

ANNEX 1. F.S. Pearson's memorandum on the financing of the Barcelona Traction construction and acquisitions, 1913, Dunn Papers, Vol. 42: ²³⁷

Apartado 491, Barcelona.
14 Feb. 1913

J.H. Dunn Esq.
41, Threadneedle Street,
London, E.C.
My dear Sir,

Referring to the negotiations for the sale of £3,500,000 of the 5% 50-year first mortgage bonds of the Barcelona Traction, Light & Power Co. Ltd.

The proceeds of this issue will be required in part for the payment of the shares of the Energia Electric de Cataluna and the Barcelona Tramways, and in part for the expenditures on the hydro-electric developments and for the further extensions of the distribution system of the Compania Barcelonesa de Electricidad and the construction of the railway line of the Ferrocarriles de Cataluna to Tarrasa and Sabadell, and in part for the construction of the general distribution system through the Province of Cataluna for supplying the various towns and customers carrying on large manufacturing operations outside the limits of the city of Barcelona.

It is impossible at the present time to make a exact estimate of the amount of money that will be required for the entire development of this project, as it is impossible to foresee the exact lines that the development will take in all cases, but the enclosed estimates have been carefully prepared by Mr. A.W. Billings, our managing director, and his assistants, and are as close as it is possible to make them at the present time. [Unfortunately these estimates were not included with the file. HVN] I have divided the estimates into different sections to show the requirements of money for the different departments, and also to indicate the manner in which these demands will be satisfied by the sale of securities of the subsidiary companies, as, for instance, the Barcelonesa and the Ferrocarriles de Cataluna; but the expenditures for these subsidiary companies must be made prior to this financing and in the interim the Barcelona Traction Company must provide the cash, as it is now the owner of these companies and stands in the same relation, for instance, to the Barcelonesa that the Deutsche Bank and the Swiss Bank did when we purchased that Company. I think that the Barcelonesa Company can sell 15,000,000 or possibly 20,000,000 pesetas of bonds one years from now, the proceeds of which will recoup the Barcelona Traction Company in part for the advances already made to this Company and for the expenditures made through the coming year, and I think that the Ferrocarriles de Cataluna can sell 16,000,000 pesetas of bonds as soon as its line is in full operation, which should be before the end of this year, although I doubt if the bonds could be sold before the beginning of next year.

In the meantime you will observe that credit has been taken for the proceeds of the debentures of the subsidiary companies which it is proposed to sell. In these estimates I have not allowed for the amount required for the repayment of the loan from

²³⁷ HERTNER, Peter i NELLES, H., "Contrasting Style of Foreign Investment: A Comparison of the Entrepreneurship, Technology an Finance of German and Canadian Enterprises in Barcelona Electrification", *Revue économique*, vol. 58, núm. 1, 2007

the Deutsche Bank on account of the purchase of the Barcelonesa Company, nor for the advances (amounting to £365,000 in cash) from the proceeds of the last issue of £4,000,000, which was paid on account of the Barcelonesa purchase, which I assumed would be returned to the Barcelonesa Company through the financial arrangements made ultimately for the purchase of the Barcelonesa Company, as this purchase was not contemplated when the original L£4,000,000 was issued.

From these estimates you will observe that a total of £4,900,000 is required for the completion of the work in accordance with the present estimates and the purchase of the interests of the Tramways and the Azaria Companies. The construction work includes the two hydro-electric developments, one at Seros and one on the Pallaresa, the latter having three power stations, two of these, however, being small and auxiliary to the largest station. The total generating capacity of the stations of these two developments will amount to 137,000-horse power. The estimate also includes the cost of construction of the main transmission lines from these power stations to the principal sub-stations in Barcelona, and the construction of a general 25,000 volt distribution system to different important points in the province of Cataluna, with the necessary sub-stations at the points of distribution.

In my opinion it is absolutely necessary to complete all of these hydraulic developments as soon as possible, and it is impracticable to delay the work on the Pallaresa while the Seros is being completed, as the contracts which we have taken for power and the demands for power are such that the Company could not fulfil its contracts and would be put in a very serious position if it did not construct both of these developments at the earliest possible moment.

There is no provision in the estimates for the development of the Ebro or any other power, but within the next twelve months preliminary work must be started on the Ebro development or the Company will be in a serious position as regards its contracts by the end of the year 1915, as it will be impossible to carry all of its contracts without the Ebro development; nothing, however, need be done regarding the Ebro development for the next twelve months, except possibly the expenditure of £10,000 to £20,000 in connection with the concession, and possibly the acquisition of certain important pieces of land, which must be acquired from time to time as opportunity offers.

You will observe also that no provision has been made for expenses in connection with the sale of the bonds, and the issues which will probably amount to £30,000 or £40,000.

In addition to the Barcelonesa Company nearly all of the shares have been purchased in the following Companies:

- Tarragona Gas Co.
- Reus Electric Co.
- Tortosa Electric Co.
- Segre Waterfalls Co.
- Mollet Electric Co.
- Rubi Electric Co.
- Co-operative Electric Co., Del Valle.
- Electricista Catalana
- Tibidabo Light Co.
- Bertrand Lighting Plant.

The Largest of these in the Tibadabo Co., which supplies lighting and power service to a large portion of the suburbs of Barcelona, including the districts of Horta, San Gervasio, Gracia, Sarria, Bonanova, Tibidabo, and Vallvidrera. All of these sections of Barcelona are developing rapidly and we were fortunate to secure this

company, which would have been purchased by the Azaria group if we had not obtained it. The cities of Tortosa, Reus, and Tarragona each have about 30,000 inhabitants, and the city of Reus is a prosperous manufacturing city, and should grow very materially in the next few years. In Tarragona and Tortosa there is also a good chance to develop an electric light and power business.

Through the control of the Barcelonesa Company, we also control the Mataro Electric Co. and 80% of the shares of the Tarrasa Co. This latter Company supplies service in the city of Tarrasa – a manufacturing city of about 30,000 inhabitants.

The Segre Co. is the owner of certain concessions on the River Segre, which it was necessary to control in view of our developments.

The proceeds of the original issue of £4,000,000 of bonds have been expended in the purchase of the Sarria Railway and the concessions for the extension of this railway to Tarrasa and Sabadell and in the purchase of the Sert concessions, and for other preliminary expenses, and for the purchase of the above-named companies, and construction work in Spain and advances to the Barcelonesa Company.

Up to the 1st of January 1913 the Company had received from the issue of the £4,000,000 of bonds, £3238,300 less the discount on the bonds and the bankers commission which was paid at the time of sale, amounting to £620,000, or £2,618,300.

Of the above amount £600,000 has been advanced to the Barcelonesa Company and £1,346,079-16-11 to Ebro Company for account of construction and purchase of subsidiary companies in Spain. The remainder has been expended in the original purchase of the Sarria Company and for concessions and interest during the past year on the bonds already issued, and in part payment of the Barcelonesa Co. and for materials for construction.

In addition to the above proceeds, the Company has also borrowed at the end of the year £376,500 which has since been repaid by the sale of Barcelonesa Company bonds.

I attach hereto a provisional balance sheet of the Barcelona Traction Company as of December 31st 1912. The earnings of the various subsidiary companies in the past year and the estimated net earnings of the enterprise during the next four years are also attached. This estimate is the same as that included in the prospectus recently prepared for Messrs Stallaerts & Lowenstein, and does not include the estimated earnings of the Tramway Company, which in 1914 I should estimate at £60,000 and in 1917 at £150,000. The accounting department is preparing a statement of the various companies showing their gross and net earnings with the taxes and charges, and also detailed statement of the expenditure to date, which I will submit later.

For further particulars regarding the Companies and top aid you in preparing a statement to submit to the syndicate, I would refer you to the prospectus which has recently been issued in French and which in a concise manner presents the actual situation and condition of the Companies. In this prospectus it is stated that we have 85,000 horse power of business already contracted, and that 100,000 horse power is estimated to be required by the time the first installation is ready for operation. I find upon very careful investigation that the present load is about 90,000 horse power, and we shall probably have 110,000 horse power by the time the Seros installation is ready. This, however, is much more than can be supplied from the Seros plant, and the earnings from this business can only be secured when the Pallaresa plant is in operation.

Signed F.S. Pearson

Estimated Net Earnings of the Subsidiary Companies of the Barcelona Traction, Light & Power Co. Ltd.

Summary
[In 000's of pesetas]

	1912	1913	1914	1915	1916	1917	
Barcelonesa	3,079	4,234	4,880	6,475	7,225	7,975	
Outside Cos.	434	891	1,100	1,242	1,408	1,613	
Sarria Ry. Etc	350	480	1,100	1,350	1,650	1,850	
Ebro Co			100	3,250	10,000	13,350	20,550
Total Net Ptas	3,863		5,705	10,334	19,067	23,633	31,988
Total Net £,000		-	£211	£451	£733	£875	£1,184

Paris, Jan 17, 1913

ANNEX 2. Cronologia dels treballs i projectes de F. S. Pearson, segons les diferents etapes de conformació del model elèctric.

Any	Activitat realitzada o nom de la companyia fundada	País d'operació	Activitats de negoci	Col·laboradors principals o relacionats	Lligams directes o de dependència amb altres empreses	Etape
1883	Professor a Tufts (fins al 1886)	EEUU	Docència i investigació elèctrica			0
1884	Enginyer de mines (Virgínia 1884, Sao Paulo 1886 i 1899, Texas 1901, etc.)	EEUU i sudàmerica	Enginyeria de mines			0
1886	Investiga el sistema de clavegueram de París a petició d'una enginyeria de Boston	París, França	Enginyeria civil			0
1887	Somerville Electric Light Company	EEUU	Generació elèctrica i enllumenat			1
1887	Woburn Electric Light Company	EEUU	Generació elèctrica i enllumenat			1
1887	Visita Sao Paulo on queda impressionat pel potencial hidroelèctric	Brasil	Generació elèctrica			1
1889	Enginyer en cap de la West End Street Railway of Boston	EEUU	Electrificació i explotació de tramvies	Henry Whitney		1
1889	Grant, Pearson and Company	Boston, EEUU	Consultoria d'enginyeria (projectes de elèctrics)		Dominion Coal Company	1
1893	Dominion Coal Company Limited (Cape Breton)	Nova Escòcia, Canadà	Mines de carbó (unificació de les existents i explotació)	Henry Whitney i B. F. Pearson		1
1894	Enginyer en cap de la Metropolitan Street Railway Company a Nova York (fins al 1899)	Nova York, EEUU	Electrificació i explotació de tramvies	William Whitney		1
1895	Halifax Electric Tramways Company Limited	Halifax, Canadà	Electrificació i explotació de tramvies	Henry Whitney i B. F. Pearson	Dominion Coal Company	1
1897	West India Electric Company (Jamaica Light and Power Company a partir de	Kingston, Jamaica	Generació hidroelèctrica i tramvies.	Sindicat de Montreal		1

	1907)					
1898	Conseller tècnic per a una concessió de tramvies a l'Habana	La Habana, Cuba	Electrificació i explotació de tramvies	Farquhar		1
1899	Dominion Iron and Steel Company Limited	Nova Escòcia, Canadà	Empresa de consum energètic intensiu	Henry Whitney i B. F. Pearson	Dominion Coal Company	1
1899	Estudi d'una concessió hidroelèctrica	São Paulo, Brasil	Generació hidroelèctrica			2
1899	São Paulo Tramway, Light and Power Company Limited	São Paulo, Brasil	Electricitat i tramvies	Mackenzie i James Ross		2
1902	The Mexican Light and Power Company Limited	Ciutat de Mèxic, Mèxic	Electricitat	Sindicat de Monetral, Brown, Lash, Hubbard i Conway		2
1903	Consultor elèctric de la Toronto and Niagara Power Company, de la Lac du Bonnet hydro-power station de Manitoba, i de la planta elèctrica de gas pels tramvies de Winnipeg (fins 1907)	Toronto, Manitoba i Winnipeg, Canadà	Enginyeria elèctrica, generació elèctrica aplicada als tramvies	Mackenzie		1
1904	Rio de Janeiro Tramway, Light and Power Company Limited	Rio de Janeiro, Brasil	Electricitat, tramvies, gas i telefonia	Mackenzie, Farquhar, Van Horne		2
1905	The Bahia Tramway, Light and Power Company	Bahia, Brasil	Electricitat i tramvies	Farquhar		2
1906	Mexico Tramways	Ciutat de Mèxic, Mèxic	Tramvies	Mackenzie	Mexican Light and Power Company	2
1906	Brazil Railway Company i Port of Para	Brasil	Ferrocarrils i ports	Farquhar		3
1909	Mexico North Western Railway, i Mexican Northern Power Company	Mèxic	Electricitat i Ferrocarrils	Mackenzie, Dunn		3
1909	The Madera Lumber Company	Mèxic	Asserradora i paperera, per exportar per ferrocarril	Mackenzie, Dunn	Mexico North Western Railway	3
1910	Rock Island syndicate	EEUU	Ferrocarrils	Farquhar, Dunn		3
1911	Medina Valley Irrigation Company i San Antonio Land and Irrigation Company	EEUU	Irrigació de terres	Dunn		3

1911	Barcelona Traction, Light and Power Company, Limited	Barcelona, Espanya	Electricitat i ferrocarrils	Dunn, Brown, Lash, Hubbard, Wood, Lowestein		4
1911	Pearson Engineering Company	Barcelona, Espanya	Enginyeria hidroelèctrica	Brown	Barcelona Traction	4
1911	Ebro Irrigation and Power Company, Limited (Riegos y Fuerza del Ebro)	Barcelona, Espanya	Generació elèctrica, transport i comercialització		Barcelona Traction	4
1912	Ferrocarriles de Catalunya	Barcelona, Espanya	Ferrocarrils i immobiliària	Montañés	Barcelona Traction	4
1912	Catalonia Land Company	Barcelona, Espanya	Compra de terrenys		Barcelona Traction	4
1912	Brazilian Traction, Light and Power	Brasil	Electricitat, tramvies, gas i telefonia	Mackenzie	São Paulo i Rio de Janeiro Tramway, Light and Power Company	3

Font: Elaboració pròpia