About Natel

Natel Energy is a privately held water+energy innovation company based in Alameda, CA.

Natel is the leader in distributed, utility-scale hydropower systems - EcoSmartHydro™ - producing dispatchable, reliable electricity at $0.03 to $0.05 per kWh using the innovative, patented turbine called the hydroEngine™ that is suitable for low-head, high-flow settings.

Natel identifies, designs and develops EcoSmartHydro™ projects using the company’s proprietary watershedOS knowledge and analytics platform.

Natel currently manufactures hydroEngines™ up to 1 MW in size from a domestic US supply chain.
Disruptive Water+Energy Business

Hydro is a great renewable resource - baseload, reliable - with a problem → complex, large, custom plants with negative environmental and social impacts.

Conventional hydro is like jumping from the top floor - Natel’s EcoSmartHydro™ is like walking down the stairs → simpler, smaller, modular plants.

Distributed, adaptive, climate-resilient, modular plants networked together to deliver utility-scale, reliable power from an intelligent, responsive system that optimizes the natural resource productivity of water and watersheds.

watershedOS is the brains hydroEngines™ are the bricks EcoSmartHydro™ is the blueprint
Hardware Innovation
hydroEngine™

A new environmentally friendly turbine designed for high performance in low pressure, large volume water flows with simplified civil works and installation.

SLH turbine VS Bulb turbine: Plant excavation

- **SLH turbine**
- **Bulb turbine**

![Graph showing excavation comparison between SLH and Bulb turbines](image)
Hardware Innovation
hydroEngine™

- Modular, mass-produced
- Simple plants, minimal excavation, less concrete
- Compact, high performance
- Moderate operating pressures

- 15% to 20% less expensive turbine
- 30% to 50% lower installed cost
- Fish friendly operation
- 3 to 5 cents per kWh
Software Innovation

**watershedOS**: a knowledge and analytics platform for water+energy projects

**Solutions**: Interactive cloud deployed dashboards updated in real / near real time

**wOS Developer**
identify, screen, design and develop EcoSmartHydro projects to achieve prioritized results (eg: dispatchable hydro, groundwater recharge, runoff management, wetland restoration, etc)

**wOS Manager**
connect, monitor and manage distributed EcoSmartHydro projects to create an intelligent, networked, responsive system that optimizes the natural resource productivity of water and watersheds for energy, environment and economics
Project Innovation

...is a blueprint to develop distributed, utility-scale, impact-minimizing cascades of climate-resilient hydropower projects - both retrofits of existing infrastructure and for new build.

<table>
<thead>
<tr>
<th>EcoSmartHydro™</th>
<th>Conventional High Dam</th>
<th>EcoSmartHydro™ Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flooding Area</td>
<td>114 km²</td>
<td>15 km²</td>
</tr>
<tr>
<td>Flooded Cropland</td>
<td>77 km²</td>
<td>10 km²</td>
</tr>
<tr>
<td>Energy Output</td>
<td>51 MW</td>
<td>43 MW</td>
</tr>
</tbody>
</table>

- Lower impact, multiple co-benefits
- 70-90% of the energy, 5-10% of the inundation
- Faster to construct / commission
- Shorter time to service debt and generate returns
- Materials efficient construction
- 40% less concrete, 50%+ less excavation
Monroe Hydro Project: Plant Layout
Monroe Hydro Project: Installation
Monroe Hydro Project: After
On June 5, 2015, Natel Energy Inc. signed an MoU with Druk Holding and Investments (DHI) to develop up to 1GW of EcoSmartHydro projects in the Kingdom of Bhutan.
Commercialization

Engine Sales + Service
Unit sales with 20 year monitoring and maintenance contract

Turnkey Project Sales + O&M
Project sales with 10 to 20 year O&M contract

watershedOS
consulting, software license and SAAS

Initial Sales & Early Adopters
$4 million

Freedom Falls LLC: Maine
Mayo Mill Holdings LLC: Maine

Apple: Monroe Hydro, Oregon

Druk Holdings: Bhutan

2 Year Sales Pipeline
$90 million

Total: 100 units, $35 million
Wireless Energy: 25 units

Total: 25 MW, $50 million

Ministry of Energy: Chile
Thank you

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