



# **PACIFIC AMERICAN COAL (ASX:PAK)**

**Hydro Energy Joint Venture  
GP Hydro**

**MAY 2019**

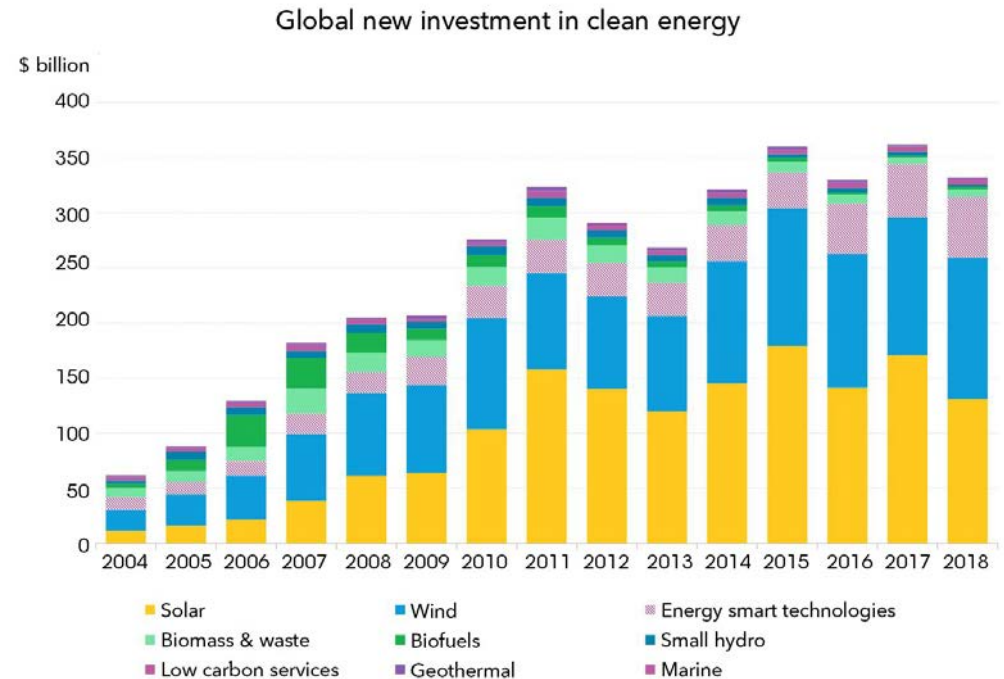


**Pacific American Coal**

# WHY ALTERNATE ENERGY?

Our focus remains on Elko whilst we develop the hydro business

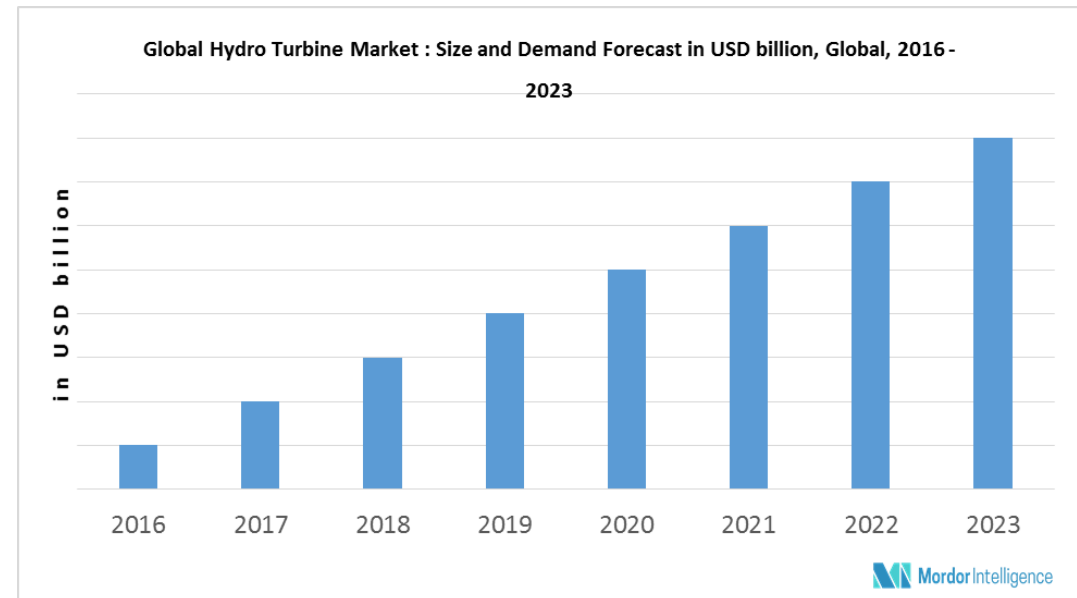
- Exciting sector in Australia and Pacific for investment
  - Australia invested \$9.5 billion(2018) into clean energy
- Global focus an investment on alternate energy.
  - Global clean energy investment exceeded \$300B for the fifth year in a row
- Gives PAK flexibility for investor returns
  - Allows PAK to de-risk mining project with investment into another industry
- Will bring in different investors and investment to the company.
  - PAK will be able to secure investment from other investment areas who can't invest directly into coal.



# HYDRO INTRODUCTION

## Most Mature Alternate energy source

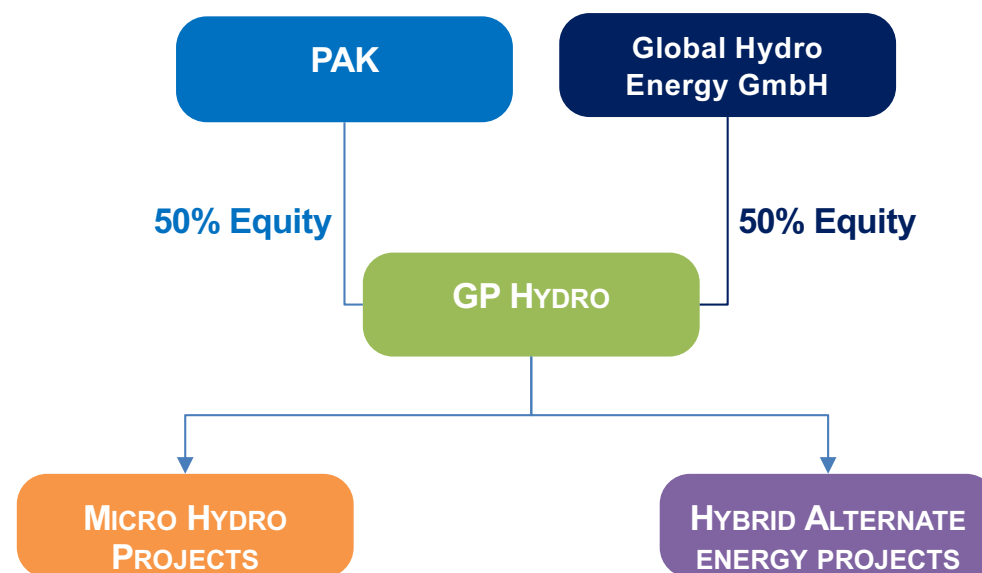
- PAK Actively reviewed additional investment opportunities last 12 months.
- Selected alternate energy and specially hydro electricity
  - Hydro most mature alternate energy power source
  - Stable technology with long life cycle
  - Focused on micro hydro plants developed in Austria
- Product has been de-risked as projects already implemented across the globe.
- Micro Plants can be used with solar and battery technology for hybrid projects
- Pacific market has numerous opportunities for off grid projects.



# HYDRO INVESTMENT OPPORTUNITY

## Partnering with a world leader in Hydro

- Significant opportunity identified in alternate energy projects with world leader in hydro.
- Entered into a JV agreement with a leading Austrian hydropower turbine manufacturer **Global Hydro Energy GmbH** (“Global Hydro”).
- Created JV company Global Pacific Hydro (GP Hydro) a Singaporean entity.
- GP Hydro will be focused on micro hydro and hybrid projects in the pacific region and Australia.
- JV investment tied to specific milestones



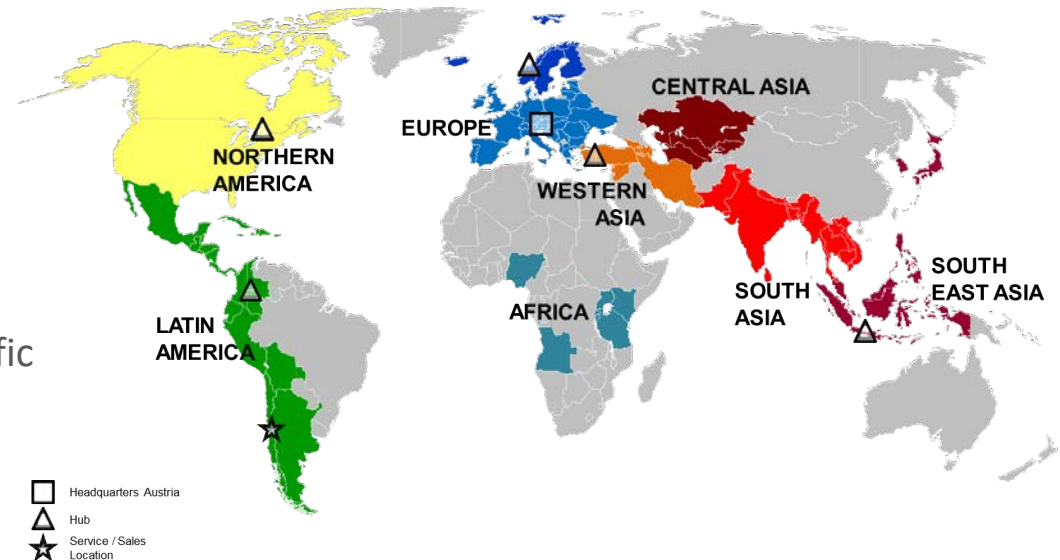
Tranche	PAK	GHE	Total	Milestone
1	US\$50K	US\$50K	US\$100K	Company setup
2	US\$150K	US\$150K	US\$300K	Hire key personnel
3	US\$150K	US\$150K	US\$300K	Sales intake US1.4M
4	US\$150K	US\$150K	US\$300K	Sales intake US5.5M
<b>Total</b>	<b>US\$500K</b>	<b>US\$500K</b>	<b>US\$1M</b>	

# GLOBAL HYDRO ENERGY GMBH



Austrian family owned business with 100 years experience

- Privately owned family business with projects globally
- Cutting edge technology and products in the hydro space.
- Family has been involved in hydro for +100 years.
- GHE sees a huge opportunity in the Australia and Pacific region for Micro hydro electric plants
- Focused on delivering high quality products manufactured in Austria.
- Group sales +USD100M across the hydro space



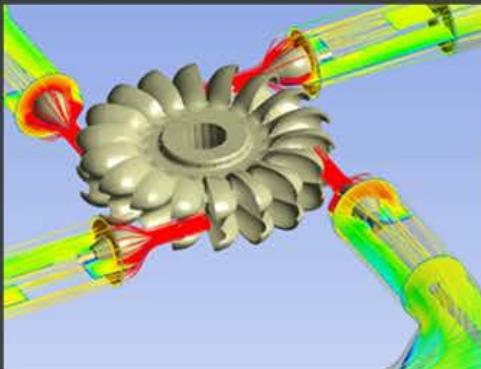
Company Profile © GLOBAL Hydro

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[www.global-hydro.eu](http://www.global-hydro.eu)

## GHE Sales Areas

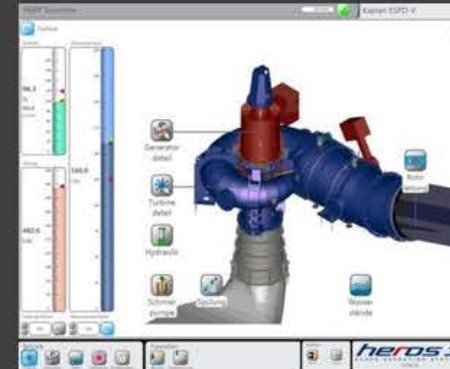
### DEVELOPMENT



### PRODUCTION



### AUTOMATION



### SERVICE





# WORLD CLASS TECHNOLOGY PARTNER



Austria's best quality

## Overview

- Specialists in design, manufacture and installation of turbines
- Hydro plant capacities of 100 kW to 25 MW.
- Development, production, automation and service capabilities



## *smarT*

- SmarT is an economic product ideal for outputs of 100kW to 1MW per unit.
- SmartT power stations are fully assembled at the factory
- Ready-to-use power plant delivered in a 20ft container.
- SmarT can be combined with other technologies
  - Solar and wind energy
  - Battery storage for optimized operation
- Low operating costs and sustainable technology with no environmental impact



# GP HYDRO

## Opportunity

### Business Plan

- To give investors the opportunity to participate in an advanced but proven hydroelectric generating
- Take advantage of the energy efficiencies provided by hydropower through the introduction of Global Hydro products to markets in Australasia

### Objectives

- GP Hydro set up to be financially profitable and technically feasible
- Develop and adapt global hydro technology to local environmental situations
- Explore the addition of accessory products such as battery storage wind or solar power to global hydro products

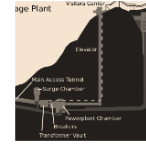


# GP HYDRO - REGIONAL FOCUS



## Micro Grid Hydro

- Australia
- Papua New Guinea
- Fiji
- New Zealand
- Samoa
- Solomon Islands
- Tonga



## Pumped Hydro

- Australia
- Fiji
- Papua New Guinea
- New Zealand



## Hybrid Projects

- Australia
- New Zealand
- Fiji
- Papua New Guinea
- Micronesia
- Tonga
- Samoa
- Solomon Islands



# GP HYDRO - TARGET MARKETS



## Landowners

- Wet farming
- Electric irrigation systems
- Retro fitting dams
- Power intensive farming



## Industrial

- Mining off-grid
- Residential and commercial developments
- Small infrastructure projects
- Energy parks
- Electric power hybrid systems



## Communities

- Off grid projects
- Electric power hybrid systems
- Micro grids



## Governments

- Refurbishments
- Private and public project developments
- New population micro grid projects
- carbon neutral projects



# Summary

- Hydro energy identified as significant additional opportunity for PAK
  - Phased approach to hydro investment
- Phase 1: JV with world renowned name in hydro power plant technology Global Hydro GmbH
  - Minimum investment US\$50,000
  - Additional commitments subject to achieving clear milestones
- Long-term objective to become developer of renewable energy projects in the region



## CONTACT

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