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Jordan Dam Hydro

Summary Business Case

September 2012

This document gives an outline of the Business Case for our Jordan Dam Hydro project, and is intended for those interested in investing in the scheme through our Community Share Offer.

It is presented alongside a summary of the Sheffield Renewables' Business Plan, which describes our plans for developing the organisation as a whole over the next two years.

Contents

Please note: our full Business Case includes a risk analysis and sensitivity analysis.

1. Introduction

Sheffield Renewables plans to develop, own and operate a community owned hydro-electric scheme at Jordan Dam on the River Don. The scheme will employ an 80kW Archimedes screw and generate around 310 MWh of electricity per year.

The project will be part financed by a Community Share Offer, providing an ethical investment opportunity which gives a modest (i.e rate of inflation) financial return, complemented by wider social and environmental benefits. The remaining funds will come from loans.

The electricity generated will be sold to the land owners Yorkshire Water, who operate the nearby sewage works at Blackburn Meadows. Alongside this, the scheme will generate income through the Feed in Tariff.

2. Project Progress and Timescales

Permissions

Feasibility work was completed in 2010, and the two key permissions are now in place: Planning Permission has been granted and an Abstraction Licence issued by the Environment Agency.

Legal Agreements

We will shortly be completing legal agreements with the two key project stakeholders, Yorkshire Water, the landowners, and British Waterways, who are responsible for navigation on the Don. We have now taken legal advice on both these agreements, and the agreement with British Waterways is ready for completion. We have agreed the key terms of the lease with Yorkshire Water, and are close to concluding discussions on sale of electricity.

Appointment of contractor

We will deliver the project through a fixed price design and build contract. After an initial enquiry call contractors have been shortlisted, and the next step is to issue a full Invitation to Tender. Providing finance is in place, this will allow us to appoint a contractor by January 2013 and to commission the scheme around September 2013. Our project manager will continue in post to manage delivery of the scheme by the contractor.

3. Funding

Development costs

Development costs including the costs of the feasibility work, site surveys, legal and business advice, permissions and licences have been met by a combination of shares[1] and grants.

Capital Costs

Our target price for the scheme is £600,000. On top of this, we will be employing a project manager. We are seeking to raise at least £250,000 of the funds we need from Community Shares. We have already raised nearly £50,000 towards this sum from our previous 'Early Bird' Share Offer. We will raise the remaining funds we need through loans.

Cash flow

We are seeking additional loan funds of £50,000 upfront to provide operating cash flow.

Summary of costs

	Cost (£k)	Basis and notes
Fixed Price Contract	600	Feasibility Study
Contingency	*Confidential*[2]	
Project Manager	35	1 year at £29k p.a. plus ON costs
Third party fees	5	Fees to YW, BW and SCC

Summary of Planned funding

	Amount (£k)	Terms
Shares	250	▪ 3% Interest after operating for 2 years ▪ Withdrawal after operating for 3 yrs
Loan 1	300	*Confidential*
Loan 2	*Confidential*	*Confidential*

[1] To date we have issued nearly £40,000 of 'Pioneer shares' which have contributed to funding development work. These shares do not contribute to our £250,000 target. We have however included payment of interest and withdrawal of these shares in our financial modelling.

[2] For reasons of commercial confidentiality we have had to exclude some information from this public document.

4 Financial Projections

Revenue

Our financial projections give a realistic but conservative scenario. The Jordan Dam scheme is projected to generate an **average gross income of approximately £80,000 per year**, as calculated from the projected annual output and the price per unit of 25.7 p/ kWh, based on the Feed in Tariff and sale of the electricity. We will receive income from the Feed in Tariff for 20 years, so our financial model extends over this period.

Our feasibility study has used a robust methodology to project power outputs, and our assumptions for financial modelling, (for example on operational costs), are conservative. Income from the Feed in tariff will be linked to the RPI measure of inflation.

Key assumptions on income

	Value	Basis
Average annual power output	310,000 kWh	Feasibility Study Note this is a conservative estimate
Feed in tariff unit price	19.7 p/KWh Index linked to RPI	Feed in Tariff from Oct 2012
Electricity sale unit price	6.0 to 8.0 p/KWh [3]	A conservative estimate of the value of the electricity.
Inflation	2%	A conservative estimate based on Bank of England Target

Operating costs

	Amount (£ per year)	Basis
Core Operations	4000	Office and overheads, & 4h/wk paid support
Maintenance	7500	Discussions with other schemes
Insurance (and third party fees)	3300	Supplier quotes
Contingency	2200	
Total	**17000**	

[3] Still to be agreed with Yorkshire Water, financial projections are based on 6p

Illustrative 10 year cash flow projection (post construction)

SR Financial Year Ending	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Revenue										
Electricity Sales	18,972	19,351	19,738	20,133	20,536	20,947	21,366	21,793	22,229	22,673
FIT	61,975	63,215	64,479	65,769	67,084	68,426	69,794	71,190	72,614	74,066
Total Revenue	**80,947**	**82,566**	**84,217**	**85,902**	**87,620**	**89,372**	**91,160**	**92,983**	**94,843**	**96,739**
Payments										
Operating costs	17,340	17,687	18,041	18,401	18,769	19,145	19,528	19,918	20,317	20,723
Loan Principal and Interest	49,652	49,652	49,652	49,652	49,652	49,652	49,652	49,652	49,652	49,652
Shareholder withdrawals	-	-	5,800	5,800	5,800	5,800	5,800	11,600	11,600	11,600
Shareholder interest	-	8,700	8,700	8,526	8,352	8,178	8,004	7,830	7,482	7,134
Community Benefit Fund	-	8,700	8,700	8,526	8,352	8,178	8,004	7,830	7,482	7,134
Total Payments	**66,992**	**84,739**	**90,893**	**90,905**	**90,926**	**90,953**	**90,988**	**96,830**	**96,533**	**96,243**
Net Cash flow	13,955	- 2,173	- 6,675	- 5,004	- 3,306	- 1,581	172	- 3,847	- 1,690	496
Opening Balance	50,000	63,955	61,782	55,107	50,103	46,798	45,217	45,389	41,542	39,851
Closing Balance	**63,955**	**61,782**	**55,107**	**50,103**	**46,798**	**45,217**	**45,389**	**41,542**	**39,851**	**40,348**

Notes:

(i) Our financial year runs 1st October to 30th September

(ii) Model excludes VAT for simplicity

(iii) Assumes 2% of share capital withdrawn per year until 2020. The allocation in our model increases after this date. We are aiming to be able to repay shareholders in full over the 20 years we will be receiving FIT payments.