

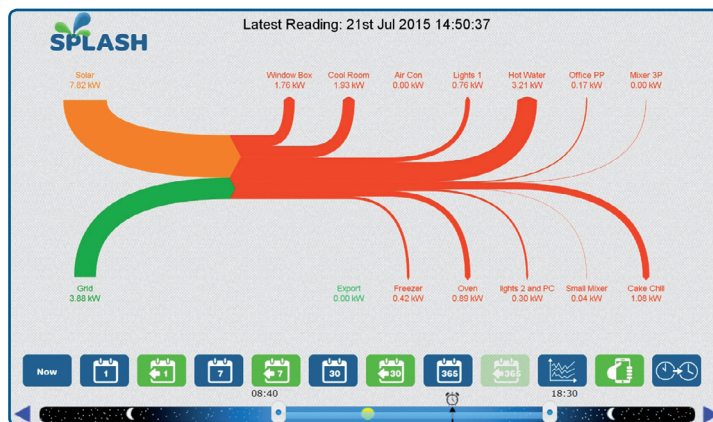
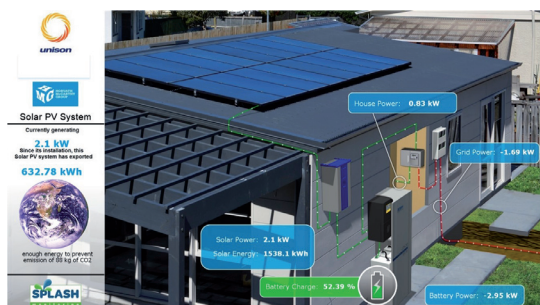
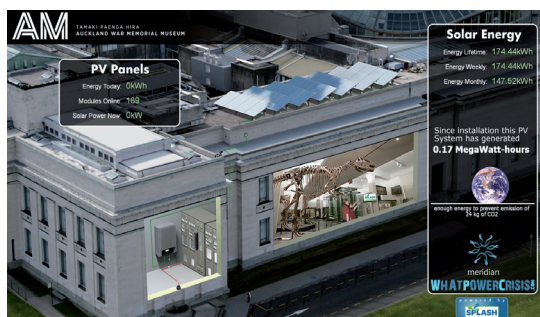
SPLASH

monitoring

Maximise the potential of renewable energy systems
with the *Award Winning* SPLASH Monitoring

Use SPLASH to monitor and control:

- ✓ Solar PV and renewable energy systems
- ✓ Mechanical Services – hot water, heating, pools and refrigeration systems
- ✓ Power generation and consumption
- ✓ Internal and external environmental conditions



SPLASH Monitoring provides:

- ✓ Fleet System Manager – A live tabular view of all your systems
- ✓ Fault and maintenance log
- ✓ Analysis tools to automatically assess and trouble shoot systems
- ✓ Notifications for fault and under-performance
- ✓ Help to optimise system performance
- ✓ Lobby screens for promotion and education

www.splashmonitoring.com

Why install monitoring?

You can only manage it if you can see it and understand it.

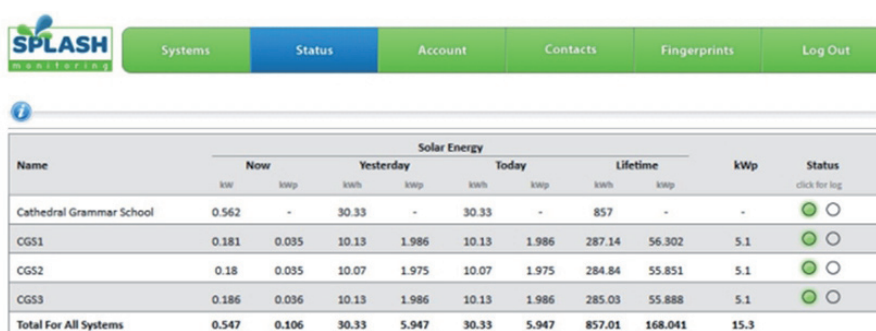
Monitoring renewable energy systems has been proven to result in improved performance and increased yield. The additional cost of installing monitoring can be saved in a very short period of time.

Monitoring allows the owner to promote their investment in renewable energy and energy efficiency projects. The installation of a monitoring system is so beneficial that it is often a mandatory requirement to qualify for a renewable energy grant.

Why use SPLASH monitoring?

System Manager

The SPLASH System Manager provides a live tabular view of all the installations with their current overview information updated every 30 seconds. The information shown is customisable and can include; kW, kWh today, yesterday and to date etc.



Name	Now		Yesterday		Today		Lifetime		kWp	Status
	kW	kWh	kW	kWh	kW	kWh	kW	kWh		
Cathedral Grammar School	0.562	-	30.33	-	30.33	-	857	-	-	
CGS1	0.181	0.035	10.13	1.986	10.13	1.986	287.14	56.302	5.1	
CGS2	0.18	0.035	10.07	1.975	10.07	1.975	284.84	55.851	5.1	
CGS3	0.186	0.036	10.13	1.986	10.13	1.986	285.03	55.888	5.1	
Total For All Systems	0.547	0.106	30.33	5.947	30.33	5.947	857.01	168.041	15.3	

Sample System Manager providing a Fleet Management solution

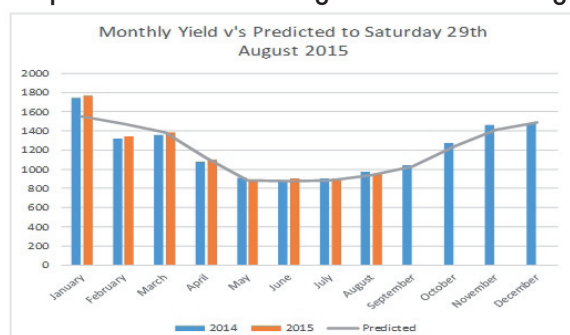
In the event of a fault arising that triggers an alert, a red light is shown in the "Status" column, an email alert or optionally a text message is sent to designated contacts and the system is reordered to the top of the System Manager table.

A user can open a history of all the previous alerts on a system by clicking on the Status column. Against each alert a user can complete a resolution tab allowing the works undertaken to resolve the fault and any future works required, to be recorded, providing a detailed history of faults and corrective actions

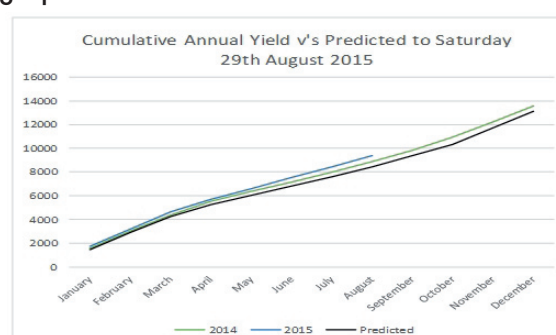
System Performance Prediction

The SPLASH SPP calculates the energy a Solar PV system should have generated on a daily basis and compares this with the actual energy generated by the system. If the system under-performs email and text message alerts are sent out. These messages advise of the potential reasons for the reduced performance and suggests corrective remedial works.

Weekly and monthly reports can be generated on selected systems and emailed to designated email addresses. These reports include a summary of the system operation and performance for that period. This includes; alerts and notifications, system power generation and consumption and a comparison of the predicted and actual generation including these two graphs below.



Monthly performance graph - Compares the actual & predicted monthly generation



Annual cumulative graph - Compares the actual & predicted cumulative generation for the year to date

Why Install SPLASH Monitoring?

SPLASH is a proven and award winning monitoring system and provides many benefits when monitoring Solar PV and Renewable Energy Systems;

- *Optimising system performance* – provides monitoring, data logging and analysis tools that automatically assess and trouble-shoot systems. Automated email and SMS alerts highlight system or component failures and provide guidance and solutions to improve system performance.
- *Fleet System Manager* – The System Manager provides a live tabular view of all of your systems and includes a fault and maintenance log - important for managing multiple solar installations.
- *Promotion of renewable energy and energy monitoring systems* – SPLASH Monitoring helps clients promote and increase the publicity of their investment in energy efficiency and renewable energy installations by providing unique dynamic animations for eye-catching and informative lobby displays
- *Integration of renewable energy installations in to education* – SPLASH Monitoring helps to engage, inspire and educate by providing a dynamic display which allows a greater understanding of the role and interplay of the different system components.

SPLASH Easy View

The Easy View is used to show the power coming in from the different sources ie grid, solar, batteries, generator, wind etc, the power exported, consumed and how it is being consumed.

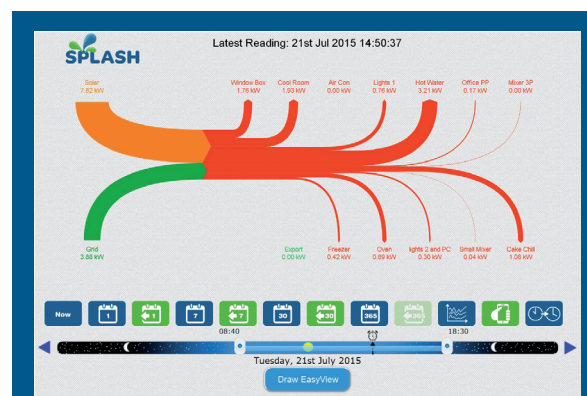
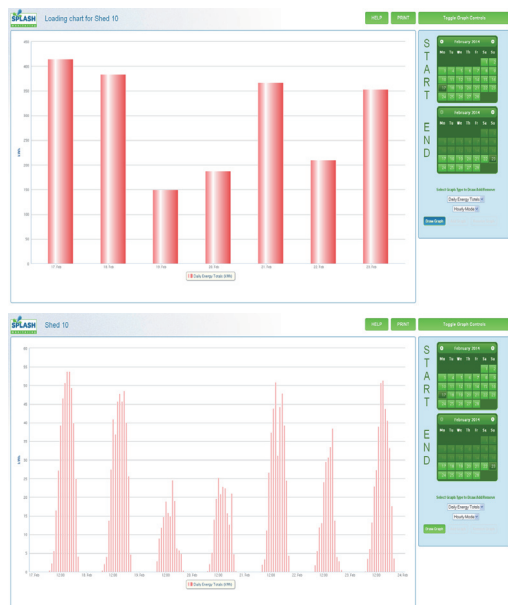
The Easy View is an energy balance with the width of the arrows proportional to the percentage of energy from or to that source or consumer.

Users can select to view an Easy View for a predetermined period of time by clicking the buttons at the bottom of the screen, ie today, yesterday, this week, last week, this month, last month, year to date last year etc.

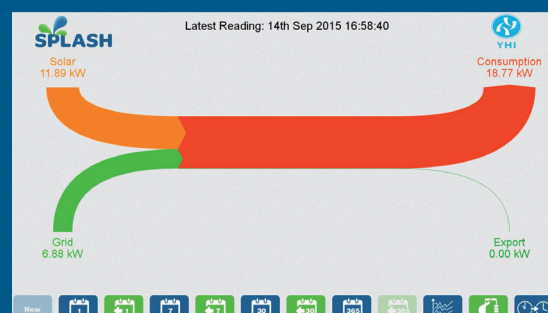
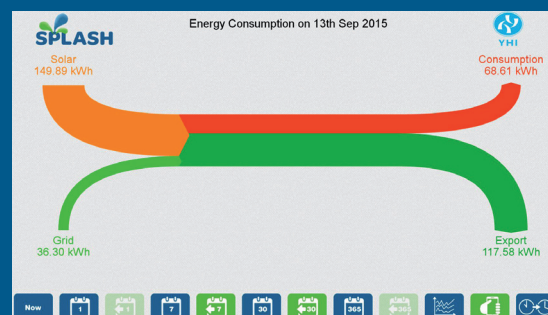
Alternatively the User can click the far right hand button, "Time 2 Time", this allows a user to drill down in to more detail by selecting a time period.

Graphing System and exporting CSV Files

SPLASH has an extensive customisable graphing system allowing any data to be easily graphed as different types of graphs. Graphs of different data points can then be overlaid. Data points can be shown / removed from the graph by clicking the line in the graph or its name in the Graph Key. Raw data can also be exported as a CSV file by using a tool similar in appearance and operation to the graphing system.



If additional CT's are installed on the consuming circuits, then an Easy View, similar to the one above, can be generated. This shows where the energy is being consumed.



In order to generate an Easy View Energy Balance, CT's must be installed on the solar generation and incoming mains grid supply. This will provide an Easy View similar to the two views above.

Helping you make a SPLASH!

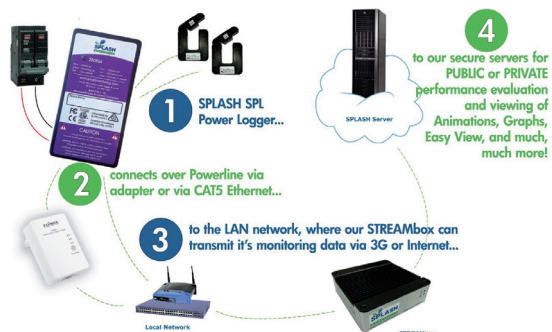
SPLASH Monitoring has significant experience developing promotional and educational Lobby Screens, there are over 80 different animations to choose from or SPLASH can develop a custom animation to replicate and suit the installation and the expected audience. The animated parts of the graphic are controlled by the actual operation of the system, ie electrons flow from the PV panels only when there is solar generation, a generator or pump will be shown operating only when it is running etc.



How does SPLASH work?

Solar PV Inverter Monitoring

The SPLASH Monitoring Streambox can connect to and monitor most inverters. This provides more information on the solar PV system including data on the DC side and collector arrays and also advises if an inverter needs maintenance or if a fault occurs.



SPLASH Power Logger measures Renewable Energy system generation and site consumption

The SPLASH Monitoring SPL Power Logger measures the power generation by solar PV, generators, batteries etc and the consumption from the grid or by consuming circuits. Multiple SPLASH Power Loggers are installed to monitor large or complex sites

Mechanical System Control and Environmental Monitoring

SPLASH offers several different models of controller and logger suitable for a full range of projects. Models are available for small scale research projects where a few temperatures and humidities need to be monitored up to the monitoring and control of large scale mechanical services for domestic hot water and heating plant rooms, air conditioning, refrigeration, cool rooms, swimming pool heating and conditioning etc.



Contact your local agent/dealer:



SPLASH monitoring Limited
15b Saturn Place,
Albany, Auckland
Telephone +64 9 442 0996

sales@splashmonitoring.com
www.splashmonitoring.com