



Company Overview & Technology solution

Harnessing river power without the Dam

July 2017

Table of Contents



- **Brief description**
- **Company Overview**
- **The Problem**
- **Market Size**
- **Technology**
- **Production Process**
- **Competitive Landscape**
- **Expert verification of the project**
- **Drava River Project Overview**
- **Financial Projections**

In cooperation with the Government of the Republic of Croatia , the company Hidra Force Ltd. From Zagreb is on the river Drava derivative channels (HE Čakovec,) and Riječine (Rijeka), conducted testing floating hydroelectric exploitation of the kinetic energy of moving water flow produces electricity.

The obtained results are verified and positively assessed by professional advisers of HEP - Hrvatska Elektroprivreda (HEP Group is a national electricity company) and Department of Hydrodynamics of the Technical Faculty in Rijeka.

Company Hidra Force Ltd. this technical solution for electricity production protects with patent application and was established as a "brand project" company for the realization of the planned design ideas and implementation of building floating plants.

This way of production electric energy the news in the commercial production of electricity because the electricity is now produced only from flowing lakes or hydro flow that require very large water drop (pressure) and high-speed water flow.

High efficiency of technical solutions for power generation, where the key parameter - the water flow speed of 1.5 m / s to 2 m / s and the depth of the water flow, starting from 2 m, is reflected in the fact that these criteria satisfy the most rivers in the world, where it is necessary to emphasize that they need no special construction procedures or modifications of water flows that would be contrary to environmental standards.

Module production electric energy not affects the migration of river flora and fauna and thus fully meets all environmental criteria.



Review the basic theoretical ideas developed by the Technological University of Rijeka - Department of hydrodynamics, the "super computer" according to the IEA software scheduled for testing use of electricity on river flows and turbine design.

Calculations on a computer model directed Professor Zoran Mrša, who is also chief adviser HEP (Croatian Electric) for hydropower plants, the Croatian Academy of Engineering, Croatian Society of Mechanics, New York Academy of Sciences, American Society of Mechanical Engineers and other international academic and scientific institutions.

Batch production of floating modules so far has not yet begun. For now, to compare the theoretical results obtained in computer simulation produced only a test model with the aim of comparing the results measured in real field applications.

The results obtained in nature are only 5% lower than the results obtained by computer simulation, which is completely confirmed by the practical application of technological solutions. In the initial stage of development we prototyping models for serial production and in collaboration with the Faculty of Technology, Polytechnic of Rijeka, which for our purposes is the main project documentation and performing.

At this stage we have completed the basic development of prototype models for serial production and in collaboration with the Faculty of Technology of the Polytechnic in Rijeka for our needs made the performative project documents and the same is committed Đuro Đaković who made a test model as requested by 1:10 and regulations IEC (**International Electrotechnical Commission**) and where the Brodarski Institute in Zagreb, according to the requirements of the profession conducted by the ratification and confirmation of all parameters.

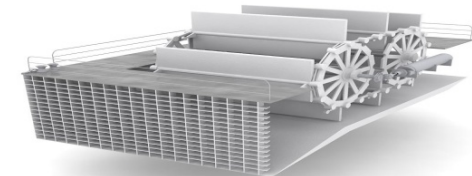
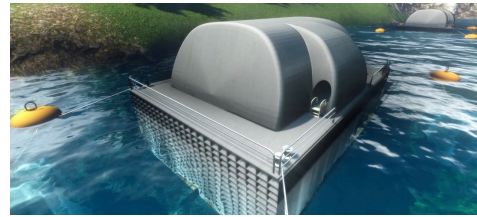
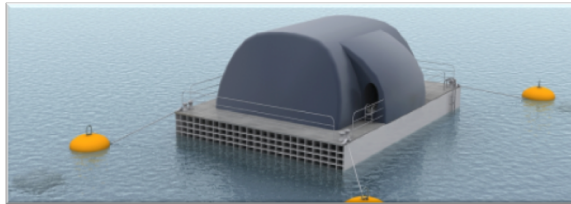


After technical and scientific confirmation we wish to start negotiations with potential strategic partners, where we expect to achieve some of these forms of cooperation:

- Entering the ownership structure of companies Hidra Force Ltd. and joint appearance on the market;
- Participation in the implementation of the project total output of max. 100 MW in derivative channels in Republic Croatia
- Franchising and licensing for certain markets

In short we present our innovative technical solutions of which, if you have interest, details can be found on subsequent pages of this brochure

Hidra Force Overview



Summary

- A world leading provider of in-stream hydroelectric power (Hydropower without the dam)
- Proven and patented technology with the ability to tap unused alternative energy sources
- Over eight years and over €3.0 million spent on R&D to commercialize product
- Ability to produce alternative energy with a production efficiency of 95%
- The kinetic energy source (river flows) is perpetually available and zero damage to the environment

Who We Are

- Team of 5 with over 20 years of experience in hydroelectric power, finance, construction, and academia
- Founded in 2008
- Headquartered in Zagreb Croatia

Large Market Opportunity

- Currently over 100.000GW of power produced and is expected to grow to 150.000GW by 2020, or [20%] CAGR
- Increasing demand for power from alternative energy(AE) sources due to policy changes
- Currently AE accounts for 7% of total power and is expected to grow to 20 % by 2020
- Creation of a new market, Hidra Force can be implemented in 80 % of rivers compared to 15 % for conventional Hydroelectricity

Drava River Project

- Located in Croatia
- Capacity of 100MW production facility
- Payback period of 5 years
- Fully approved power plant waiting project finance

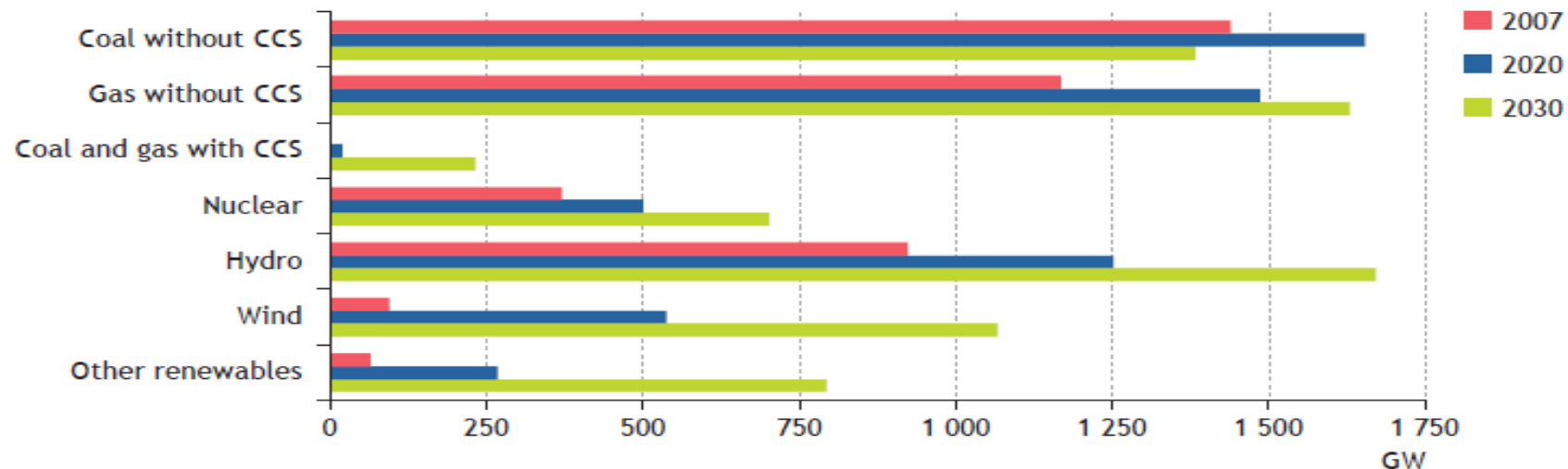
The Problem



Issue	Solution	Catalyst
Climate Change and Global Warming	Zero carbon footprint	<ul style="list-style-type: none">■ Kyoto Protocol: CO2 emissions to reduce by 5.2% of 1990s levels by 2012■ European Union: 20% electricity consumption from renewable energy by 2020■ United States: 28 States with 10%-20% renewable energy mandates■ China: 15% electricity consumption from renewable energy by 2020■ India: 19 with 2%-10% renewable energy mandates
Energy Security	Local availability	<ul style="list-style-type: none">■ Hedge against geopolitical risk — Local and secure supply■ No risk from fuel price volatility■ Socially, ecologically and economically sustainable■ Every country in the world has rivers
Increased Electricity Demand	Abundant resource	<ul style="list-style-type: none">■ Energy: key to economic growth in developing countries (Eastern Europe, China, India all require sources to maintain growth)■ 80% of worlds river network can be used to generate power using Hidra Force■ The kinetic energy source (river flows) is perpetually available 24/7
Cost Competiveness and hedging	Zero fuel cost	<ul style="list-style-type: none">■ Improvement in yield (cost/Mwh)<ul style="list-style-type: none">■ New software simulation of hydrodynamic movement■ Reduction in production cost■ Hydro energy directly competing with conventional power



World wide demand for power by type

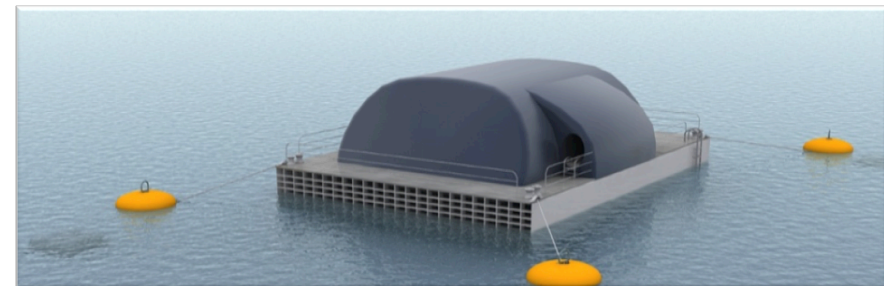
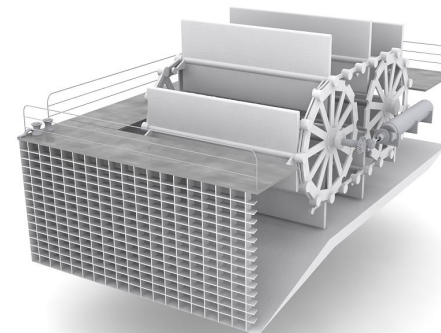
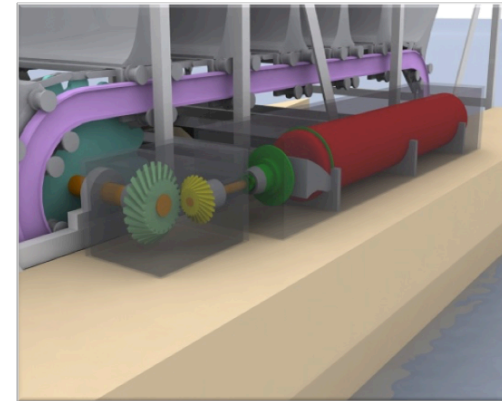


Additional markets created by Hidra Force

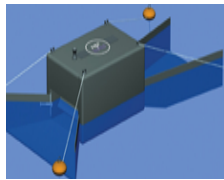
- Hidra Force units can harness kinetic energy (river flows) on 80% of the worlds river network
- North American capacity based on river system kinetic potential using Hidra Force
 - USA: 10,000 MW
 - CANADA: 15,000 MW
- Global potential capacity based on hydrokinetic power accessible through Hidra Force's Technology
 - Developed countries: 50,000 MW
 - Developing countries: 200,000 MW
 - An underdeveloped country: Unknown
- **Unused kinetic energy from river flows is 2.5 million MW**

Key Differentiators

- Assembly outsourced to Đuro Đakovic
 - Major Customers include Thyssen Krupp, Alstom, and Technip KTI
 - ISO 9001:2000 and ISO14001
 - Publicly traded
- Key Components supplied by fully certified established multinational corporations
 - Housing: Đuro Đakovic
 - Generator: Končar Group
 - Gears and Blades: Sas Zadar
 - Software: Končar Group
 - System controls: Končar Group
 - Electrical Connections: Dalekovod
 - Transformers/Substation: Dalekovod
- Ability to make 6,000 modules with current supply chain and partners
- Ability to get to full capacity 6 months

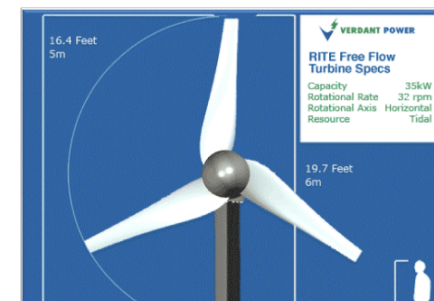
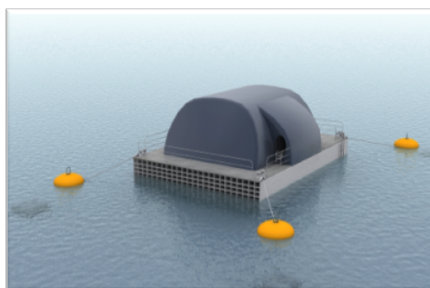


Competitive Landscape: Hidra Force vs. Other Energy Sources



Energy Source	HIDRA FORCE	Traditional Hydropower	WIND POWER	SOLAR PANELS	Fossil Fuel
Invest/MW	1,6 mil.€	2,0 mil.€	1,8 mil.€	1,1 mil.€	1,6 mil.€
Annual efficiency	95%	70-80%	20%-25%	25%-30%	[?]
Operating Costs	Negligible	Negligible	Low	Moderate	Moderate
Selling Price/MW	€ 76	€ 60	€ 95	€ 148	€ 40-50
Investment return	3-5years	30 years	10 years	8 years	30 years
Environmental Impact	Negligible	Enormous	Low	Moderate	Enormous

Competitive Landscape: Hidra Force vs. Other In-Stream Power



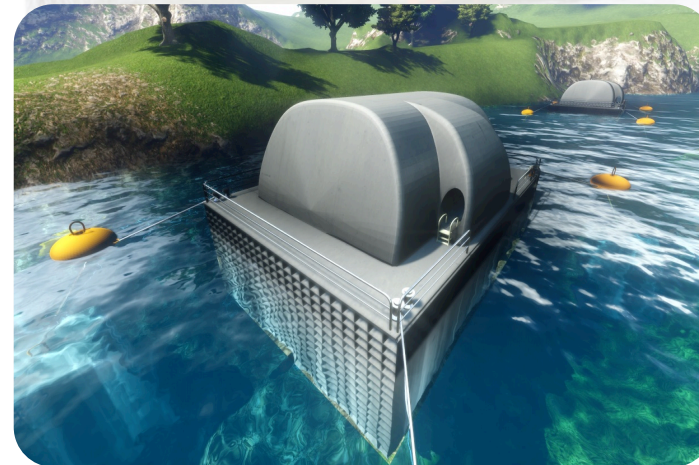
Metric	HIDRA FORCE	HYDRO Green Energy	Verdant Power
Length	14m	14m	6m
Width	10m	14m	5m
Height	5,8m	13m	7m
River Depth Minimum	2–2,5m	8m	8m
Power @ 2m/s	160 kW	28kW	35kW



Expert verification of the Project

Harnessing river power without the Dam

TESTING MODULE "HF"



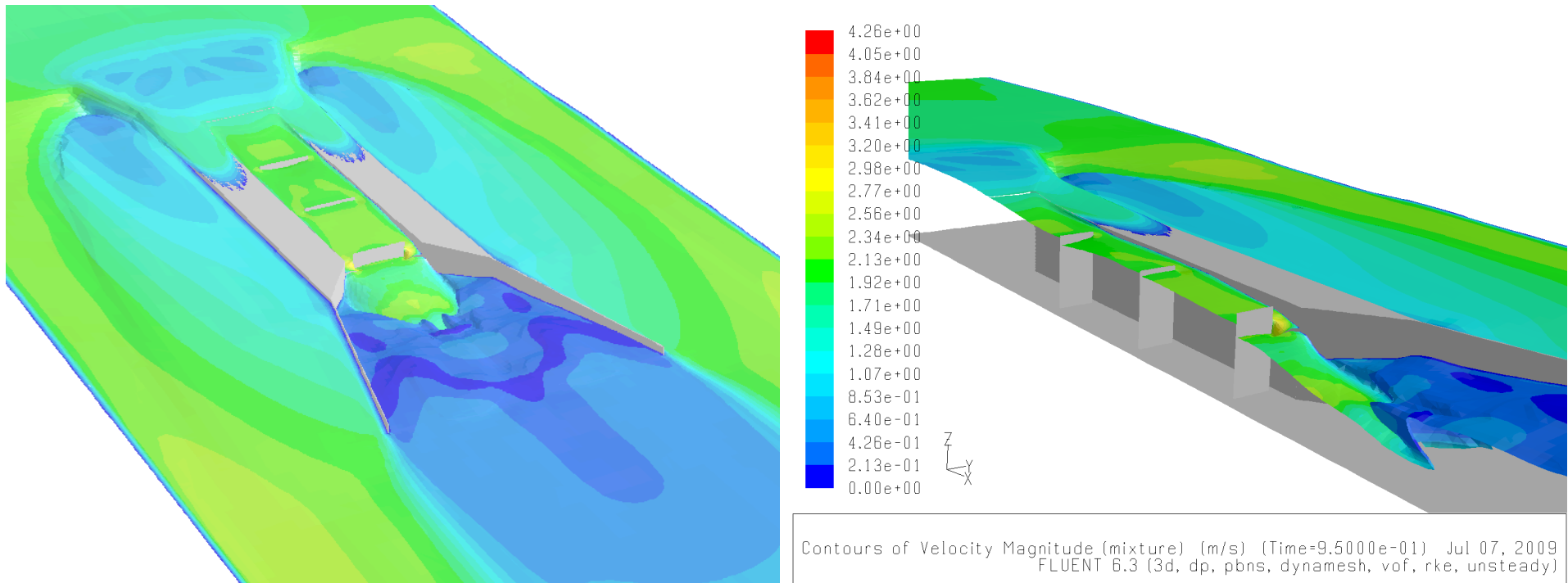
CFD MODEL

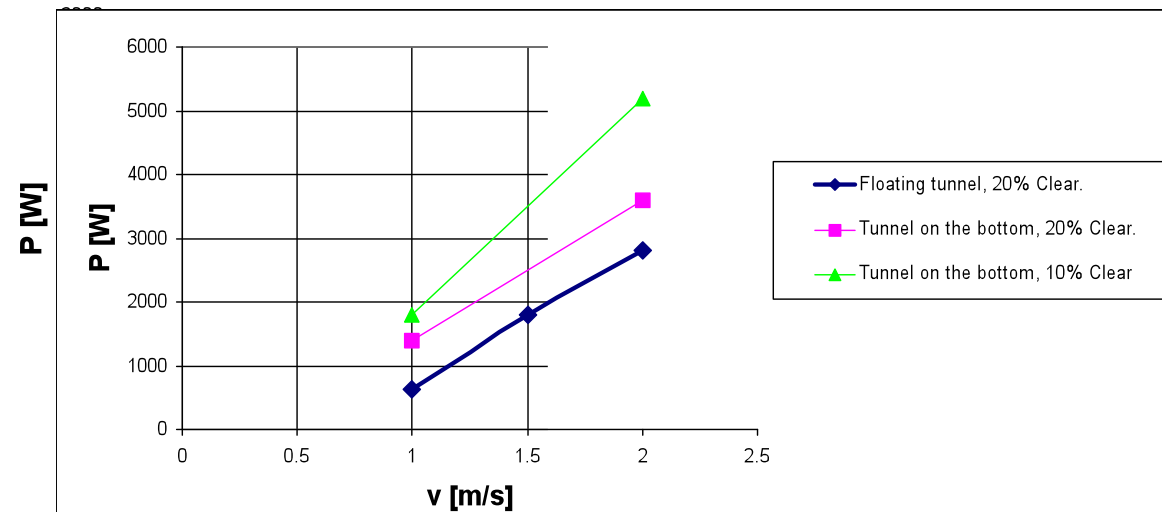
ANALYSES OF HF TURBINE

Parameters:

Velocity: 1m/s and 2m/s

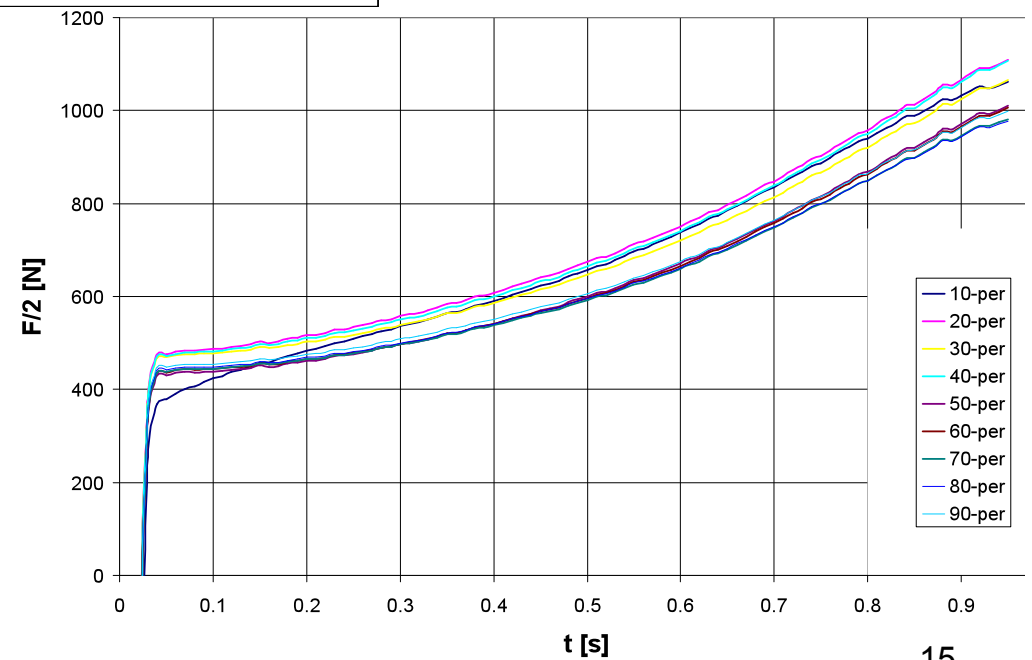
Clearance between tunnel and paddle: 10% and 20%





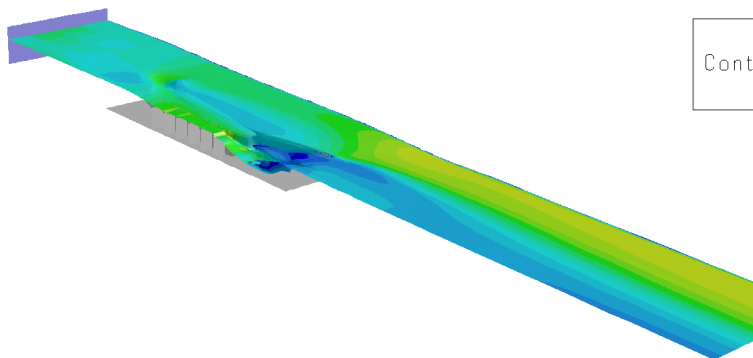
Power per meter squared of paddle vs. velocity

Total paddle force vs. time



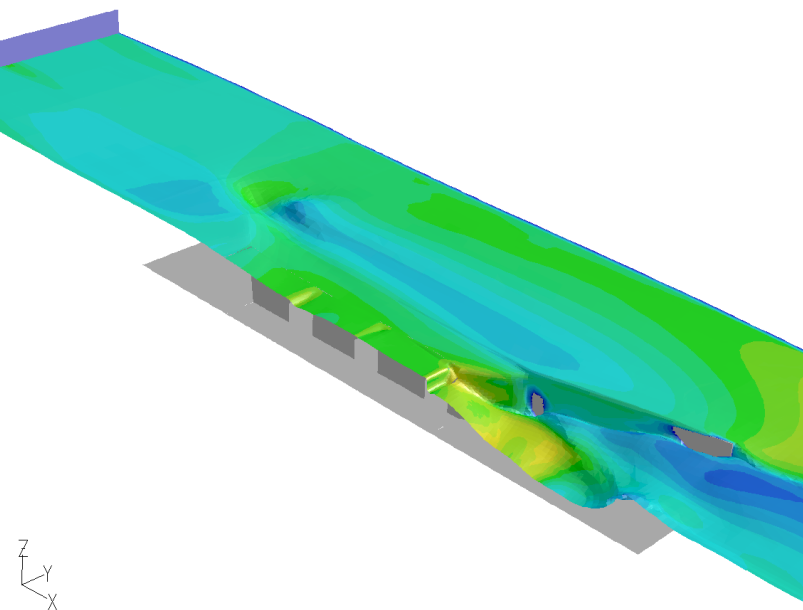
Free surface

4.75e+00
4.51e+00
4.27e+00
4.04e+00
3.80e+00
3.56e+00
3.32e+00
3.09e+00
2.85e+00
2.61e+00
2.37e+00
2.14e+00
1.90e+00
1.66e+00
1.42e+00
1.19e+00
9.50e-01
7.12e-01
4.75e-01
2.37e-01
0.00e+00



Contours of Velocity Magnitude (mixture) (m/s) (Time=4.7500e-01) Jul 13, 2009
FLUENT 6.3 (3d, dp, pbns, dynamesh, vof, rke, unsteady)

4.79e+00
4.55e+00
4.31e+00
4.07e+00
3.83e+00
3.59e+00
3.35e+00
3.11e+00
2.87e+00
2.63e+00
2.39e+00
2.15e+00
1.91e+00
1.68e+00
1.44e+00
1.20e+00
9.57e-01
7.18e-01
4.79e-01
2.39e-01
0.00e+00



Contours of Velocity Magnitude (mixture) (m/s) (Time=9.5000e-01) Jul 07, 2009
FLUENT 6.3 (3d, dp, pbns, dynamesh, vof, rke, unsteady)

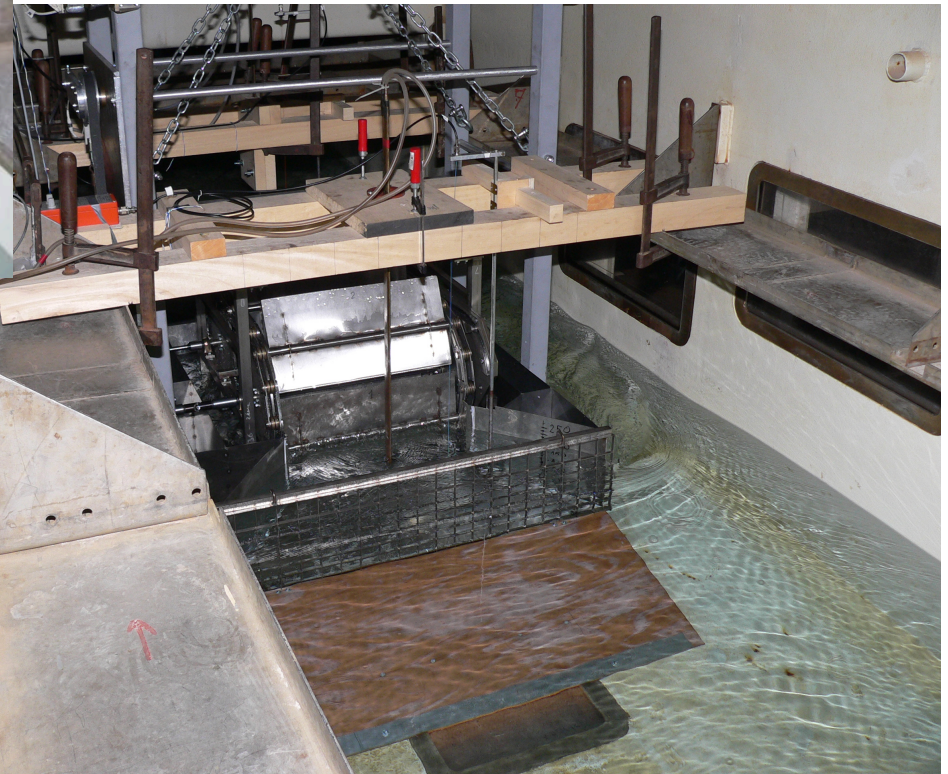
PROTOTYPE TESTING





TESTING IN KAVITACY TUNNEL







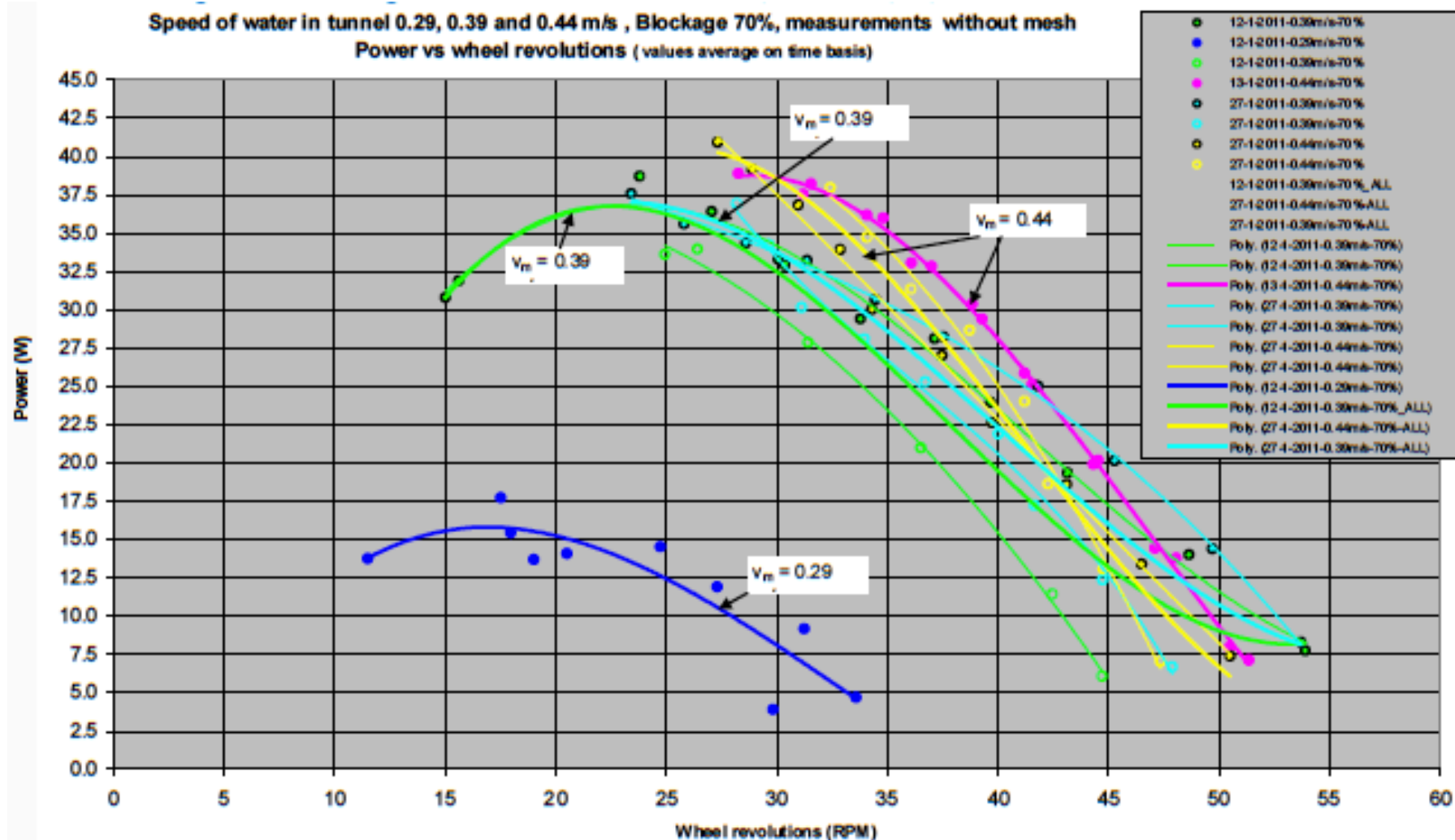


Diagram 4.2.2: Scaleup of water wheel model
 Speed of water in tunnel 0.92, 1.23 and 1.39 m/s , Blockage 70%
 Power vs wheel revolutions(values average on time basis)

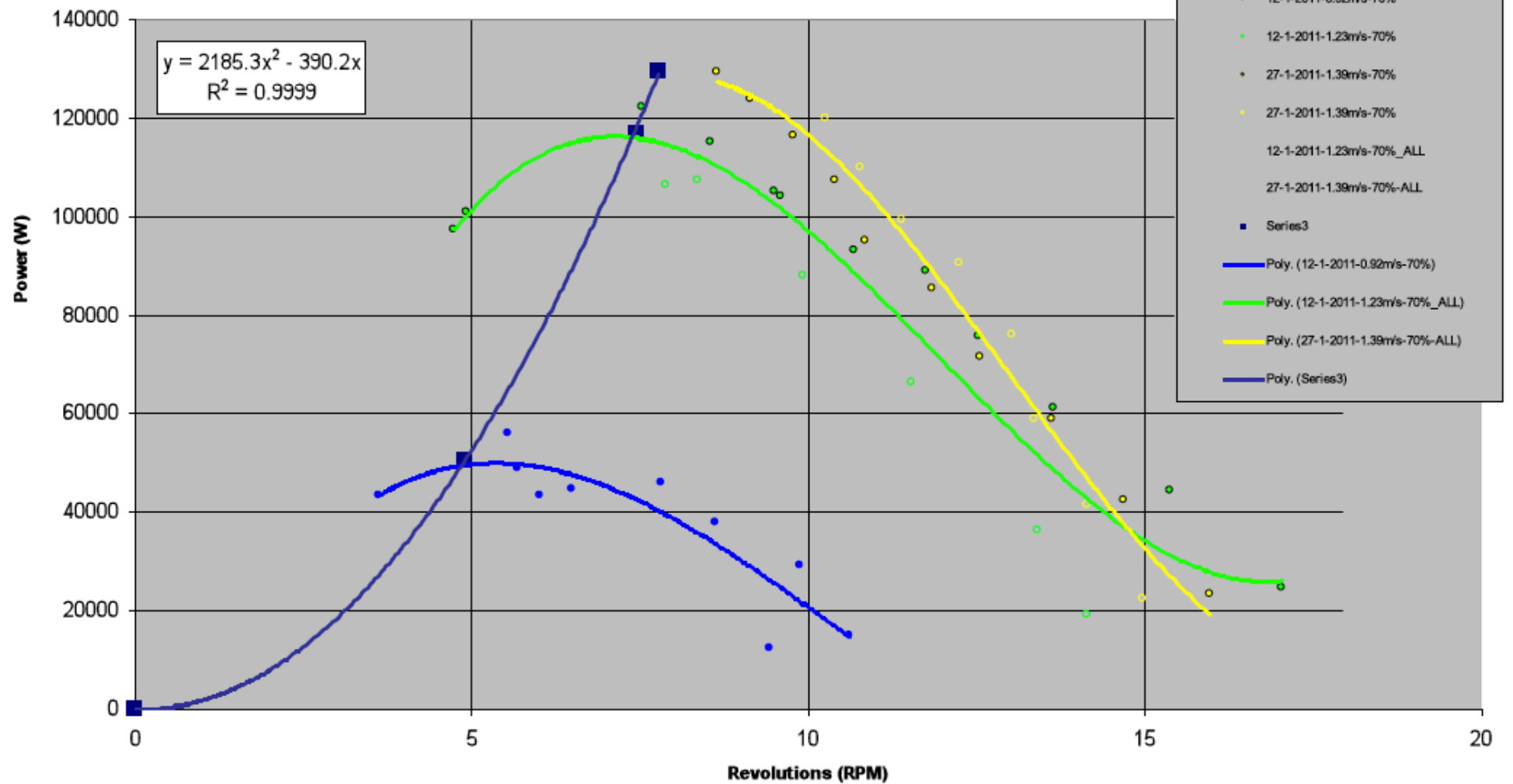


Diagram 4.1.3: Water wheel power vs. Water speed
Blockage 50% and 70%

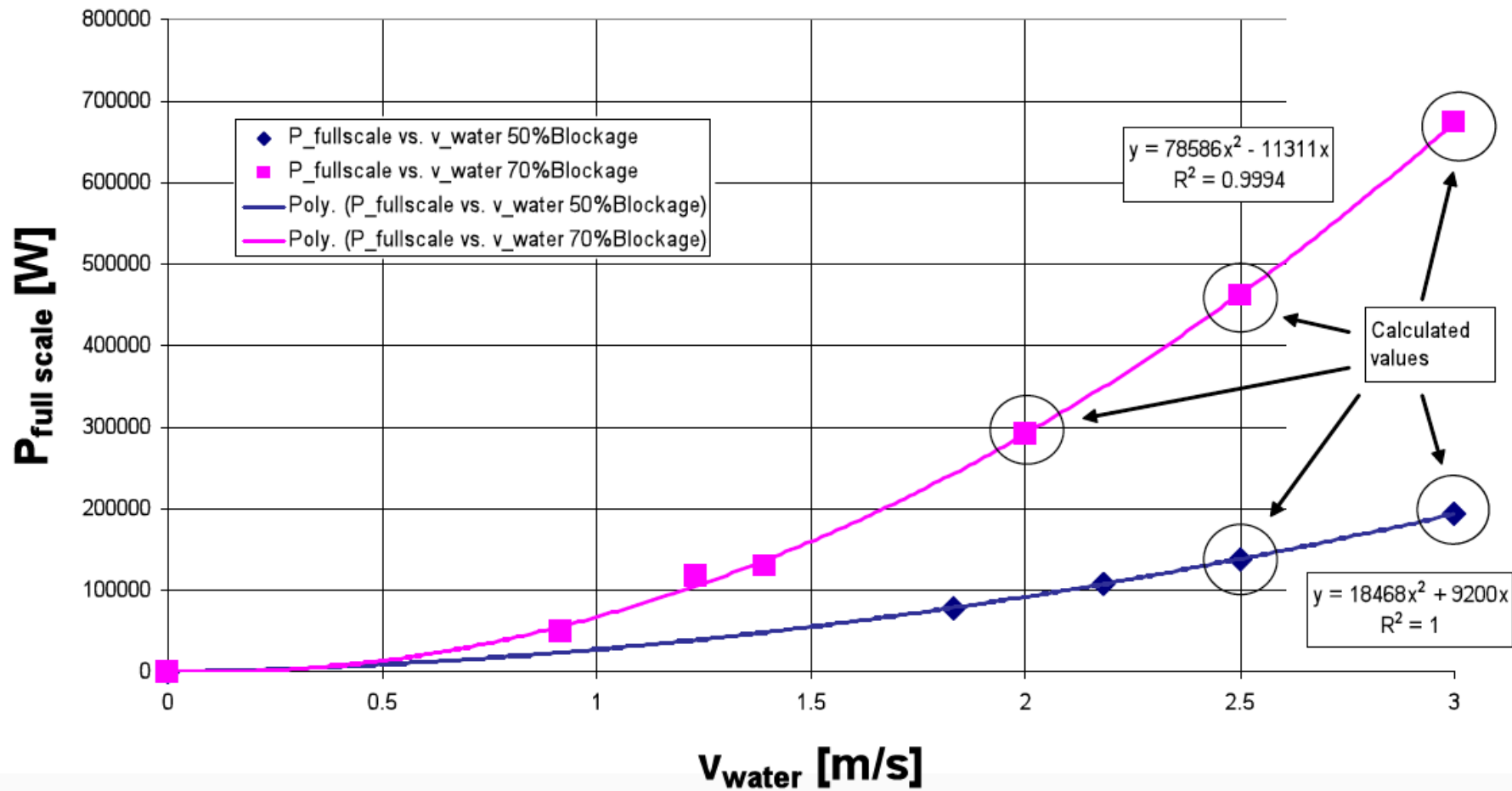
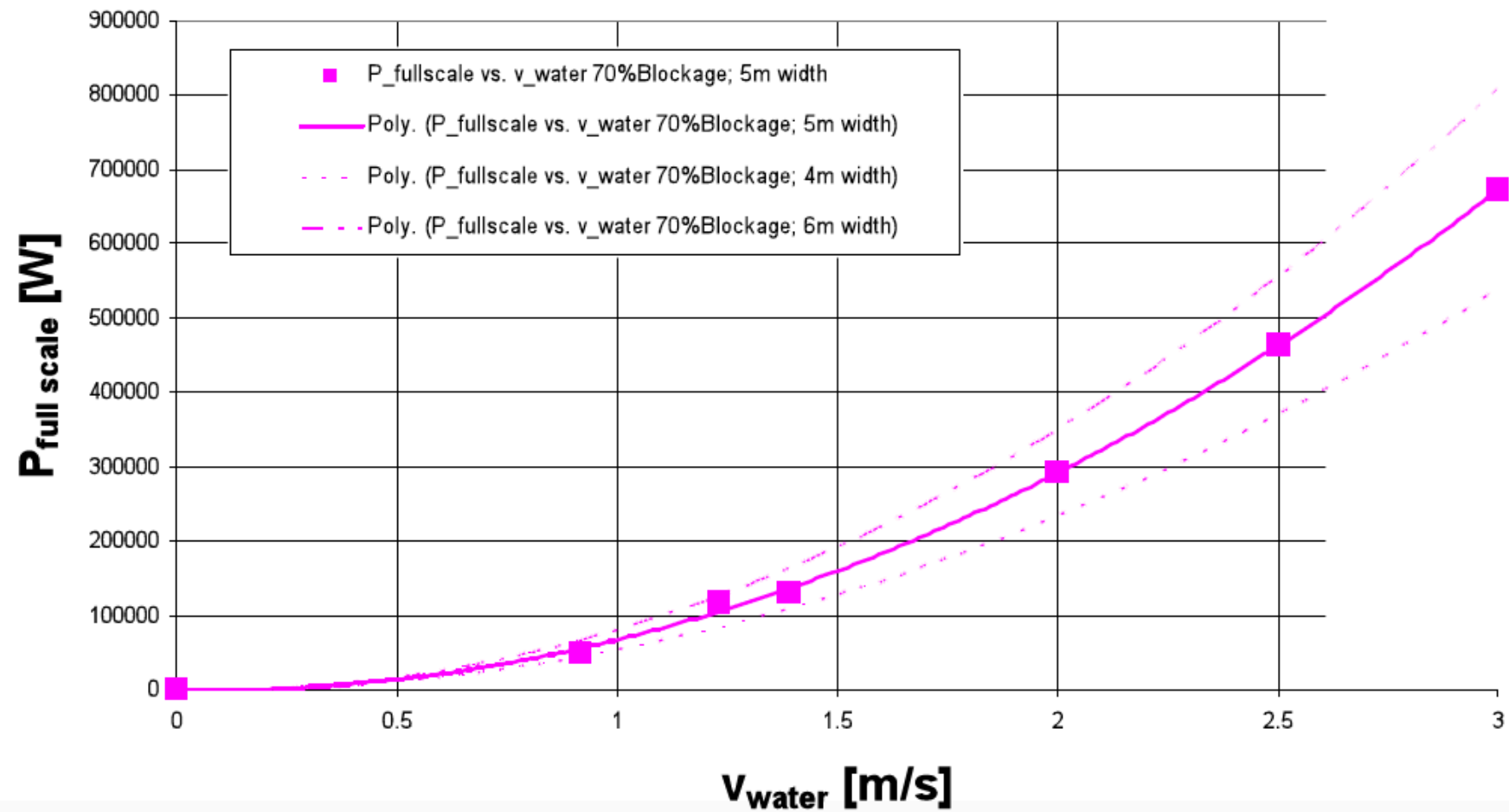


Diagram 4.1.4: Water wheel power vs. Water speed
Blockage 70% and with different blade widths





Drava River Project Overview

Harnessing river power without the Dam

Project Overview

- World's most efficient power plant which generates electricity from flowing water's kinetic energy
- Most Eco-friendly hydro based power plant in the world
- 100MW total capacity built in three Phases
 - Phase 1- 10MW
 - Phase 2- 30MW
 - Phase 3- 70MW
- Completion of entire project in max. [5] years
- Payback period [3-5] years
- Already Permitted for river use and connecting to the European Grid
- Support of the Croatian Government
- Committed reputable buyer of electricity
 - Set pricing and quantity for the next [xx] years

Advantages of Partnering With Hidra Force

- Outsourced power plant development
 - Avoids the need to undertake complex development process
- Hidra Force is active in all parts of the process
 - Allows for greater control and execution
 - Ability to ensure quality results
- Leverage Hidra Force's experience across water energy value chain
- Outsourced ongoing maintenance, compliance and customer relations



Hidra Force's Contribution — Drava River Project



Step	Detail	Status
Site Identification & Land Acquisition	<ul style="list-style-type: none"> ■ Evaluate various site locations for project feasibility ■ Determine power capacity of selected location ■ Perform environmental impact study 	<ul style="list-style-type: none"> ■ Complete ■ Complete ■ Complete
Permitting and Regulatory Approval	<ul style="list-style-type: none"> ■ Government approval to use Drava River Locations ■ Pre-contract and approval for constructing power plant ■ Pre-contract and approval to connect to the European grid ■ Local and National Croatian government interface 	<ul style="list-style-type: none"> ■ Complete ■ Complete ■ Complete ■ Ongoing
Customer Acquisition	<ul style="list-style-type: none"> ■ Commitment form HROTE and HERA to purchase all power produced from the Drava River Project ■ Interface to the European grid allows sales to any power buyer anywhere in Europe to maintain highest price 	<ul style="list-style-type: none"> ■ Complete ■ In Progress
Module Manufacturing	<ul style="list-style-type: none"> ■ License to utilize Hidra Force's patented technology ■ Documentation and manufacturing plans ■ Constructed supply chain and manufacturing capacity 	<ul style="list-style-type: none"> ■ Granted ■ Complete ■ Complete
Site Development & Infrastructure	<ul style="list-style-type: none"> ■ Pre-construction planning and organization ■ Installation of Hidra Force Module Power plant system ■ Testing and optimization ■ Grid hook up 	<ul style="list-style-type: none"> ■ In-Progress ■ Available ■ Available ■ Available
Operations, Maintenance & Ongoing Support	<ul style="list-style-type: none"> ■ Operation and maintenance manuals ■ Training of operating personnel ■ Personnel and expertise for ongoing operations 	<ul style="list-style-type: none"> ■ Complete ■ Available ■ Available



Phase 1

- Beginning 2018- End 2020
- Length of Channel – 4000m
- Number of modules 63
- Power production 10MW
- Estimate cost 20.295.000€

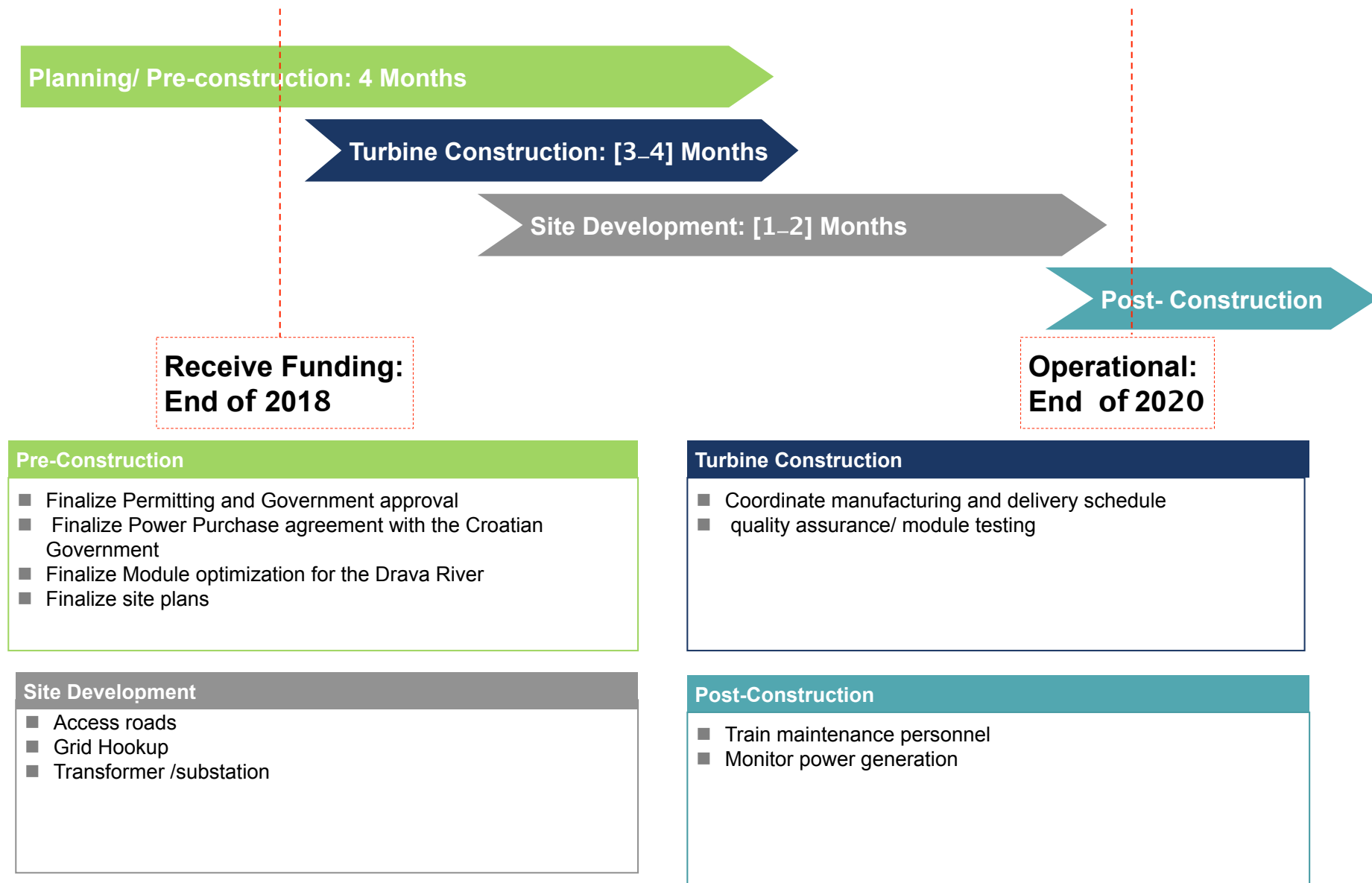
Phase 2

- Beginning 2019- End 2021
- Length of Channel – 5200m
- Number of modules 188
- Power production 30MW
- Estimate cost 55.470.000€

Phase 3

- Beginning 2020-[End 2023
- Length of Channel – 5500m
- Number of modules 438
- Power production 70MW
- Estimate cost 137.920.000€

Construction Timeline — Drava River Project



Use of Funds — Drava River Project



- The Drava river project is expected to be completed in three phases over the next [36] months
- The average cost for the Drava River Implementation is €2.1 million per Megawatt
- [potentially add bullet on how the cost per MW drops as capacity increases]

	Drava River Capital Requirements			Total
	Phase 1	Phase 2	Phase 3	
Additional Capacity (MW)	10	30	70	0
Total Capacity (MW)	10	40	110	110
Number of Modules	63	188	438	688
Build Costs				
Feasibility study	€ 100.000	€ 150.000	€ 300.000	€ 550.000
Project Development Costs	€ 600.000	€ 1.200.000	€ 4.200.000	€ 6.000.000
Engineering	€ 1.000.000	€ 2.000.000	€ 7.000.000	€ 10.000.000
System balance	€ 1.300.000	€ 2.080.000	€ 7.280.000	€ 10.660.000
Indirect Realization Costs	€ 45.000	€ 90.000	€ 315.000	€ 450.000
Transmitting Line	€ 150.000	€ 300.000	€ 1.050.000	€ 1.500.000
Substation	€ 1.100.000	€ 1.650.000	€ 5.775.000	€ 8.525.000
Floating modulus	€ 16.000.000	€ 48.000.000	€ 112.000.000	€ 176.000.000
Total	€ 20.295.000	€ 55.470.000	€ 137.920.000	€ 213.685.000
Cost Per/MW	€ 2.029.500	€ 1.849.000	€ 1.970.286	€ 1.942.591
Cost Per Megawatt				
Feasibility study	€ 10.000	€ 5.000	€ 4.286	€ 5.000
Project Development Costs	€ 60.000	€ 40.000	€ 60.000	€ 54.545
Engineering	€ 100.000	€ 66.667	€ 100.000	€ 90.909
System balance	€ 130.000	€ 69.333	€ 104.000	€ 96.909
Indirect Realization Costs	€ 4.500	€ 3.000	€ 4.500	€ 4.091
Transmitting Line	€ 15.000	€ 10.000	€ 15.000	€ 13.636
Substation	€ 110.000	€ 55.000	€ 82.500	€ 77.500
Floating modulus	€ 1.600.000	€ 1.600.000	€ 1.600.000	€ 1.600.000
Total	€ 2.029.500	€ 1.849.000	€ 1.970.286	€ 1.942.591
Cost Per Module				
Feasibility study	€ 1.587	€ 800	€ 686	€ 800
Project Development Costs	€ 9.524	€ 6.400	€ 9.600	€ 8.727
Engineering	€ 15.873	€ 10.667	€ 16.000	€ 14.545
System balance	€ 20.635	€ 11.093	€ 16.640	€ 15.505
Indirect Realization Costs	€ 714	€ 480	€ 720	€ 655
Transmitting Line	€ 2.381	€ 1.600	€ 2.400	€ 2.182
Substation	€ 17.460	€ 8.800	€ 13.200	€ 12.400
Floating modulus	€ 253.968	€ 256.000	€ 256.000	€ 256.000
Total	€ 322.142	€ 295.840	€ 315.246	€ 310.815

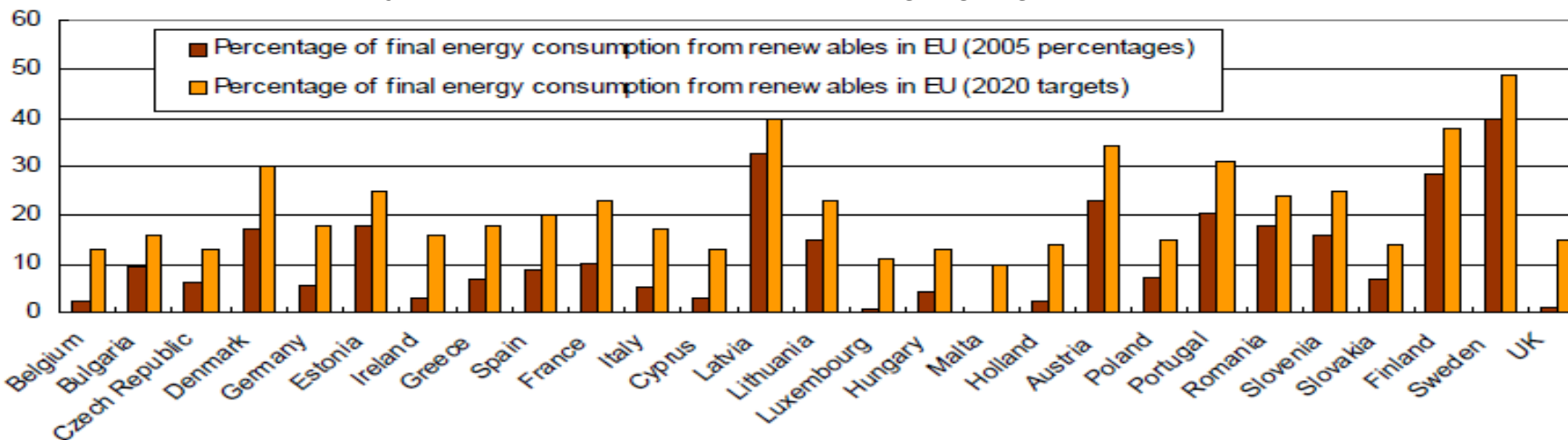
Revenue Model and Market Size — Drava River Project

Revenue/Pricing Model

- Under Croatian law the price and purchase of electricity produced from renewable sources is guaranteed
- Purchasing is regulated by the State Agencies HROTE (www.hrote.hr) and HERA (www.hera.hr).
- Hidra Force is classified as a power plant from other renewable sources (waves, tide, low tide, kinetic energy ...) with a minimum purchase price of:
 - 2017 amounts Oof (0.0761 EUR / kWh) – 76 EUR / MWh.
- State Agencies are obligated to purchase the total electricity generated by the Drave River Project

European demand for Alternative Energy

- [Add bullet point on current European power consumption]
- [Add bullet point on projected power consumption and highlight growth]



Source: European Parliament materials; compiled by Daiwa Securities SMBC.

Financial Summary — Drava River Project — Phase 1



	Drava River Project				
	2018	2019	2020	2021	2022
Phase 1: 10MW					
Number of Installed Modules	63	63	63	63	63
Module Capacity(Mw)	0,16	0,16	0,16	0,16	0,16
Total Capacity (Mw)	10,08	10,08	10,08	10,08	10,08
Annual Utilization (Hours)	8.766	8.766	8.766	8.766	8.766
Total Power Generation (Mwh)	88.361	88.361	88.361	88.361	88.361
Effective Power Generated (Mwh)	79.525	79.525	79.525	79.525	79.525
Effective Power Factor	90%	90%	90%	90%	90%
Less: Loss in Transmition to Grid (Mwh)	-3.976	-7.953	-7.953	-7.953	-7.953
Total Power Supplied to Grid	75.549 Mwh	71.573 Mwh	71.573 Mwh	71.573 Mwh	71.573 Mwh
Price Per Mwh	€ 76,00	€ 76,00	€ 76,00	€ 76,00	€ 76,00
Revenue	€ 5.741.716	€ 5.439.520	€ 5.439.520	€ 5.439.520	€ 5.439.520
Operating Expenses (Excl. D&A)					
Employees					
Maintenance/Service					
Insurance					
Etc					
Etc					
Total Operating Expenses (Excl. D&A)	€ 946.200	€ 946.200	€ 946.200	€ 946.200	€ 946.200
EBITDA	€ 4.795.516	€ 4.493.320	€ 4.493.320	€ 4.493.320	€ 4.493.320
% Margin	84%	83%	83%	83%	83%
Depreciation & Amortization	€ 1.214.750	€ 1.214.750	€ 1.214.750	€ 1.214.750	€ 1.214.750
Income Before Tax	€ 3.580.766	€ 3.278.570	€ 3.278.570	€ 3.278.570	€ 3.278.570
% Margin	62%	60%	60%	60%	60%
Taxes	€ 716.153	€ 655.714	€ 655.714	€ 655.714	€ 655.714
Tax Rate	20%	20%	20%	20%	20%
Net Income	€ 2.864.613	€ 2.622.856	€ 2.622.856	€ 2.622.856	€ 2.622.856
% Margin	50%	48%	48%	48%	48%

Financial Summary — Drava River Project



	Drava River Project				
	2018	2019	2020	2021	2022
Phase 1: 10MW					
Revenue	€ 5.741.716	€ 5.439.520	€ 5.439.520	€ 5.439.520	€ 5.439.520
Costs	€ 946.200	€ 946.200	€ 946.200	€ 946.200	€ 946.200
EBITDA	€ 4.795.516	€ 4.493.320	€ 4.493.320	€ 4.493.320	€ 4.493.320
% Margin	84%	83%	83%	83%	83%
Net Income	€ 2.864.613	€ 2.622.856	€ 2.622.856	€ 2.622.856	€ 2.622.856
% Margin	50%	48%	48%	48%	48%
Phase 2: +30MW (188 Modules) Marginal Contribution					
Revenue	€ 17.134.010	€ 16.232.220	€ 16.232.220	€ 16.232.220	€ 16.232.220
Costs	€ 946.200	€ 946.200	€ 946.200	€ 946.200	€ 946.200
EBITDA	€ 16.187.810	€ 15.286.020	€ 15.286.020	€ 15.286.020	€ 15.286.020
% Margin	94%	94%	94%	94%	94%
Depreciation & Amortization	€ 3.624.968	€ 3.624.968	€ 3.624.968	€ 3.624.968	€ 3.624.968
Income Before Tax	€ 12.562.841	€ 11.661.051	€ 11.661.051	€ 11.661.051	€ 11.661.051
% Margin	73%	72%	72%	72%	72%
Taxes	€ 2.512.568	€ 2.332.210	€ 2.332.210	€ 2.332.210	€ 2.332.210
Tax Rate	20%	20%	20%	20%	20%
Net Income	€ 10.050.273	€ 9.328.841	€ 9.328.841	€ 9.328.841	€ 9.328.841
% Margin	59%	57%	57%	57%	57%
Phase 3: +70MW(428 Modules) Marginal Contribution					
Revenue	€ 39.873.028	€ 37.774.447	€ 37.774.447	€ 37.774.447	€ 37.774.447
Costs	€ 2.201.928	€ 2.201.928	€ 2.201.928	€ 2.201.928	€ 2.201.928
EBITDA	€ 37.671.099	€ 35.572.519	€ 35.572.519	€ 35.572.519	€ 35.572.519
% Margin	94%	94%	94%	94%	94%
Net Income	€ 23.388.268	€ 21.709.404	€ 21.709.404	€ 21.709.404	€ 21.709.404
Net Margin %	59%	57%	57%	57%	57%
Total Drava River Project (Phase 1+ 2 + 3)					
Revenue	€ 62.748.753	€ 59.446.187	€ 59.446.187	€ 59.446.187	€ 59.446.187
Costs	€ 4.094.328	€ 3.148.128	€ 3.148.128	€ 3.148.128	€ 3.148.128
EBITDA	€ 58.654.425	€ 56.298.059	€ 56.298.059	€ 56.298.059	€ 56.298.059
% Margin	93%	95%	95%	95%	95%
Net Income	€ 36.303.154	€ 33.661.101	€ 33.661.101	€ 33.661.101	€ 33.661.101
% Margin	58%	57%	57%	57%	57%



Thank you for your attention!

For additional information:

**HIDRA FORCE d.o.o.
Radnicka cesta 34A
10000 Zagreb
CROATIA**

**www.hidraforce.hr
E-mail: info@hidraforce.hr**

Harnessing river power without the Dam