



**FS Club Events**



# Sustainable Energy Futures For Remote Communities

**James Lancaster | Managing Director, Alderney Electricity Ltd**

**11:00, Monday, 13 May 2024**



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# A Word From Our Chairman



**Simon Mills**

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## Today's Agenda

- 11:00 - 11:05 Chairman's Introduction
- 11:05 - 11:25 Keynote Presentation - James Lancaster
- 11:25 - 11:45 Question & Answer



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# Today's Speaker



**James Lancaster**

Managing Director  
Alderney Electricity Ltd



13<sup>th</sup> May 2024

Sustainable Energy For Remote Communities

*James Lancaster*

- Alderney and Community
- Geography
- History
- Energy System
- Sustainability
- Achievements
- Future Direction
- Wider Implications
- *Not Technical*



Today's webinar



Alderney



- Northermost of the Channel Islands
  - *10 miles from the coast of France*
- Crown Dependency
- 3 miles long, 1 mile wide
- Population 2200
- Independent
  - *own government, legislature and judiciary*

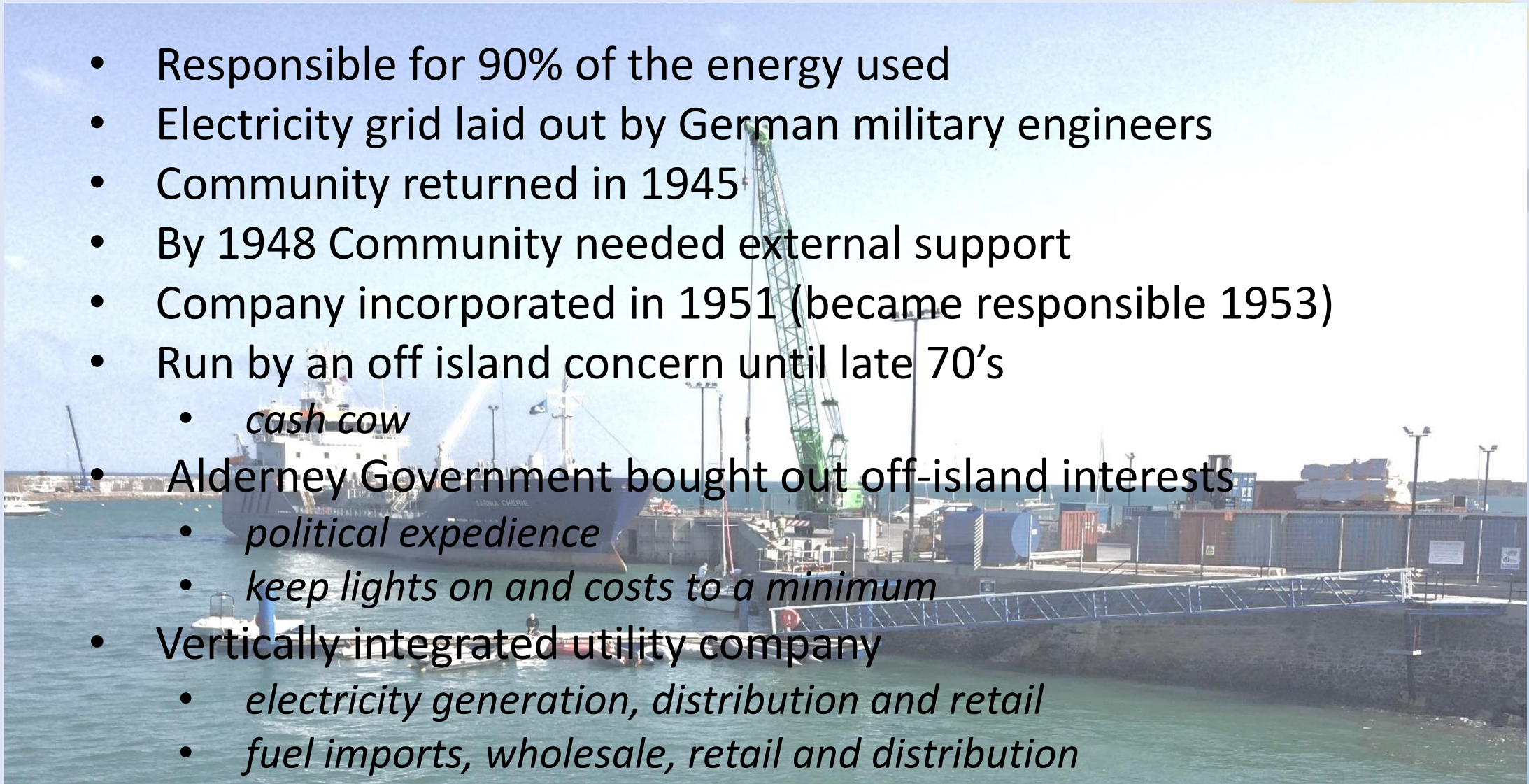


- 
- No interconnector
    - *all energy produced in island*
  - Reliant on Fossil Fuels
  - 25% Electricity, 15% Transport, 60% Heating
  - 2022 – Island Plan
    - *Cheaper Greener Energy*
  - 2023 – Energy Policy
    - *Security, Resilience, Clean Energy, Affordability, Tidal and Wave Energy, Opportunities*



## Source and use of Energy

- Responsible for 90% of the energy used
- Electricity grid laid out by German military engineers
- Community returned in 1945
- By 1948 Community needed external support
- Company incorporated in 1951 (became responsible 1953)
- Run by an off island concern until late 70's
  - *cash cow*
- Alderney Government bought out off-island interests
  - *political expedience*
  - *keep lights on and costs to a minimum*
- Vertically integrated utility company
  - *electricity generation, distribution and retail*
  - *fuel imports, wholesale, retail and distribution*



Alderney Electricity Ltd

- AEL is committed to delivering a sustainable energy future
  - *what does that mean?*
    - energy – the most important commodity?
    - available
    - affordable
      - *equitable*
    - economics? environment?
      - *island plan?*
    - risks minimized
      - supply chain risk
      - price volatility
  - *fossil fuels?*
    - opinion divided

“This is a Journey...for everyone”



“...without available local natural resources, the technology does not exist to decarbonize whole energy grids economically.... yet”

- Short Term (next 10 years)
  - constraints
- Medium Term (10 to 20 years)
  - Constraints removed
- Long term (20 years +)
  - Disruptive innovation



- 2008 – 10-year plan to upgrade grid infrastructure
- 2014 – 6 years in, 2 years of work complete
  - *quality of the infrastructure*
- *2015 – Accelerated network programme*
- *2016 – Station Upgrade Programme*
  - *both signed off in 2023*
  - *£6 million invested*
- Automation
  - *active network management*



To Date?

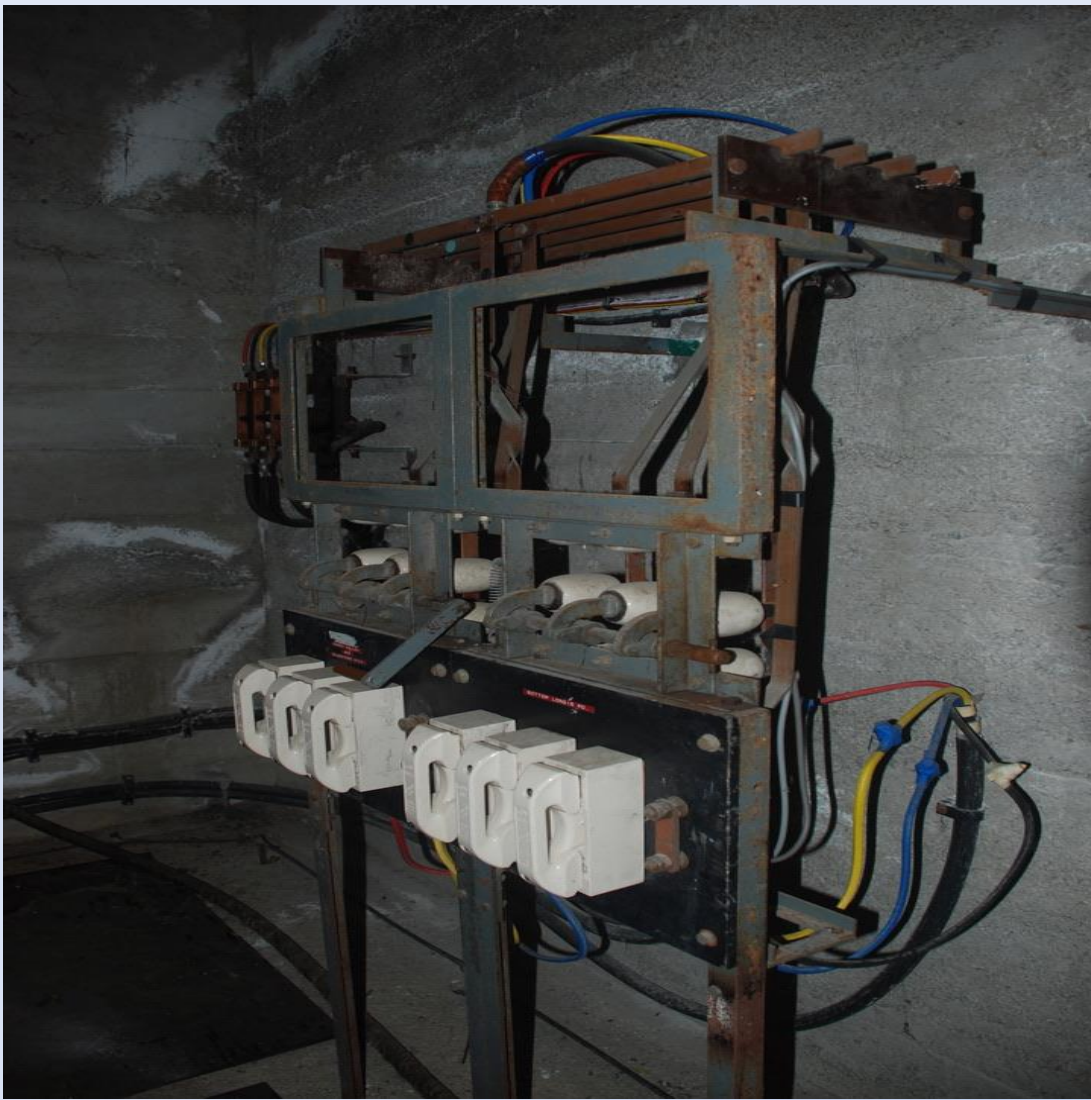


From this...



To this...





From this...



To this...



From this...

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To this...



From this...

- Supply Side
  - *network automation, instrumentation and monitoring*
    - data is critical
    - 3x3 (1/3 electricity from renewables in 3 years)
      - *Wind, solar and storage*
- Demand Side
  - *smart management*
    - meter trial
    - dashboards
      - *discretionary consumption*
      - “remembering what Grandma knew”
  - *testbed for innovation*



- 1996 to 2014 – living and working in Bristol
- Focus on Digital Communications and Energy Systems
  - *all talking about testbeds*
    - rolled out city wide digital testbed
      - *part of wider european network of smart cities*
  - *looking at the potential for tidal energy in the Severn Estuary*
    - what would an energy testbed look like?
    - clue – I didn't go to Alderney to run a small energy utility



- Complex System
  - *must be scalable*
  - *Eigg*
- Manageable
  - *affordable by medium sized corporate*
- Closed system
  - *cause and effect*
  - *Scilly “Smart Islands”*
- Does Alderney fit the model?
  - *Yes... (and we’ve largely built it)*





- Energy innovation activity at micro level
  - *infinite soak*
  - *market and systemic failures*
- Whole system approach
  - *key to sustainable energy futures*
  - *fundamental shift in strategy*
    - example – energy storage



- Energy sustainability not just about remote communities
  - national political objectives and imperatives
- Disconnect between practicalities and politics
  - *soldier on and hope for best?*
- Communities are looking more control
- Need to build solid cases for investment
- In UK terms, £1 million on Alderney = £50 billion ish
- AEL has spent £6 million in last 8 years (6 without COVID)
  - *knew enough would work to justify expenditure*
- £300 billion on an untried and tested whole grid system?
- Guernsey equivalent = £200 million
- Open offer to potential partners
  - “Our test bed, we are not your guinea pigs...”



## Wider Implications



Building a coalition of “interested parties

- 2 Questions

“How do we deliver a sustainable energy future for island?”

“How can we deploy that knowledge for the benefit of other communities?”



....and in Summary



Over to you...



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# Comments, Questions & Answers



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Question & Answer

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## Forthcoming Events

- Tuesday, 14 May 2024 (11:00 - 11:45 BST) Fire Risks Involving Lithium-Ion Batteries: The Problems These Batteries Pose And The Emerging Techniques To Counter Them
- Thursday, 16 May 2024 (11:00 - 11:45 BST) Sir Isaac Newton: A Genius And/Or A Flawed Character?
- Wednesday, 22 May 2024 (15:00 - 15:45 BST) The Achilles' Heel Of AI: How A Major Tech Risk To Your Business Could Be One You Haven't Heard Of - And What You Should Do

**Visit:** <https://fsclub.zyen.com/events/forthcoming-events/>

**Watch past webinars:** <https://www.youtube.com/zyengroup>