can become life threatening as food, medical supplies, and clean water may be at risk if power is interrupted.

For the small village of Balingasag in the Philippines, this threat became a reality as Typhoon Odette hit the region with deadly force. Knocking out power in all nearby cities and most of the countryside for weeks.

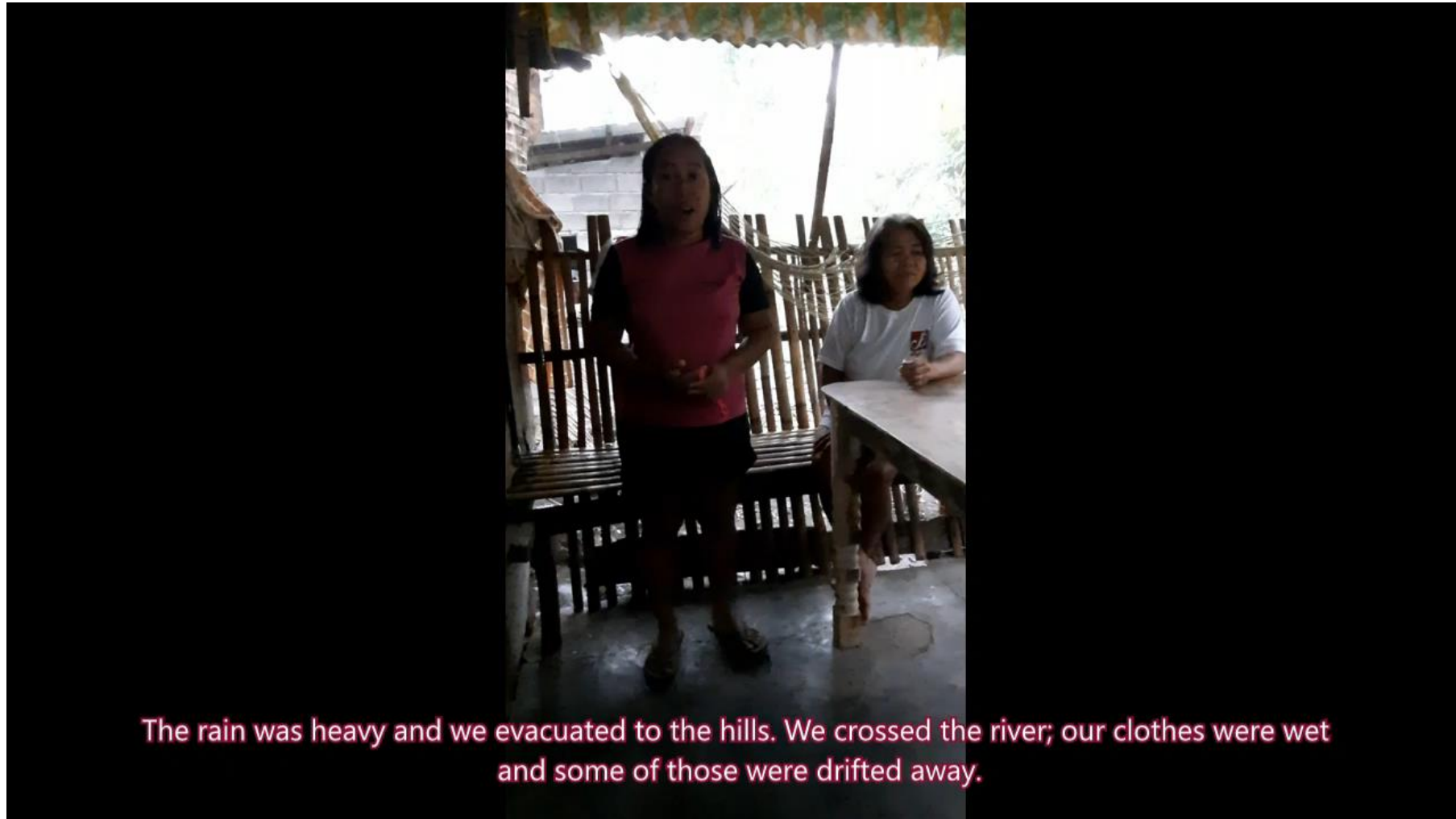




- ❖ Villagers raised the unit out of the water while the typhoon passed. They spent about 48 hours sheltering from Odette.
- ❖ Once the storm died down, they returned in the evening and lowered the unit back in the water.
- ❖ Immediately they had access to power for cooking, lights, as well as recharging phones and devices.

The Helios PowerWheel played a major role in the recovery of this village.







- ❖ All of the roads were washed out from the rain
- ❖ All the diesel generators ran out of fuel.
- ❖ There was no grid power for over a month.
- ❖ Everyone from neighboring villages came by to charge their phones and devices
- ❖ This was the only power source for many kilometers.



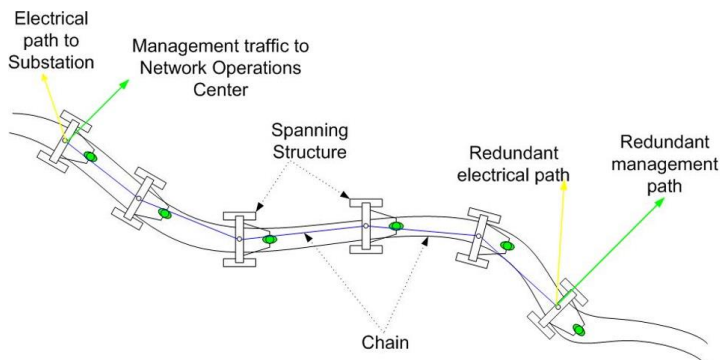
- ❖ Helios PowerWheel™ features our unique Flow-Through Technology
- ❖ Allows debris and marine life to freely pass under the unit without disrupting water flow.
- ❖ Sensors will automatically raise and lower the unit based on detected changes in water levels or issues with wheel rotation.
- ❖ This remote controlled motorized system allows easy raising and lowering of the unit for maintenance, high water, or seasonality.



## Helios Hydro-Farm™

### Fully Modular Micro Hydro System

- ✓ Similar to a wind farm, multiple units can be connected on the same canal or stream to form a single array.
- ✓ Configure units in series or in parallel depending on the width, slope, length, and condition of the waterway.
- ✓ This modular design can be applied during the initial installation or implemented anytime thereafter as energy needs increase.



## Helios Micro-Grid™

### End to End Remote Power Solution

- ✓ Complete power supply network.
- ✓ Integrates with solar, wind, diesel, and any other power source.
- ✓ Perfect complement to microgrids using wind and solar, which often cause wide voltage swings and stability issues due to their intermittency.
- ✓ Works as part of a grid-tied system or stand alone microgrid management system.
- ✓ Offers a levelized cost of energy (LCOE) 50-80% lower than similar systems including solar, batteries, and diesel.



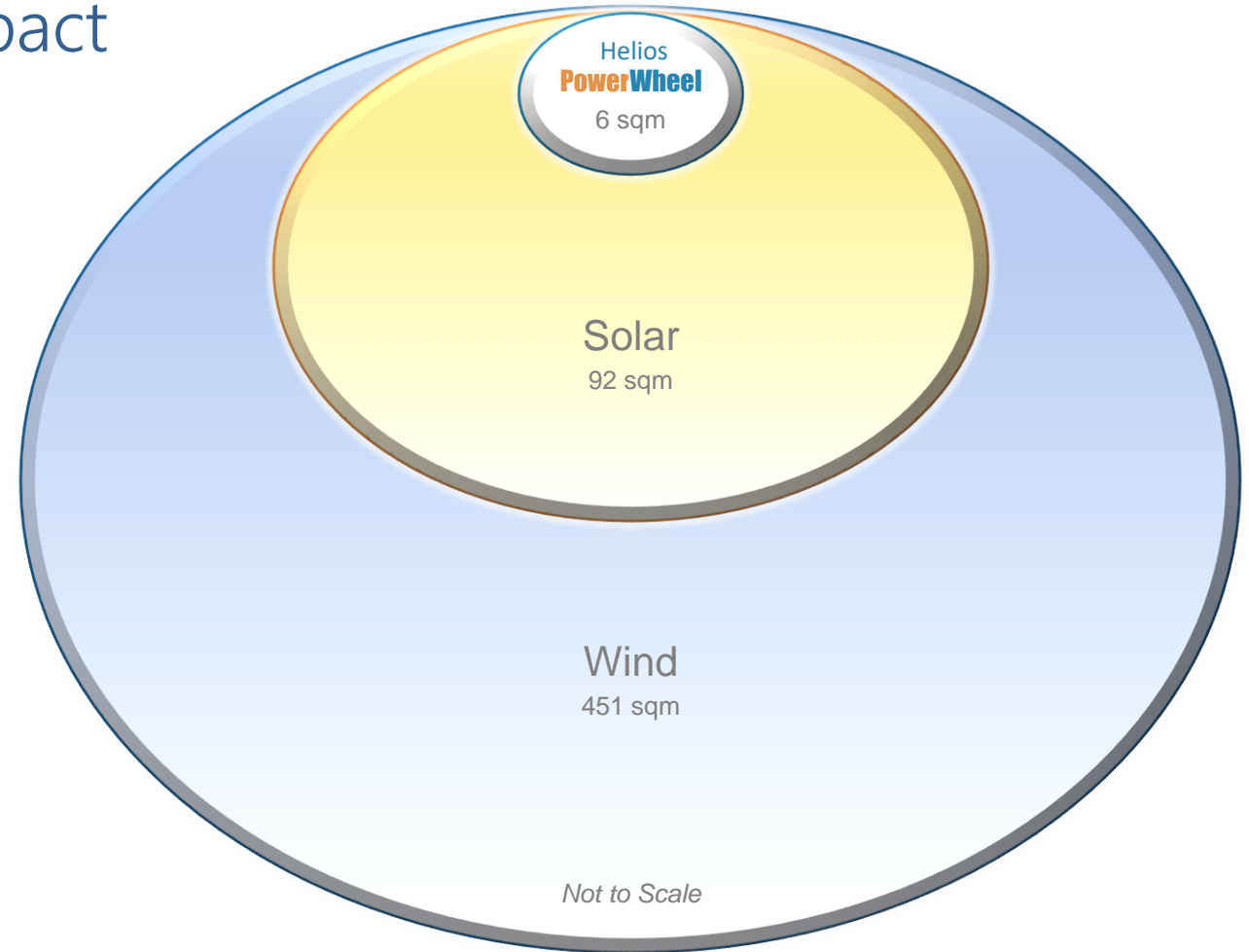
## Maximum Power, Minimum Impact

### Smallest Environmental Footprint on the Planet

- ✓ Many renewable energy systems require significant physical and economic resources to operate.
- ✓ The Helios PowerWheel offers the smallest environmental footprint of any comparable energy system on the planet.
- ✓ Requiring only 6 sq. meters to produce 102 kWh in 24 hours.

### No Environmental Impact

- ✓ Patented Flow-Through technology allows full aquatic and debris passage.
- ✓ Remote suspension system removes unit from water during storms and floods.
- ✓ No impact on fish, wildlife, or surrounding environment.



## Turn Running Water Into Power

In addition to supporting rural electrification efforts, Helios technology can be used in a variety of commercial applications.

- ✓ **Alternatives to Conventional Power** – Utility cooperatives, private companies, and government agencies seeking alternative energy solutions.
- ✓ **Non-Powered Dams** - Thousands of non-powered dams, dam tailraces, and dam bypass flows throughout Southeast Asia can generate power with no disruption of dam infrastructure.
- ✓ **Industrial Canals** – Chemical plants, water treatment facilities, and other operations are able to generate power from their own water circulation canals and industrial loops.
- ✓ **Water Pumps and Irrigation** – Our remote controlled units provide 24/7 power for operating water pumps and irrigation systems, capable of supporting millions of acres of land in areas where solar and battery power are not feasible or economical.



Contact us if you want to add micro-hydro to your energy mix.



# HeliosAltas supports the UN 2030 Sustainable Development Goals in the Following Ways




We recognize that supporting rural electrification in Southeast Asia also supports economic development for these communities, provides a safer environment for families, refrigerates food and medication, delivers heat for cooking and comfort, light for safety, and increases opportunities for education and learning.

Working with local partners, we're creating jobs while reducing the carbon footprint with renewable technology that does not harm the environment.







We look forward to  
talking with you about  
creating emergency  
power stations for  
natural disasters



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