March 2016

Cambridge Clean Energy Ltd

- *Distributed Renewable Energy-as-a-Service (RESCO)*
- *Case Studies*

Case study 1: African Mobile Operator

Description:

CCE Installed a PoC on Off-Grid Site with a leading Mobile Operator in Uganda. The site is under full EMSaas™ contract.

Prior Configuration and Key Issues

- Located in rural area with no grid availability
- Hosted 1 BTS system for anchor tenant
- Grid Availability: No grid
- Av diesel generator time: 24 hrs per day
- Av diesel consumption: 52 lt per day
- Av monthly cost of tower Operations: $1,850

Engagement Highlights:

- Fulfilled the 1st PoC and EMSaas™ contract in Africa
- Site commissioned in Nov 2014
- Site running 24x7 without any SLA breach

CCE Solution Highlights:

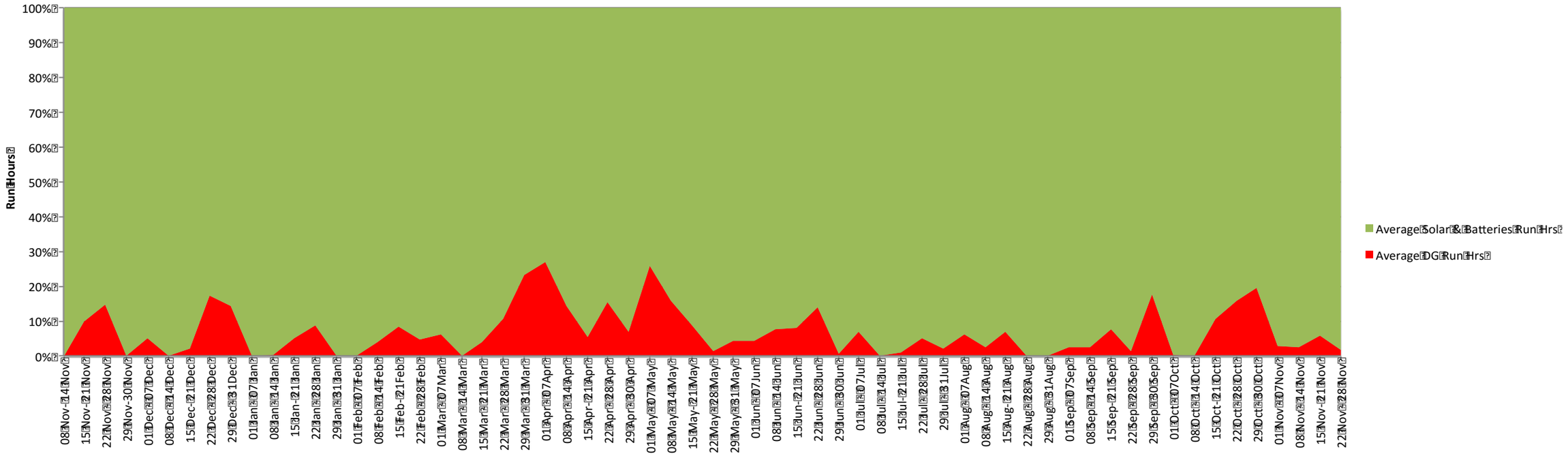
CCE solution included the solar (PV) system, high capacity battery, integrated hybrid controller, solar air conditioner and real time monitoring & control.

- Monthly Diesel savings: 1,584 Liters/ month
- Monthly Carbon savings: 5,068 Kg CO2 / month
- Monthly Energy Savings: 2,800 KWH
- DG runtime reduced by average 98%
- <3 year RoI on TCO

Annual Data	Original Configuration	CCE Configuration	Unit
GRID AVAILABILITY	1,320	1,320	Hrs
ENERGY DRAWN FROM GRID	8,640	10,698	KWh
DG RUNNING HOURS	8,760	865	Hrs
DIESEL CONSUMED @2.2Ltr/Hr	19,272	1,990	Ltr

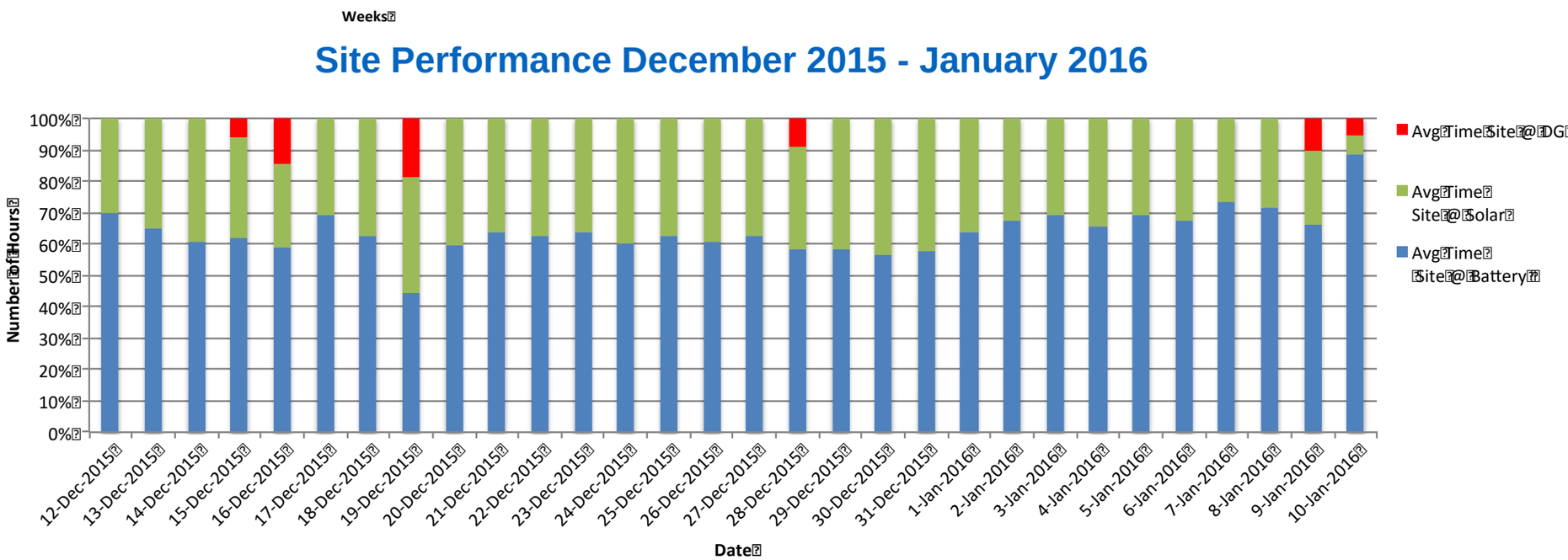
African Mobile Operator – Site Performance

Site Energy Mix for the full year since takeover: November 2014 – November 2015



Date	V min	Avg Time Site @ Battery	Avg Time Site @ Solar	Avg Time Site @ DG
12-Dec-2015	47,89	16,19	7,10	0,00
13-Dec-2015	47,95	15,19	8,10	0,00
14-Dec-2015	47,77	14,10	9,05	0,00
15-Dec-2015	47,27	14,05	7,25	1,30
16-Dec-2015	47,42	14,00	6,25	3,40
17-Dec-2015	47,32	16,05	7,10	0,00
18-Dec-2015	46,68	13,50	8,15	0,00
19-Dec-2015	47,57	10,15	8,40	4,35
20-Dec-2015	47,77	13,45	9,15	0,00
21-Dec-2015	47,80	14,45	8,30	0,00
22-Dec-2015	47,69	14,20	8,45	0,00
23-Dec-2015	47,67	14,45	8,15	0,00
24-Dec-2015	47,67	13,55	9,10	0,00
25-Dec-2015	47,76	14,00	8,35	0,00
26-Dec-2015	47,72	14,00	9,15	0,00
27-Dec-2015	47,59	14,10	8,50	0,00
28-Dec-2015	47,07	13,45	7,50	2,15
29-Dec-2015	47,76	13,30	9,45	0,00
30-Dec-2015	47,78	13,05	10,05	0,00
31-Dec-2015	47,83	13,15	9,55	0,00
1-Jan-2016	47,94	14,55	8,30	0,00
2-Jan-2016	47,93	15,45	7,45	0,00
3-Jan-2016	48,01	16,15	7,15	0,00
4-Jan-2016	47,96	15,30	8,00	0,00
5-Jan-2016	48,01	16,05	7,20	0,00
6-Jan-2016	48,02	15,40	7,45	0,00
7-Jan-2016	48,04	17,05	6,25	0,00
8-Jan-2016	47,81	16,35	6,55	0,00
9-Jan-2016	47,49	15,00	5,45	2,30
10-Jan-2016	47,10	20,20	1,35	1,30

Site Performance December 2015 - January 2016



Case Study 2 : Indian Tower Company

Description:

CCE Installed its Energy Management System (EMSaaSTM) at pink pearl site, Jaipur, Rajasthan.

Prior Configuration and Key Issues:

- Hosted 1 BTS systems from Anchor Tenant
- Average grid availability: 4 hours per day
- Average diesel generator time: 20 hours per day
- Average diesel consumption: 42 liters per day
- Average monthly cost of tower Operations $1,380

Engagement Highlights:

- The only solar powered telecom tower in India running for more than one year successfully.
- Pilot commissioned on Jun, 2010
- Post commissioning; Anchor Tenant has added 3 more BTS from other leading Operators
- Still running successfully for more than a year without any diesel consumption for the entire year
- CCE Service level: 99.9% power uptime
- OpEx Savings: ~$12,000 per annum

CCE Solution Highlights:

CCE solution included the solar (PV) system, high capacity battery, integrated hybrid controller, solar air conditioner and real time monitoring & control.

- Total CCE Equipment Cost: $50,000
- Monthly Diesel savings: 1,350 Liters/ month
- Monthly Carbon savings: 3,600 Kg CO2 / month
- Monthly Energy Savings: 2,800 KWH

Savings in 1 year	Old Configuration	CCE Configuration	Unit
RSEB AVAILABILITY	1,320	1,320	Hrs
ENERGY DRAWN FROM GRIDS	8,640	10,698	KWh
DG RUNNING HOURS	5,880	52	Hrs
DIESEL CONSUMED @2.3Ltr/Hr	13,524	120	Ltr
COST OF EB @ $0.16 / UNIT	$1,344	$1,664	USD
COST OF DIESEL @ 0.89/Ltr	$12,021	$106	USD
TOTAL COST OF ENERGY (EB+DG)	$13,365	$1,770	USD
SAVINGS FROM CCE SOLUTION		$11,595 (1 Year)	USD

Case Study 3 : Indian Mobile Operator

Description:

CCE Installed its Cell on Wheel (COW) Energy Management System (EMSaaS^{TM}) at Jaisalmer , Rajasthan to fulfill its first contract with Anchor Tenant

Prior Configuration and Key Issues:

- Located in rural
- Hosted 1 BTS systems from Anchor Tenant
- Grid Availability: Pure off-grid site
- Average diesel generator time: 18 hours per day
- Average diesel consumption: 38 liters per day
- Average monthly cost of operating the tower $1,050

Engagement Highlights:

- Fulfilled the first contract with Anchor Tenant
- Site commissioned in Jun 2011
- Site running 24x7 without any issues

CCE Solution Highlights:

CCE solution included the solar (PV) system, high capacity battery, integrated hybrid controller, solar air conditioner and real time monitoring & control.

- Total CCE Equipment Cost: $33,000
- Monthly Diesel savings: 1,008 Liters/ month
- Monthly Carbon savings: 3,600 Kg CO_2 / month
- Monthly Energy Savings: 1,600 KWH

Saving in 1 Month	Old Configuration	CCE Configuration	Unit
RSEB AVAILABILITY	0	0	Hrs
ENERGY DRAWN FROM RSEB	0	0	KWh
DG RUNNING HOURS	540	60	Hrs
DIESEL CONSUMED @2.3Ltr/Hr	1,242	138	Ltr
COST OF EB @ $0.16 / UNIT	0	0	USD
COST OF DIESEL @ 0.89/Ltr	$1,104	$125	USD
TOTAL COST OF ENERGY (EB+DG)	$1,104	$979	USD
SAVINGS FROM CCE SOLUTION		$979 (1 month)	USD

Thank You

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