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ELECTRICITY IN THE CHANNEL ISLANDS

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LA COLLETTE POWER STATION

LA COLLETTE POWER STATION with its distinctive chimney is a major landmark at the entrance to the St Helier harbour in Jersey. Designed by General Electric Company and Colin Morse of Weybridge, the plant was first commissioned in November 1996. The original equipment was a Parsons 30MW steam turbine. Later additions included two more oil-fired units, diesel engines and gas turbines, raising capacity to 224MW. With the submarine cable links from France providing most of Jersey's electricity supplies, capacity has been reduced to 79MW. The adjacent steel and glass Energy from Waste plant opened in 2011 can contribute another 8MW to the island power system.

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Electricity in the Channel Islands

The combined area of the islands (46,083 acres or 75 square miles) is only about one-third of the Isle of Man. Jersey is the largest of the islands (28,717 acres). Guernsey (15,564 acres) also includes the following dependencies—Alderney (1,962 acres), Brechou (74), Great Sark (1,035), Little Sark (239) Herm (320, Lethou (44) and Lihou (38).¹ As Crown Dependencies the islands have administrative independence outside the United Kingdom. British electricity legislation, for example, has never applied to the Channel Islands although technical standards have generally followed mainland practices.

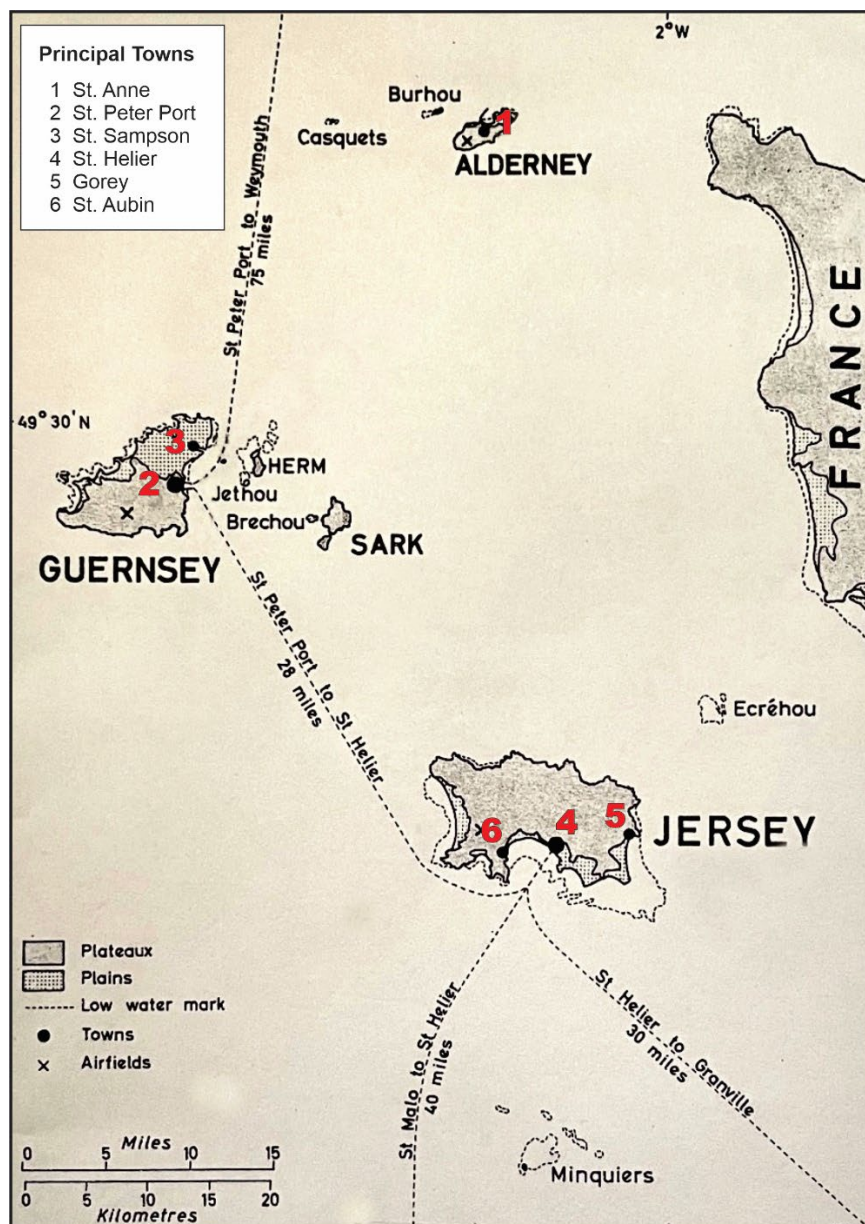


Figure 1 Channel Islands.

¹ The general geography of the islands was described by D.C. Large and G.W.S. Robinson, "The Channel Islands", in J.A. Steers, ed., *Field Studies in the British Isles* (London: Nelson, 1964), pp.1-13. Figure 1 is taken from this paper.

By the 1880s the islands were well connected to the British mainland with regular steamship services to Southampton and Weymouth.² These sea links promoted the development of specialised agriculture and tourism. Local infrastructure was improved by two railways—Jersey Railway (1870-1936) and the Jersey Eastern Railway (1873-1929). The principal towns of St Peter Port in Guernsey and St Helier in Jersey had well established gas companies by this time.

Details of occupations in the 1911 Census show the increasing dominance of the service sector for residents, visitors and the substantial garrisons in Guernsey and Jersey.³ Agriculture was also a significant sector of the labour force—23.2 percent in Guernsey and 21.9 percent in Jersey. In Guernsey half the agricultural workers were described as nurserymen or market gardeners, occupations related to the early vegetable and flower trade with English markets.

General trends of population growth are noted in this table:

CHANNEL ISLANDS POPULATION

	Guernsey*	Jersey
1881	35,275	52,445
1911	45,001	51,898
1931	42,743	50,412
1951	45,496	57,310
1971	51,458	69,329
1991	58,817	84,082
2011	62,715	97,857
2021	63,948	107,800

Source: Census reports.

*Guernsey figures include dependencies such as Alderney and Sark.

Recent population growth and the expansion of financial services as a major component of the island economies is also reflected in the substantial rise in electricity consumption since the 1950s. Local generation using oil fuels has now been largely replaced by imports from France. The development of renewable energy from the tides would appear to be the next step.

Guernsey

Randall's Brewery in St Peter Port was an early user of electricity and put on a public display for the Jubilee celebrations in 1887.⁴ Further electrical development followed in the early 1890s when the tramway system was electrified.

² J.H. Lucking, *The Great Western at Weymouth: A railway and shipping history* (Newton Abbot: David & Charles, 1971).

³ 1911 Census, "Islands in the British Seas", Parliamentary Papers Cmd 6222 (London: HMSO, 1913). The volume also covers the Isle of Man.

⁴ Noted in the Wikipedia article on Guernsey Electricity.

ELECTRIC TRAMWAY SYSTEM IN GUERNSEY¹

	<i>Years operating</i>	<i>Route miles</i>	<i>Max. no. of cars</i>
<i>Guernsey Railway</i>	1892-1934	2.81	20

The steam tramway from St Peter Port to St Sampson was opened in 1879. Siemens from London electrified the line in 1892, the second in the British Isles to be powered by current from overhead lines.²

A generating station was built close to the later depot at Houge-a-la-Perre midway between the towns. The capacity of the station was 200kW in 1910/11. Reciprocating steam engines were the prime movers.³ The small system was profitable until 1914 but was unable to compete with motor buses after the war and closed in 1934.

Notes:

¹ Compiled from Keith Turner, *Directory of British Tramways*, Vol.1 (Stroud: Tempus Publishing, 2007), pp.198-201.

² The first tramway with overhead lines was in Leeds. See R.W. Blackwell, "Electric tramways in Great Britain", *Cassier's Magazine* Vol.16(4), 1899.

³ *Garcke's Manual of Electrical Undertakings* 1910/11.

Public electricity supply began in 1898 when Edmundson's Electricity Corporation⁵ opened a small DC power station in Les Amballes, St Peter Port. A second generating plant at St Sampson was built in 1902/3 and this became the main centre of the Guernsey Electric Light & Power Co. formed in 1907. By 1910/11 the company had a generating capacity of 1,340kW. One early adopter was Gardner's Royal Hotel ("the most up-to-date of the Channel Islands") which had electric lighting throughout as well as an electric lift.⁶

Electricity sales in 1905 amounted to 1.20million kWh and more than doubled over the next two decades. In 1927/28 the company generated 3.18million kWh and was similar in size of output to Canterbury Corporation's 3.09million kWh.⁷

The States of Guernsey acquired the company in 1933/34 and began a programme of modernisation and expansion. AC supply was added for distribution across the island. Sales increased from 6.9million kWh in 1939 to 24.9million kWh in 1956. The number of consumers grew from 5,774 to 12,695 over the period.⁸

St Sampson has been the only centre of power generation since the 1930s. The North Quay complex combined steam and diesel generation until 1938 when the steam engines were shut down. In 1956 the generating capacity reached 12,296kW. By 1977 the station had a capacity of 62,000kW and was the

⁵ Edmundson's Electricity Corporation, London was very active in developing electricity supply in smaller towns. By 1911 the company had established systems in about 40 places. The Guernsey system was the only operation outside Great Britain.

⁶ *Bradshaw's April 1910 Railway Guide* (Reprinted Newton Abbot: David & Charles, 1968) p.1067.

⁷ Electricity Commissioners, *Generation of Electricity in Great Britain year ending 31 March 1928* (London: HMSO, 1928). The inclusion of the Guernsey Electric Light & Power Co. and the designation of Guernsey as Electricity District No.21 are curious since the Commissioners had no jurisdiction outside Great Britain. St Sampson power station used gas engines to generate electricity with producer gas made onsite.

⁸ *Electricity Supply Handbook 1958* (London: Electrical Times), p.170.

largest diesel-engined generating plant in the British Isles.⁹ Subsequent development with more diesel units and two gas turbines raised capacity to 115,000kW.

All Guernsey electricity demands were met by the St Sampson power station until 2000 when a subsea cable link to Jersey (60 Megawatts) allowed the transmission of power from France. General trends in electricity supply in Guernsey since 2005 are illustrated in this table:

GUERNSEY ELECTRICITY (MILLION KWH)

	<i>Generation</i>	<i>Imports</i>	<i>Consumption</i>
2005	53	289	317
2010	152	239	362
2015	157	218	355
2019	165	204	348

Source: Compiled from United Nations, *Energy Balances and Electricity Profiles*.

Jersey

The island was slow to develop a public electricity supply perhaps because of the dominance of the Jersey Gas Light Co. which had 3,251 customers in 1897.¹⁰ One early example of private generation was the installation of electric lighting at the department store of A. de Gruchy & Co. in King Street, St Helier during 1883.¹¹

Jersey Electricity Company was formed in 1924 when Crompton & Co. of Chelmsford was awarded the concession.¹² A diesel power station on Albert Pier in St Heliers harbour was completed in July 1925 and a public supply began. Growing demand outstripped the capacity of this plant and a new power station on Queens Road on the northern edge of the town was built in 1934. By 1939 the capacity was 5,520kW.¹³

The States of Jersey acquired a controlling interest in the company in 1936 and supply was extended to serve other parts of the island. By 1956 the company sales had reached 36.83million kWh.¹⁴

Further growth of demand was supported by raising the capacity of the Queens Road diesel plant from 17,456kW in 1956 to 65,000kW in 1966. By this time work on a large new oil-fired steam turbine plant at La Collette at the harbour entrance had begun. Completed in 1973 the station had a capacity of 110,000kW. The distinctive tall chimney (348 ft high) remains a major landmark.

⁹ *Electricity Supply Handbook 1978*, p.42. Lerwick in the Shetland Islands was the second largest diesel station with 37,300kW capacity.

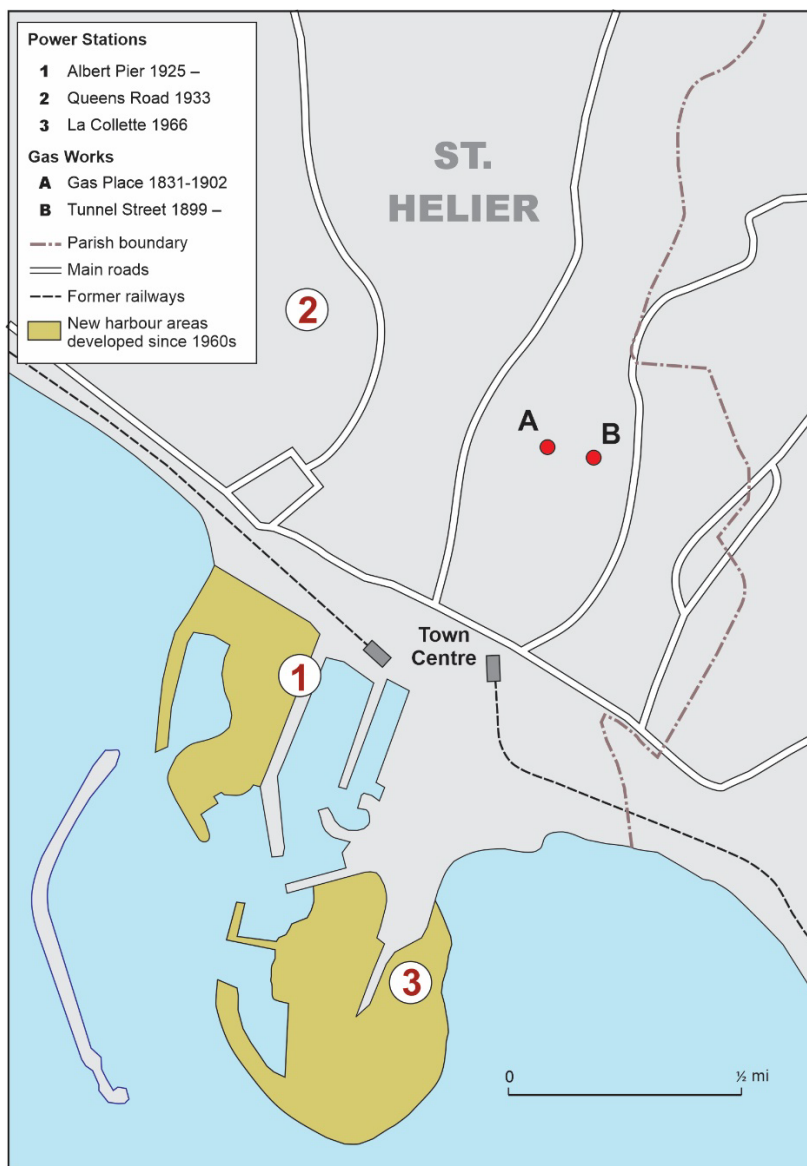
¹⁰ *Gas Works Directory and Statistics 1897* p.106 (Google Books).

¹¹ See "Jerripedia" (www.theislandwiki.com) article on Electricity in Jersey.

¹² Crompton & Co. and its subsidiary the Electric Supply Corporation were early rivals of Edmundson's around 1900. The Jersey company was one of the later ventures of the Crompton enterprise.

¹³ See "Jerripedia" (www.theislandwiki.com): 1939 newspaper article on the Jersey Electricity Co.

¹⁴ *Electricity Supply Handbook 1958* (London: Electrical Times), p.171.



The first subsea interconnector cable with France was commissioned in 1985 and more cables have been laid since 2000. A Channel Islands Electricity Grid was established in 1998 to manage the submarine cable system which was extended to Guernsey in 2000.

General trends in electricity supply in Jersey since 2005 are illustrated in this table:

JERSEY ELECTRICITY (MILLION KWH)

	<i>Generation</i>	<i>Imports</i>	<i>Consumption</i>
2005	27	650	
2010	56	669	649
2015	48	625	622
2019	44	630	632

Source: Compiled from United Nations, *Energy Balances and Electricity Profiles*.

Alderney

The first public electricity supply was begun in 1938 by the Alderney Light & Power Co. A more extensive system was laid out by the German occupying forces from 1940. This was later operated by the British Army and the States of Guernsey.

From 1952 to 1979 the Alderney system (with the States of Alderney as the main shareholder) was managed by Christy Brothers Ltd of Chelmsford.¹⁵ The diesel power station in the centre of the island at St Anne had a capacity of 432kW in 1956, rising to 750kW in 1967 and 1,197kW in 1977.

Sark

In 1947 the Chief Pleas of Sark (the island Parliament) advertised for a developer to build a public electricity supply system. Malcolm Robson was the successful applicant and began establishing a DC system. By Christmas 1949 there were 55 customers. The system was changed to AC in 1960. One special inducement for change was the ability to receive television signals.¹⁶

The island system was operated by the Robson Electric Supply Co. from 1948 to 1969. Another family concern ran the Sark Electric Supply Co. from 1969 to 1997. The enterprise then became a limited company. The high cost of electricity in recent years has fostered moves toward state control. The power station located on Harbour Hill has a capacity of about 1,500kW.

Note on Sources

Garcke's Manual of Electrical Undertakings (1896-1960) includes much of interest on the electric railways and other organisations. The nearest collection to the Channel Islands is the museum and archives of the Western Power Electricity History Society (www.wpehs.org.uk).

Additional material especially on the early history of development in Guernsey and Jersey awaits discovery in the libraries and archives.

Two published sources (not available under covid restrictions) that should be consulted:

Eric Towner, ***From Muscle Power to Megawatts*** (Guernsey Electricity, no date).

L.J. Hawkey, ***The story of Jersey Electricity Company Ltd*** (Jersey Electricity, 1983).

¹⁵ Christy Brothers Ltd was active in South West England until 1948. See Peter Lamb and Eric Lodge, "Christy Brothers in the South West", *Histelec Supplement* 15, August 2000, Western Power Electricity Historical Society. The Alderney operation was one of their last activities in electricity supply.

¹⁶ Details from Sark Electricity Ltd website (www.sarkelectricity.com)