

## Energy Survey 2021 Results Report

The purpose of this report is to ascertain the current energy sources being used across the Falkland Islands, both in the rural areas (Camp) and Stanley. In 2015 the Rural Energy Advisor appointed by FIDC conducted an energy survey, predominantly focused on the needs of the rural sector to inform the Rural Development Strategy Steering Group (RDSSG). The aim was to develop an understanding of the energy systems in use in the Falkland Islands and to enable a review of the energy schemes FIDC was administering at the time. Following the survey, the Rural Energy Advisor reviewed the existing schemes and made a number of recommendations based on the data gathered.

The below table provides details regarding the existing energy grant and loan schemes in place for the period of July 2015- June 2020, the total number of each grant, total values and average grant pay-out.

July 2015- June 2020	Applications paid out	Total Value	Average Value
Rural Energy Grant	12	£76,121.62	£6,343.47
Rural Energy Additional Generation Grant	14	£20,493.71	£1,463.84
Energy Loan	10	£77,430.56	£7,743.06
Thermal Energy Grant	5	£11,445.39	£2,289.08
Thermally Efficient Homes Grant	15	£6,981.60	£465.44
Domestic Electrical Safety Grant	14	£8,200.23	£585.73

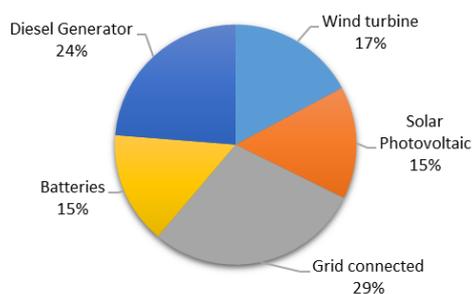
This report looks back on that data gathered and the current survey responses to draw comparisons and will be used to inform any review of the existing energy grant and loan schemes in place since 2016.

The survey was promoted online via social media, by email to clients and via the Penguin News. Overall there were 111 responses. Of the 84 respondents who indicated where their property was located, 52% were from Stanley, 24% from East Falkland, 16% from West Falkland and 8% from the Outer Islands.

The report is broken into 5 separate sections: Electricity Generation; Heat Generation; Thermal Efficiency of Homes; Electrical Safety, Electricity Saving and Demand Management; and Comments.

### Electricity Generation

#### Q1 How is your energy produced? (Total)



47 (42%) of respondents to the survey operate on a Diesel Generator system, often combined with a renewable energy source and batteries, creating a hybrid energy system. The majority of respondents indicating that they used a diesel generator as their source of electricity generation were based in the Camp (34 respondents) with 7 not answering this question and 6 based in Stanley. It can be surmised that the 6

based in Stanley meant that they operated on the Stanley grid system, which is primarily run by diesel generators.

60% of those operating with a Diesel Generator also had solar photovoltaic panels as a part of their system and 57% indicated that they have a wind turbine producing their energy. Of those who

Energy Source	Total	Stanley	East Falkland (excluding Stanley)	West Falkland	Outer Islands	Didn't give location
Wind turbine	34	4	12	8	5	5
Solar Photovoltaic	30	2	14	8	5	5
Grid connected	57	38	1	0	0	18
Batteries	30	2	13	9	4	2
Diesel Generator	47	2	16	12	6	11
Hydro Electric	0	0	0	0	0	0

stated that they used a wind turbine, a further 58% indicated that they also had a solar photovoltaic energy source as part of their hybrid system.

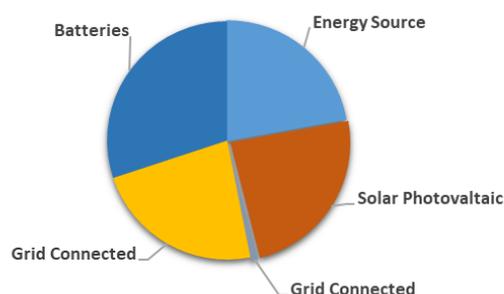
When looking specifically at properties based outside of Stanley, 87% stated that they used a diesel generator with 64% and 67% respectively indicating that they used a wind turbine and/or a solar photovoltaic energy source. In 2015 69% indicated that they used wind and only 18% used solar.

This large increase in the use of solar photovoltaic systems is likely due to the improving solar technology, the work done by the Rural Energy Advisor and the Rural Energy Additional Generation Grant (REAGG) scheme, in place since 2016. A total of 18 respondents stated that they had applied for a Rural Energy Grant and 3 businesses indicated they had obtained a REAGG. Of these 21 responses, 10 (48%) added in their comments that they had assistance for solar panels.

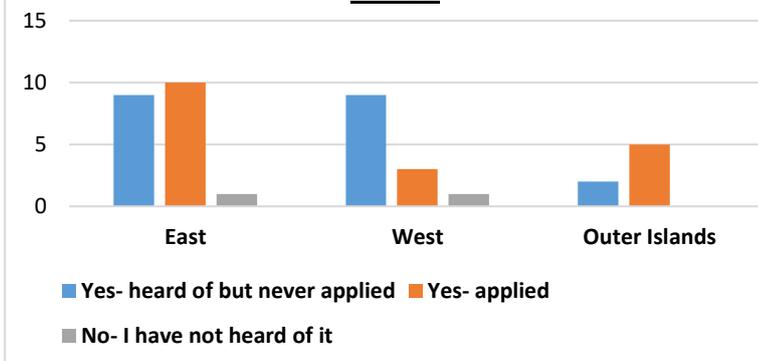
When asking rural respondents if they had considered changing their electrical system 15 respondents (38% of Camp responses) said that this was an option. When looking at the comments attached to this question, 9 stated that they were thinking about changing to solar or adding additional solar panels to their system.

87% of Stanley residents stated they were grid connected, with a further 14% stating their energy came from a diesel generator, 9% from wind, and 5% from solar and batteries respectively. It is possible that the respondents did

### Q1 How is your energy produced? (Camp)

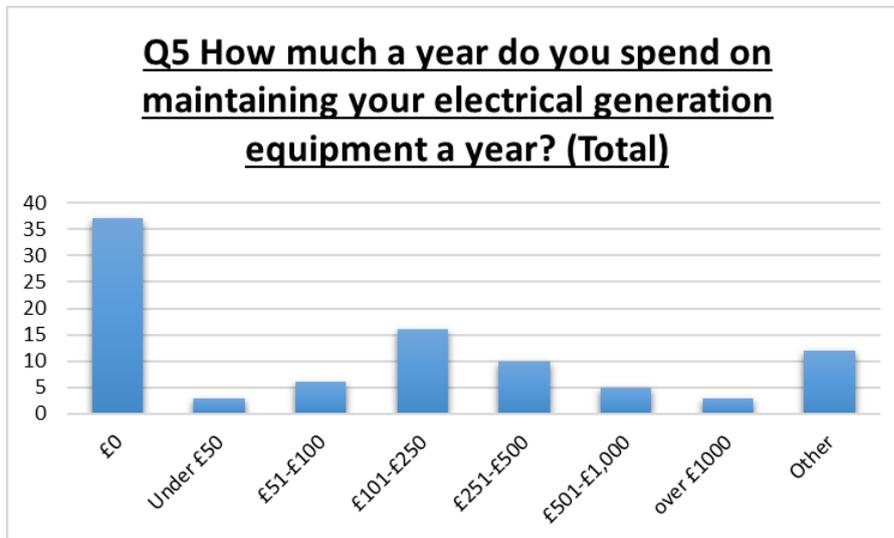


### Q2 Have you heard of or applied for a Rural Energy Grant administered by FIDC?



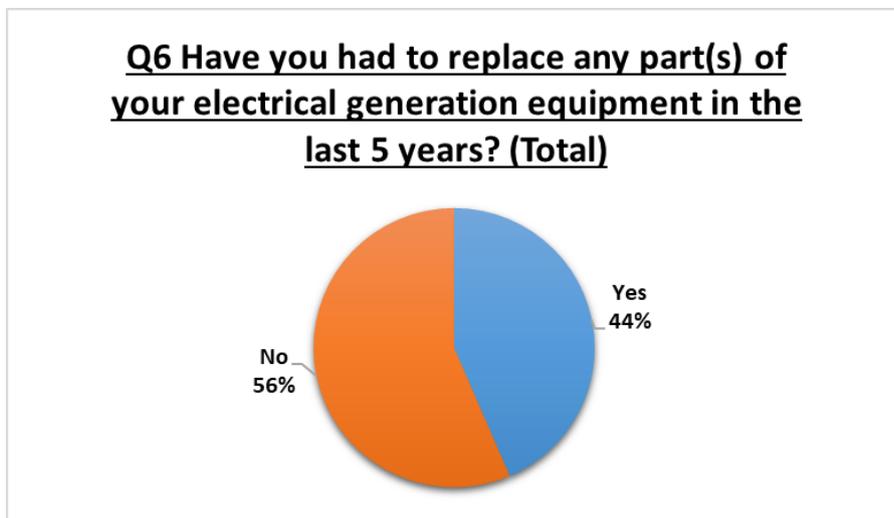
not understand 'grid connected' and thought about the source of Stanley power in general or included their solar thermal heating systems in their energy sources.

When asked how regularly they maintain their electrical generation systems 70% of Stanley residents indicated that they never had a need to and only 5% of Camp residents stated that they never maintained their systems. 64% of Camp respondents maintain their systems at least on a monthly basis.



38% of respondents to the survey indicated that they spend between £1-£500 per annum on maintaining their electrical generation equipment. When comparing Stanley and Camp, 16% of Stanley residents who responded to the survey spent between £1-£500 per annum, with 73% spending £0 on maintaining their

equipment. However 61% of Camp residents spend up to £500 per year on electrical generation system maintenance.



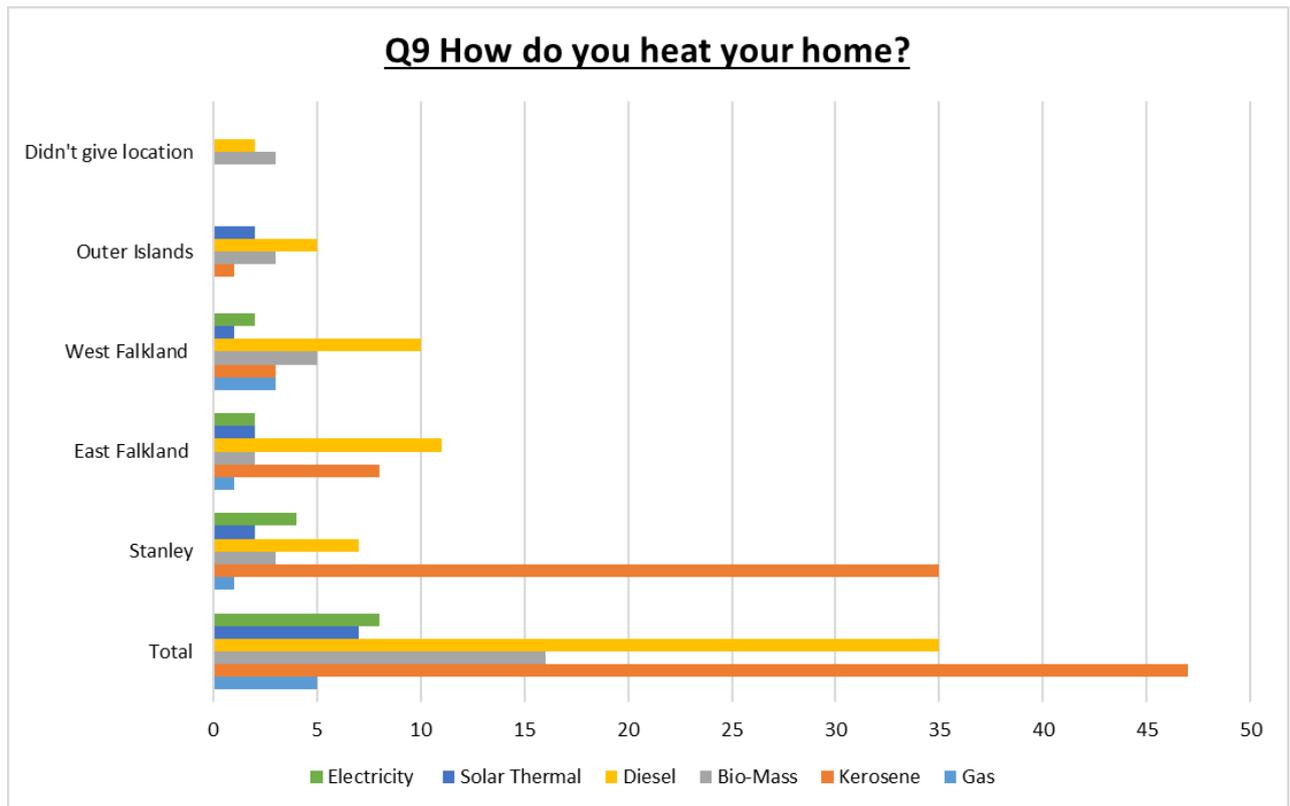
37 respondents to the survey (33%) stated that they had had to replace parts of their electrical generation system in the last 5 years. Of the 40 respondents to the survey who indicated that they were based on East Falkland (excluding Stanley), West Falkland and the Outer Islands, 78% stated that they had replaced parts of their electrical generation system within the

last 5 years and 63% expected that they would need to replace parts in the next two years.

## Heat Generation

78% of respondents burn fossil fuels (diesel, natural gas, kerosene etc.) to heat their homes and 14% use biomass (peat for example). A further 7% use electricity for heating and 6% indicated that they heat their homes using solar thermal panels, this has increased from 1.4% in 2015. The location of

these properties utilising solar thermal was spread evenly across the Islands (2 in Stanley, 2 on East Falkland, 1 on West Falkland and 2 on the Outer Islands).



For cooking, 52% of those who responded to the survey indicated that they use Gas, with 42% using electricity. In 2015, 85% of respondents used fossil fuels (gas) to cook with, so we have seen an increase in electricity being used for this purpose, possibly because the survey also asked Stanley residents for responses. Using biomass fuel to cook such as peat has decreased from 10% in 2015 to 5% in 2021.

Location	Gas	Bio-Mass	Electricity
Stanley	20	1	36
East Falkland	20	1	5
West Falkland	12	1	5
Outer Islands	6	1	1
Didn't give location	3	2	3
<b>Total</b>	<b>61</b>	<b>6</b>	<b>50</b>

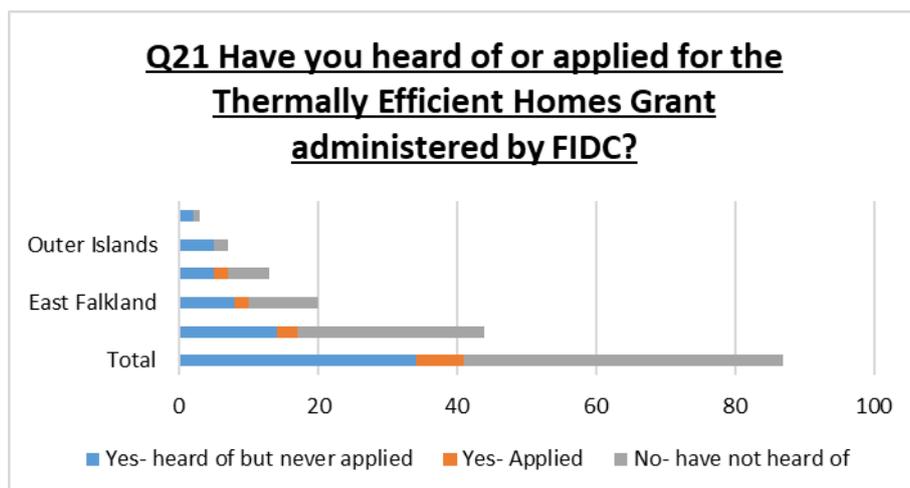
When asked about the maintenance of their heating and cooking systems, 83% indicated that this was done on at least an annual basis (same as in 2015), with 80% spending up to a maximum of £250 per annum on their heating and cooking system maintenance, compared with 72% in 2015. 68% of respondents have had to replace part(s) of their cooking and/or heating system within the last 5 years and 50% felt it was likely that they would need to replace parts within the next two years. A quarter of those who responded to the survey indicated that they had considered changing their heating/and or cooking system and 57% of those indicated a move towards utilising solar thermal energy systems.

## Thermal Efficiency of Homes

When reviewing the thermal efficiency of properties in the Islands, 79% of respondents stated that their lofts were insulated and 77% have their external walls insulated; these are similar figures to 2015 (72% and 75% respectively). When asked about internal insulation, 62% indicated that their cavity walls were insulated and 47% had under floor insulation, this is an increase from 47% and 41% respectively in 2015.

The majority of those who responded to the survey had also draught proofed their home in some way, with doors and windows being the most popular areas to draught proof. When asked if they had heard of or applied for the Thermally Efficient Homes grant administered by FIDC, 7 respondents had applied and 34 had heard of the scheme but not applied.

Answer Choices	Responses	
Yes- heard of but never applied	39.08%	34
Yes - applied	8.05%	7
No -have not heard of	52.87%	46
<b>Total</b>		<b>87</b>
Skipped		24



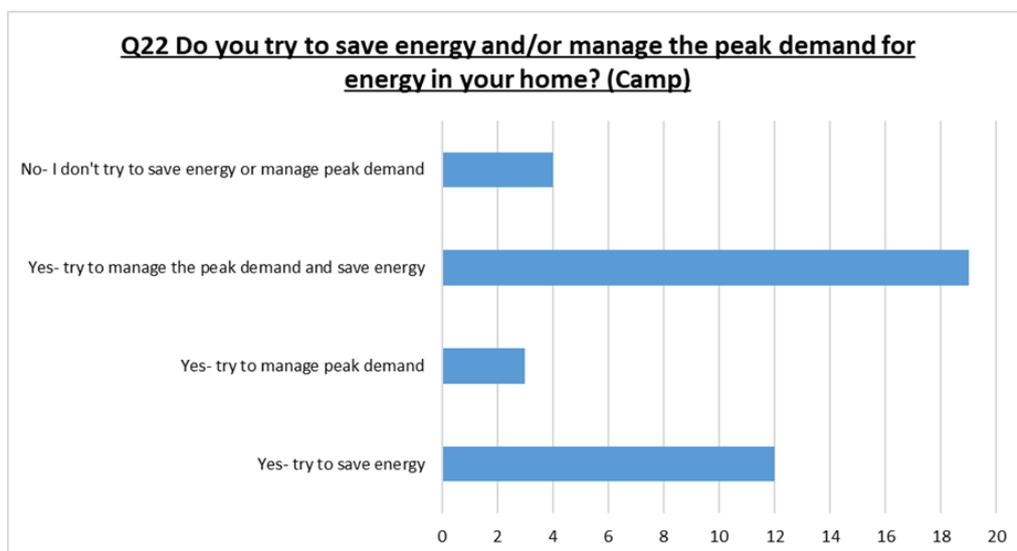
Those who had utilised the scheme were evenly spread between Stanley (3), East Falkland (2) and West Falkland (2) with no responses from the outer Islands. 53% of those who answered this question had not heard of the scheme, suggesting that better promotion and communications is needed.

## Electrical Safety, Electricity Saving and Demand Management

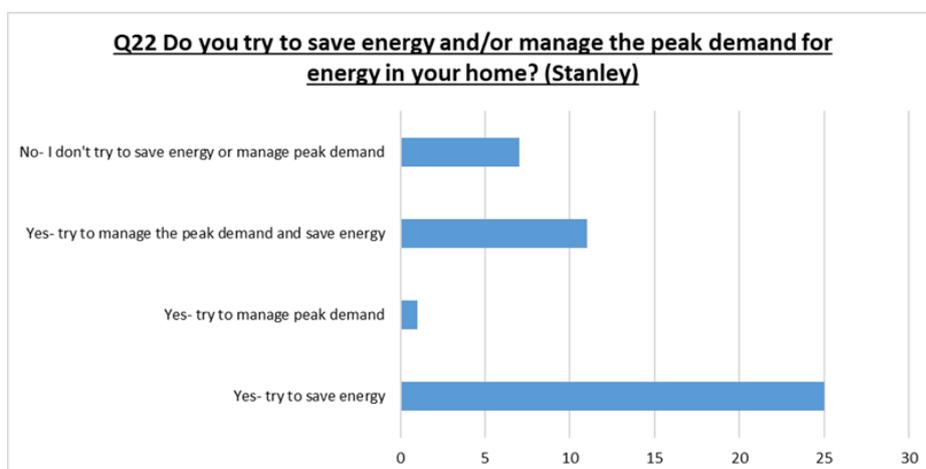
There was an increase in the percentage of respondents who did not try to save energy and/or manage their peak demand compared to 2015, rising from 6% to 13%. 93% of those who responded to this part of the survey stated that they used energy efficient or L.E.D light bulbs in their home and 51% stated that energy efficiency was the most important consideration when buying a new electrical appliance.

Location	Yes- try to save energy	Yes- try to manage peak demand	Yes- manage peak demand and save energy	No- I don't try to save energy or manage peak demand
Stanley	25	1	11	7
East Falkland	7	1	9	2
West Falkland	3	2	7	0
Outer Islands	2	0	3	2
Didn't give location	2	0	1	0
<b>Total</b>	<b>39</b>	<b>4</b>	<b>31</b>	<b>11</b>

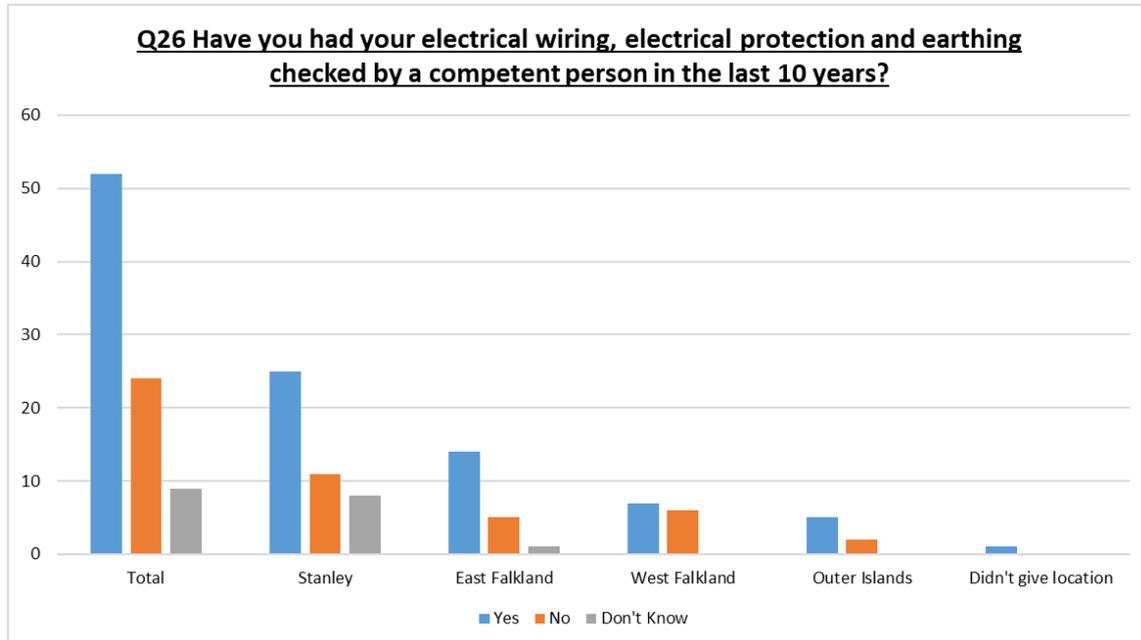
Of those residing in Camp, 89% of respondents stated that they tried to conserve or manage their peak demand energy usage, with 50% of respondents trying to do both. This is to be expected with the use of hybrid and renewable energy systems, battery banks and inverters as used in the rural areas of the Falkland Islands.



In Stanley 84% of respondents stated that they tried to conserve or manage their peak demand energy usage, with 57% trying to save energy and 25% trying to both save energy and manage peak demand.



When it came to electrical safety, 45% of respondents had performed a visual check of their electrical wiring and protection within the last year. When broken down into Camp and Stanley, we can see that Camp residents were more likely to check their electrical wiring (60%) compared to Stanley residents (34%). 61% of all respondents to the survey stated that they had had their electrical wiring, electrical protection and earthing checked by a competent person in the last 10 years, breaking down to 57% of Stanley residents and 65% of Camp residents respectively.



44% of respondents to the survey were aware of the Domestic Electricity Safety and Improvements grant administered by FIDC, but only 6% had applied. The 5 respondents who had applied for the grant scheme were again evenly spread across the Falklands; West Falkland (2), Stanley (1), East Falkland (1) and Outer Islands (1). This is the same rate as the results from the 2015 survey at 6% having utilised the grant scheme.

## Comments

The majority of the comments regarding how the grant schemes had improved life for those respondents living in camp were in relation to 24 hour power and the cost saving aspect of a renewable energy system. For Stanley residents, most answered Not Applicable (N/A). However those who did comment stated that they had used the schemes to improve the thermal efficiency of their homes, ranging from renovations to installing solar thermal heating systems in new and existing builds, and that the FIDC administered grant schemes had significantly lowered the costs of this. With regards to the negative impact of the grant schemes across Stanley and Camp, there were very few comments and these mainly focused on eligibility.

When asked how the schemes could be improved the main theme was around better communication and promotion of the existing schemes, with 14 out of the 44 responses highlighting this. Other responses focussed around improving the application process, collaborative working with FIG, Sure and private sector construction businesses, incentivising renewables, assisting with

replacement costs, increasing grant values and grants for renewable solar energy power systems in Stanley.

### **Next Steps**

The information gathered from the Energy Survey 2021 will be shared with the FIDC Board and subsequently with their approval the RDS Steering Group. This information will be used by the Strategic Projects Officer and Development Manager at FIDC to help inform a review of the existing Energy schemes and make further recommendations as deemed necessary.