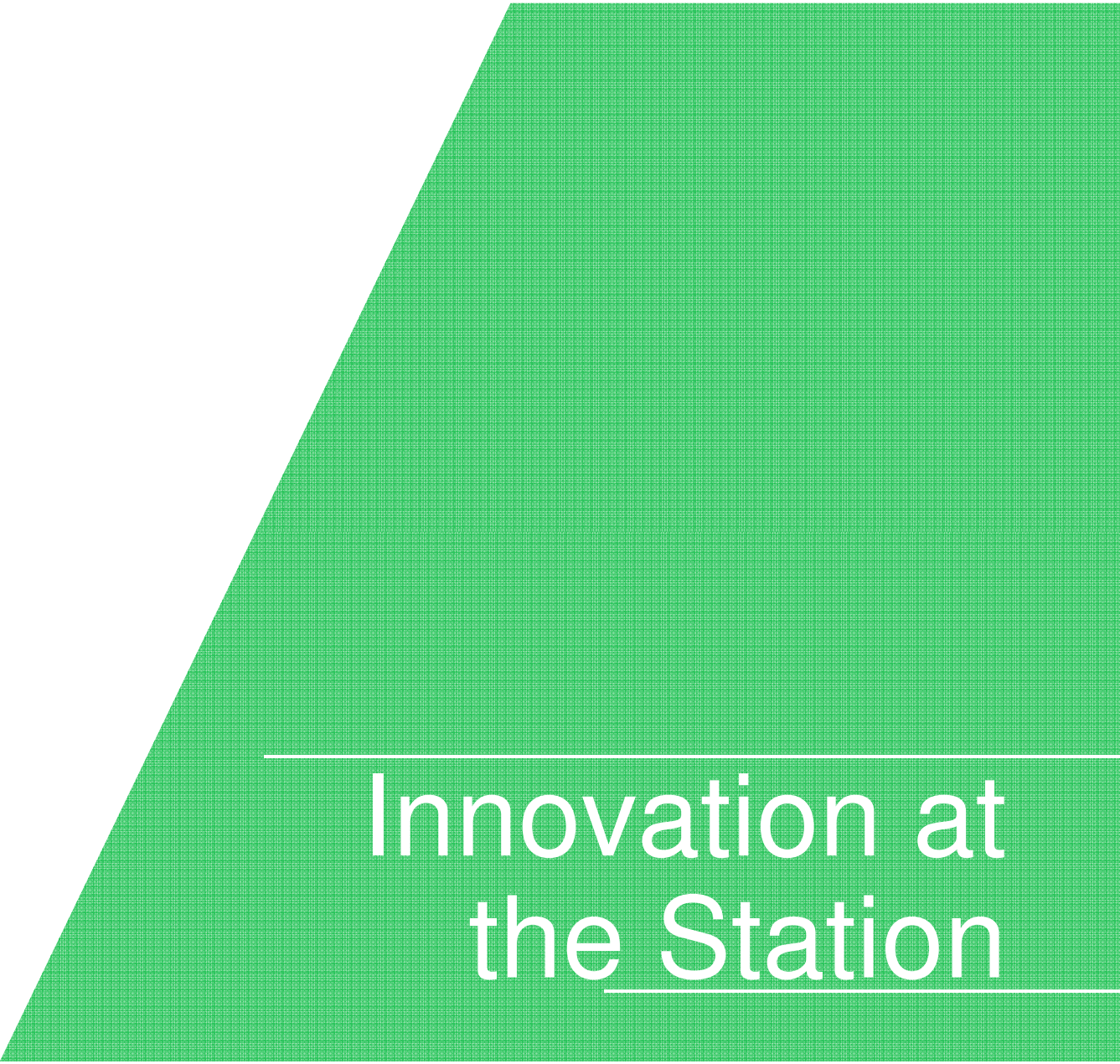




Solo
energy



Innovation at the Station

innovation at the station

- Installation of a 10 kWh Lithium-Ion battery at Ballyvolane fire station
- Part of Solo's **eStore** pilot project



eStore pilot project

- SEAI funding
- Six month project
- Five installations:
 - Institutional
 - SME
 - Fire station
 - Domestic with heat pump
 - Council house with solar PV
- Impact at individual locations
- Provide services to ESB Networks
 - Trial provision of voltage support

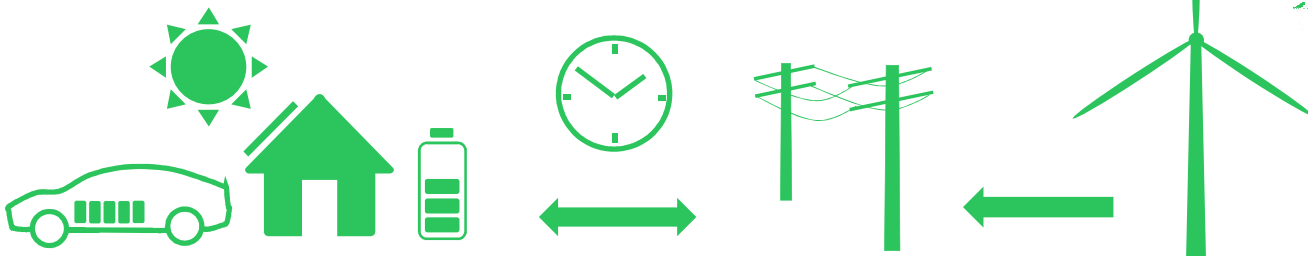
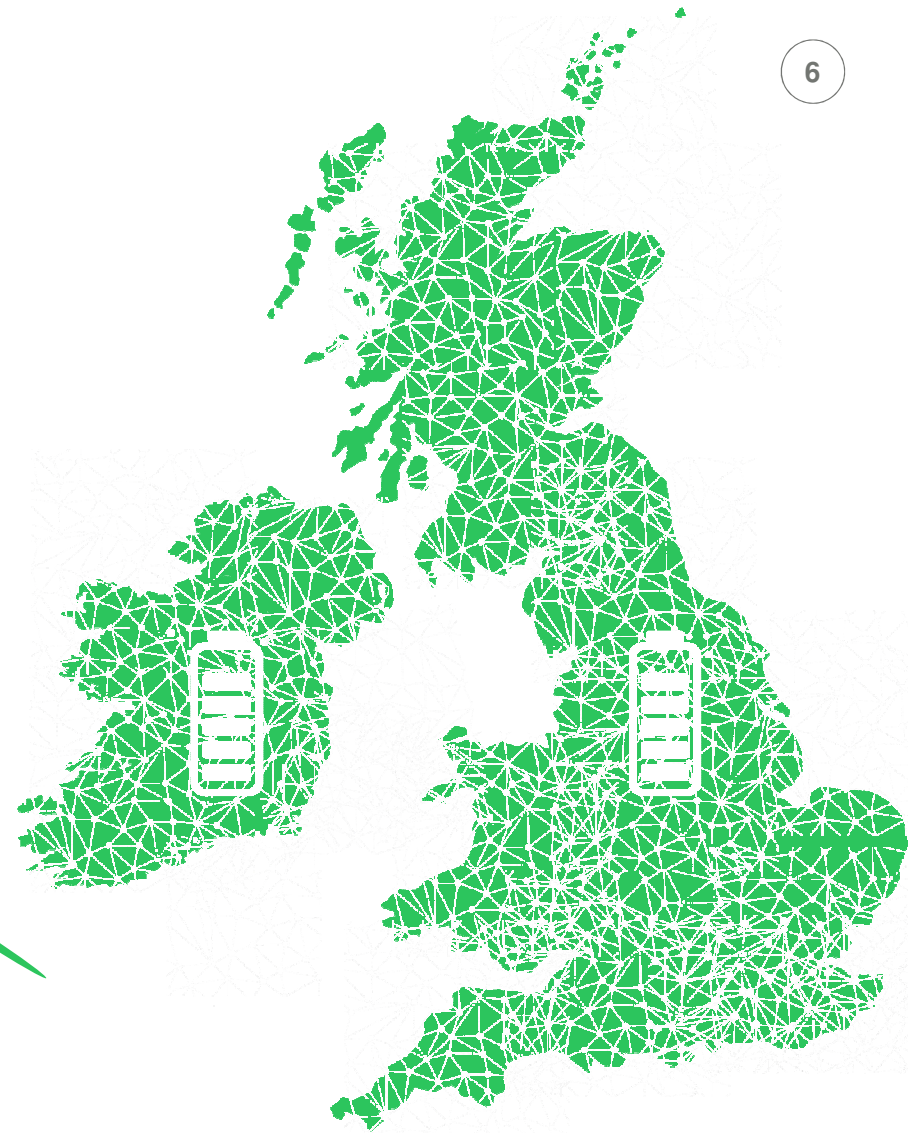




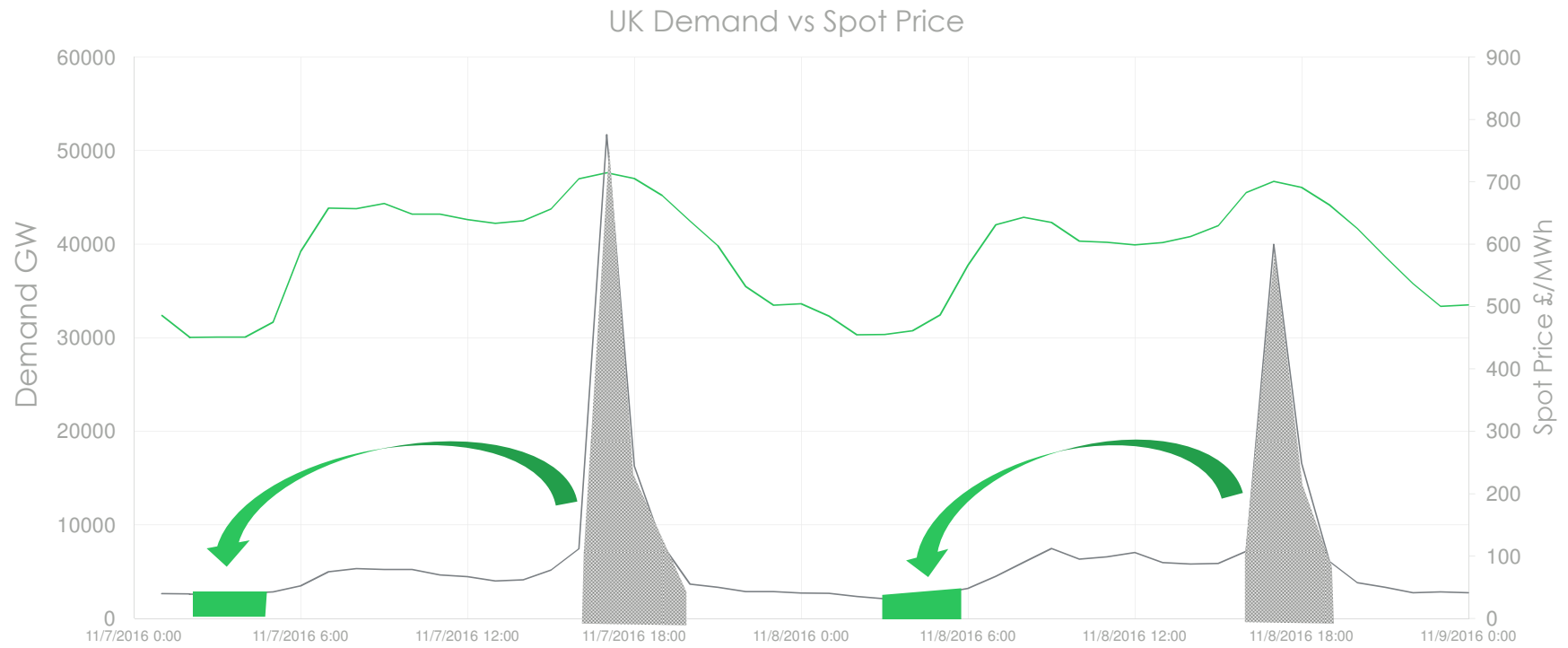
About Us

business model overview

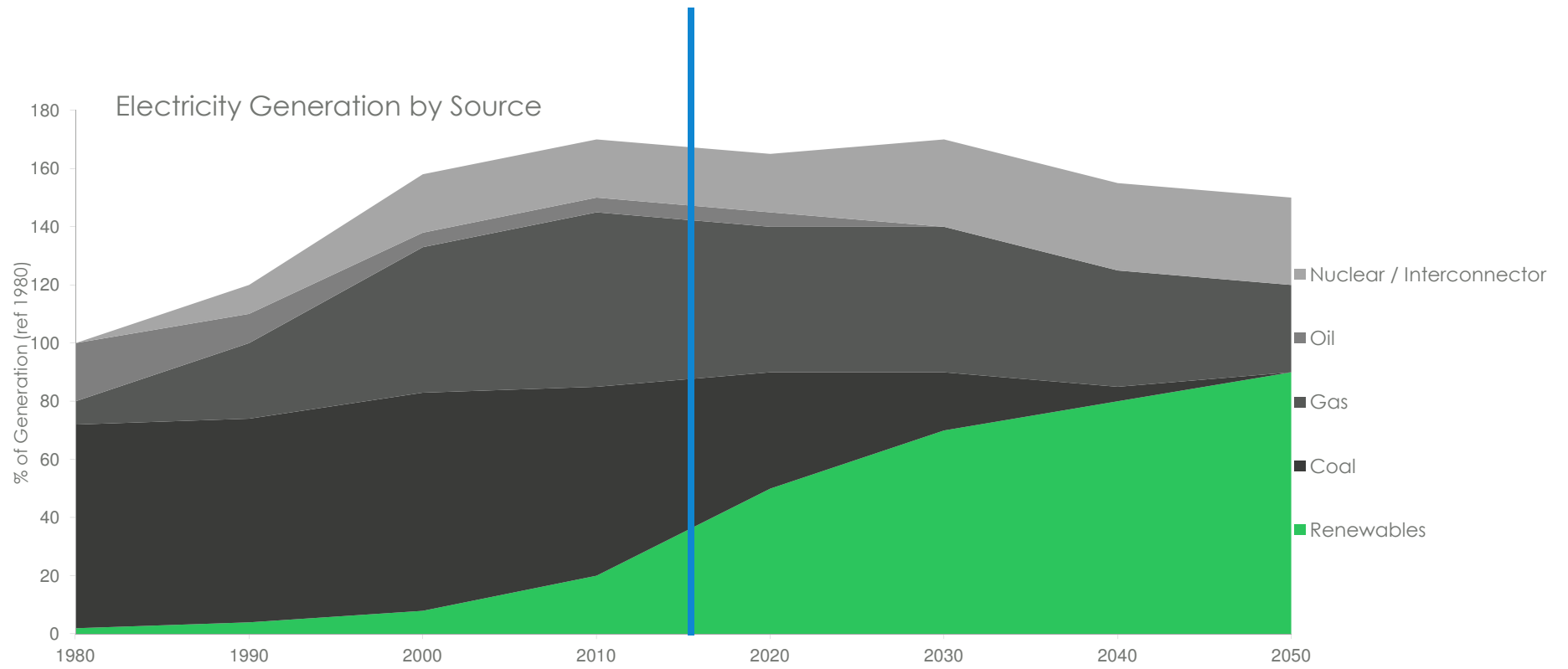
- 100% renewable **energy supplier** business
- **energy storage** systems in homes and businesses
- centrally controlled as a **Virtual Power Plant**
- facilitate greater use of **renewable generation**
- sell **stored energy and grid services** back into market



problem? → opportunity

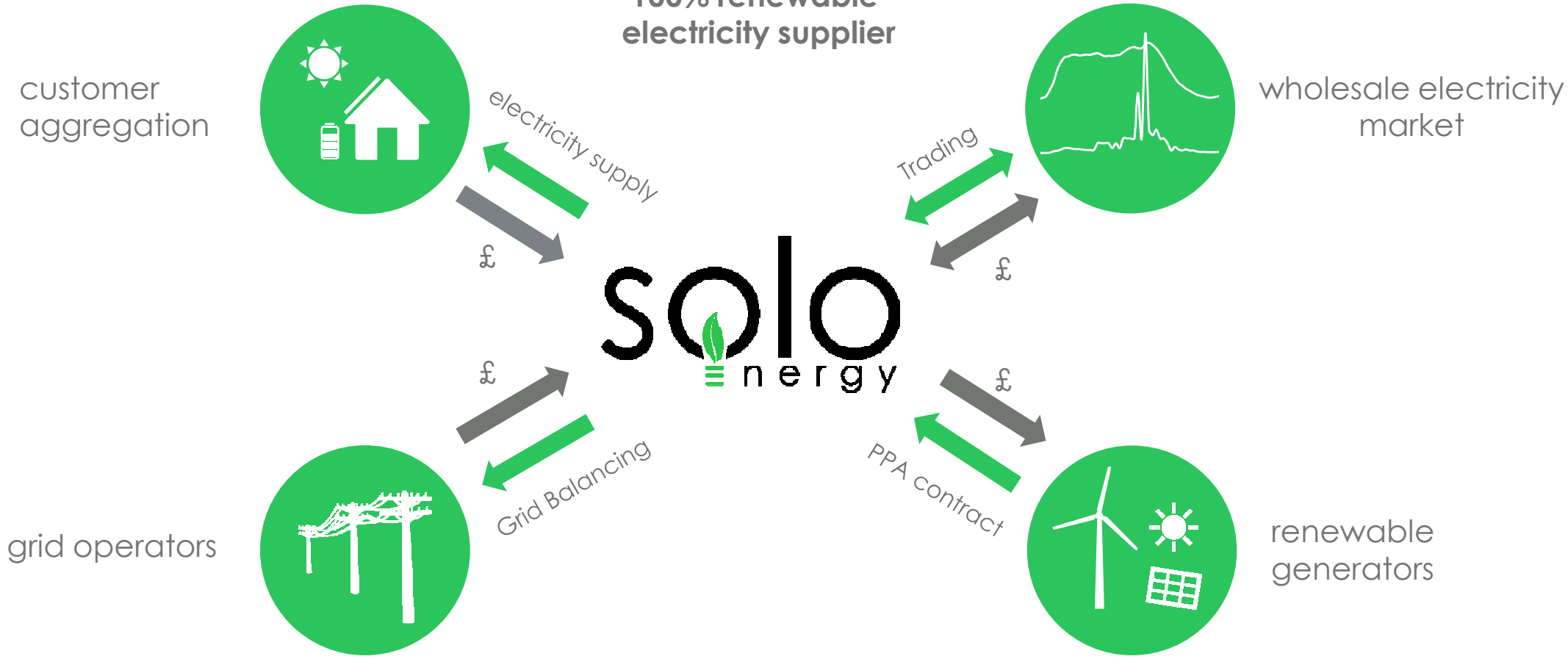


renewables on system

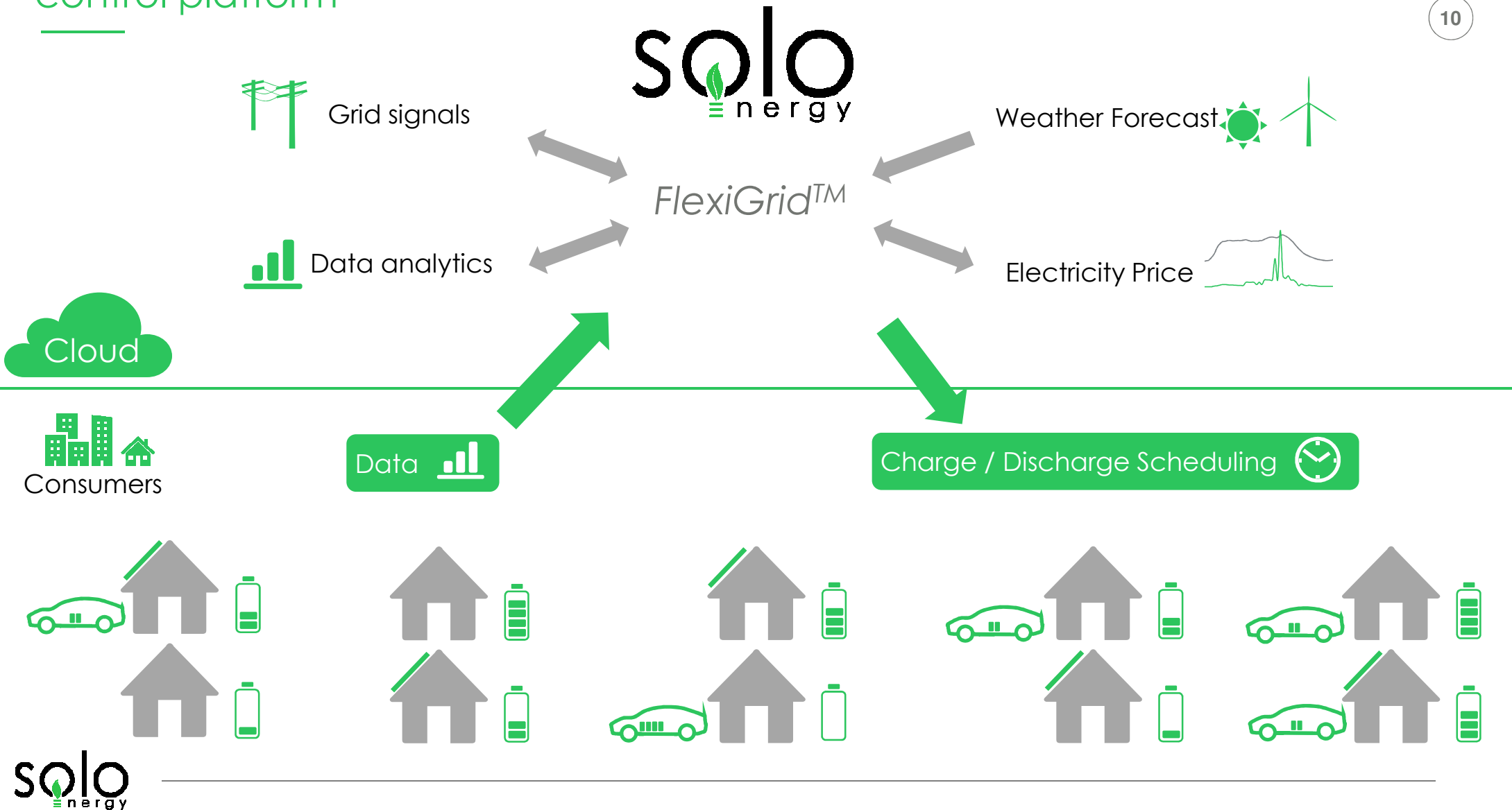


business model

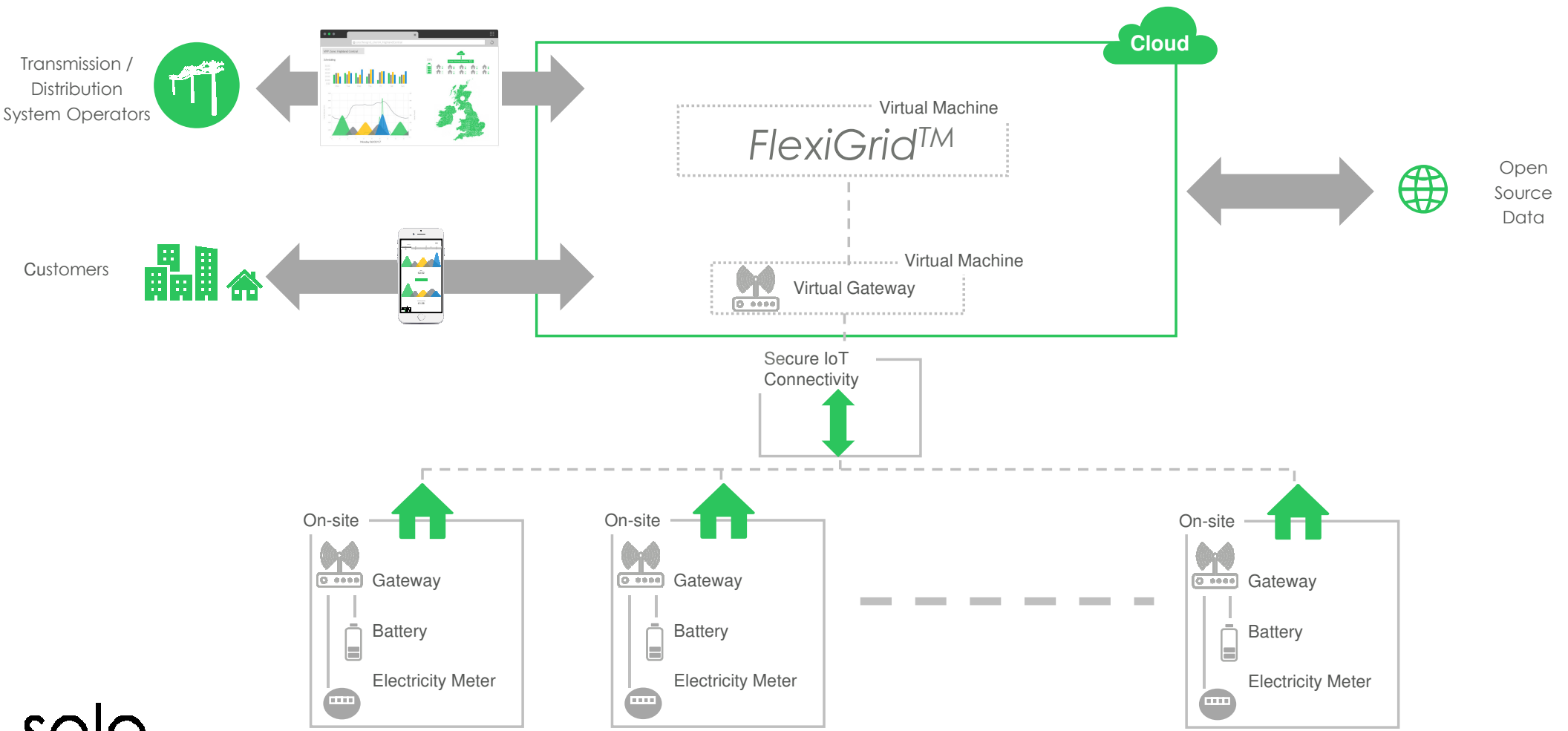
100% renewable electricity supplier



control platform



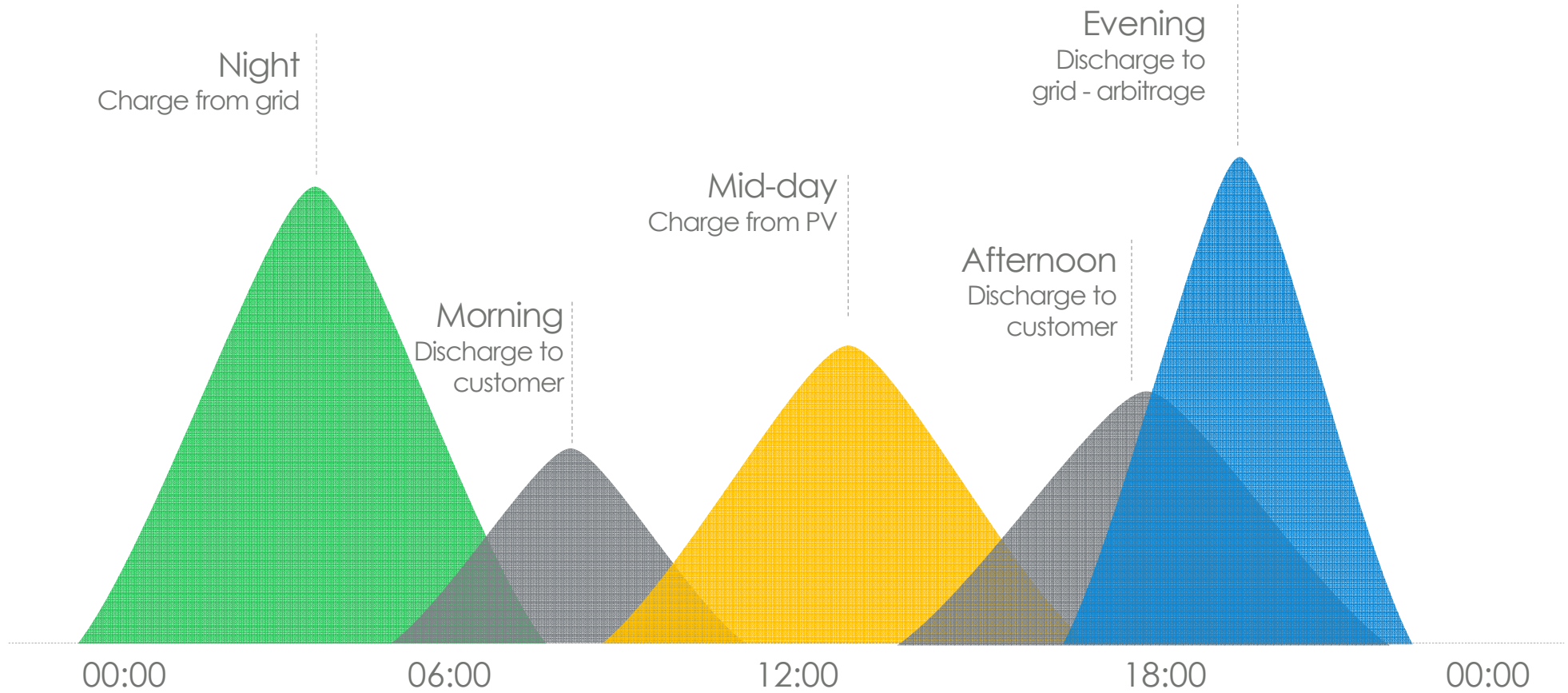
control platform



on-site hardware



battery charging profile



Solo's platform generates maximum value from storage assets through dynamic scheduling of operations



pilot projects

ReFlex – Orkney, Scotland



StoreNet, Ireland




eStore, Cork & Dun Laoghaire



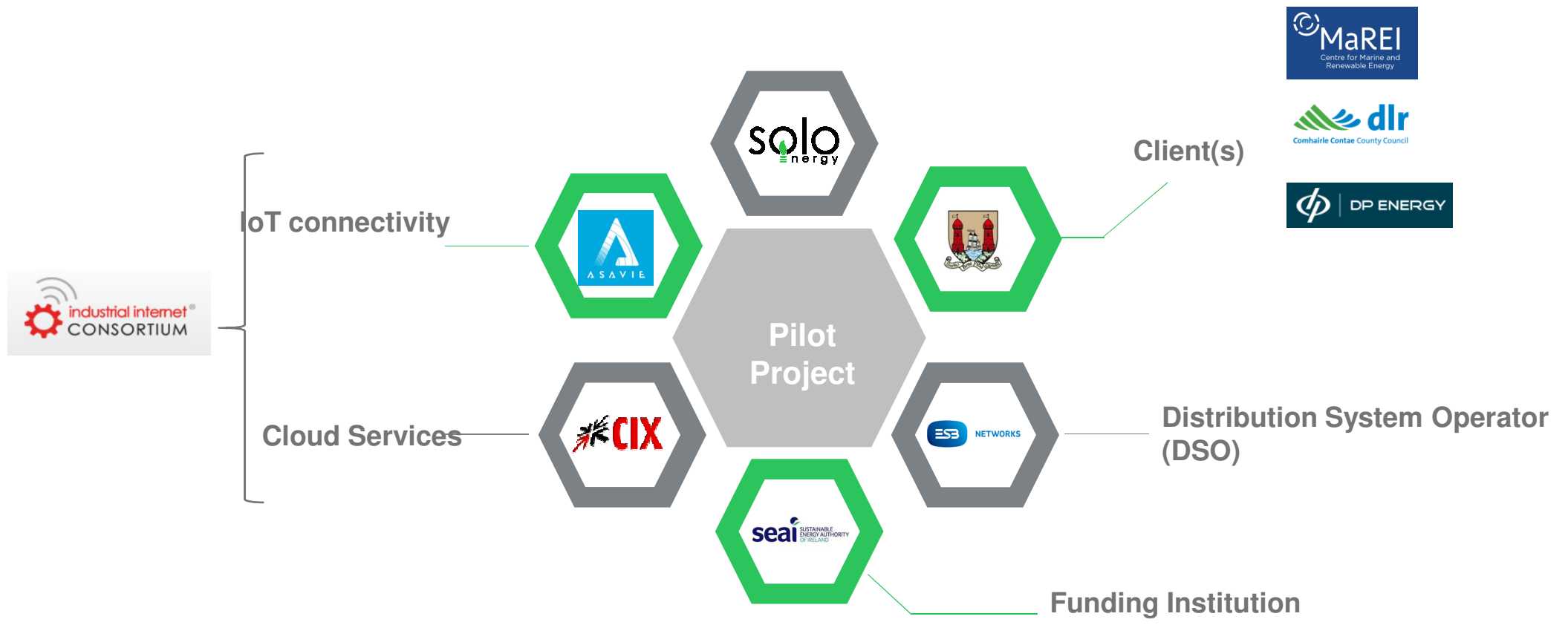
FREED
- Nenagh



A large green trapezoidal shape with a fine grid texture, positioned on the right side of the slide. It has a white horizontal line above and below the text.

eStore Pilot Project

eStore project stakeholders

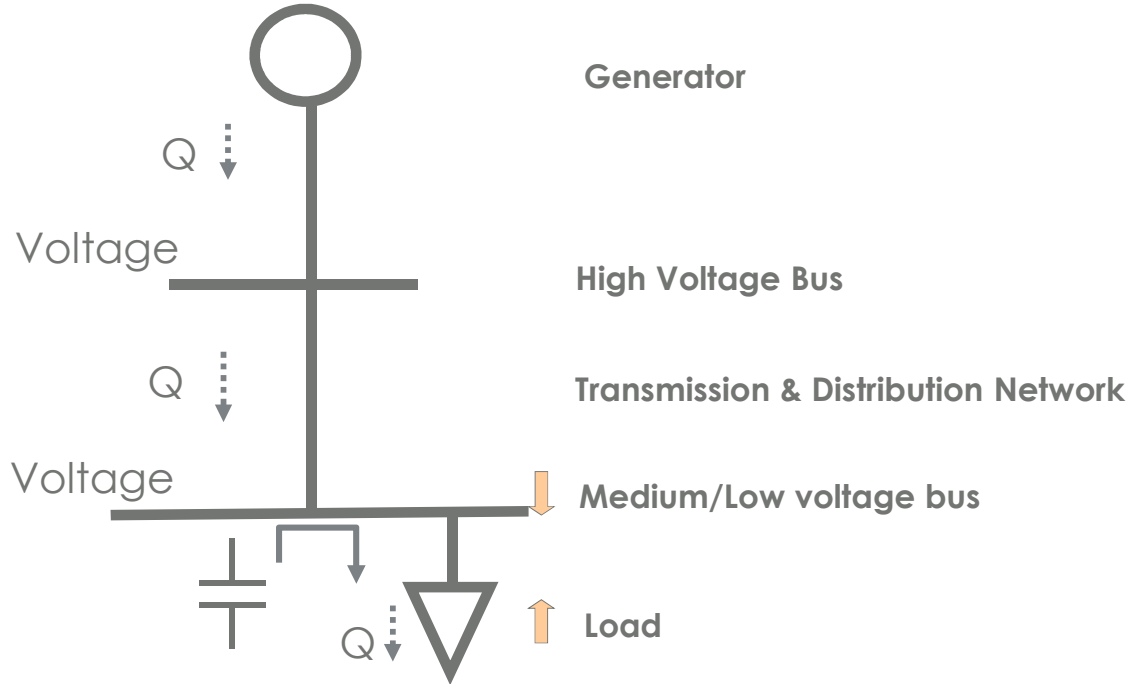


eStore objectives

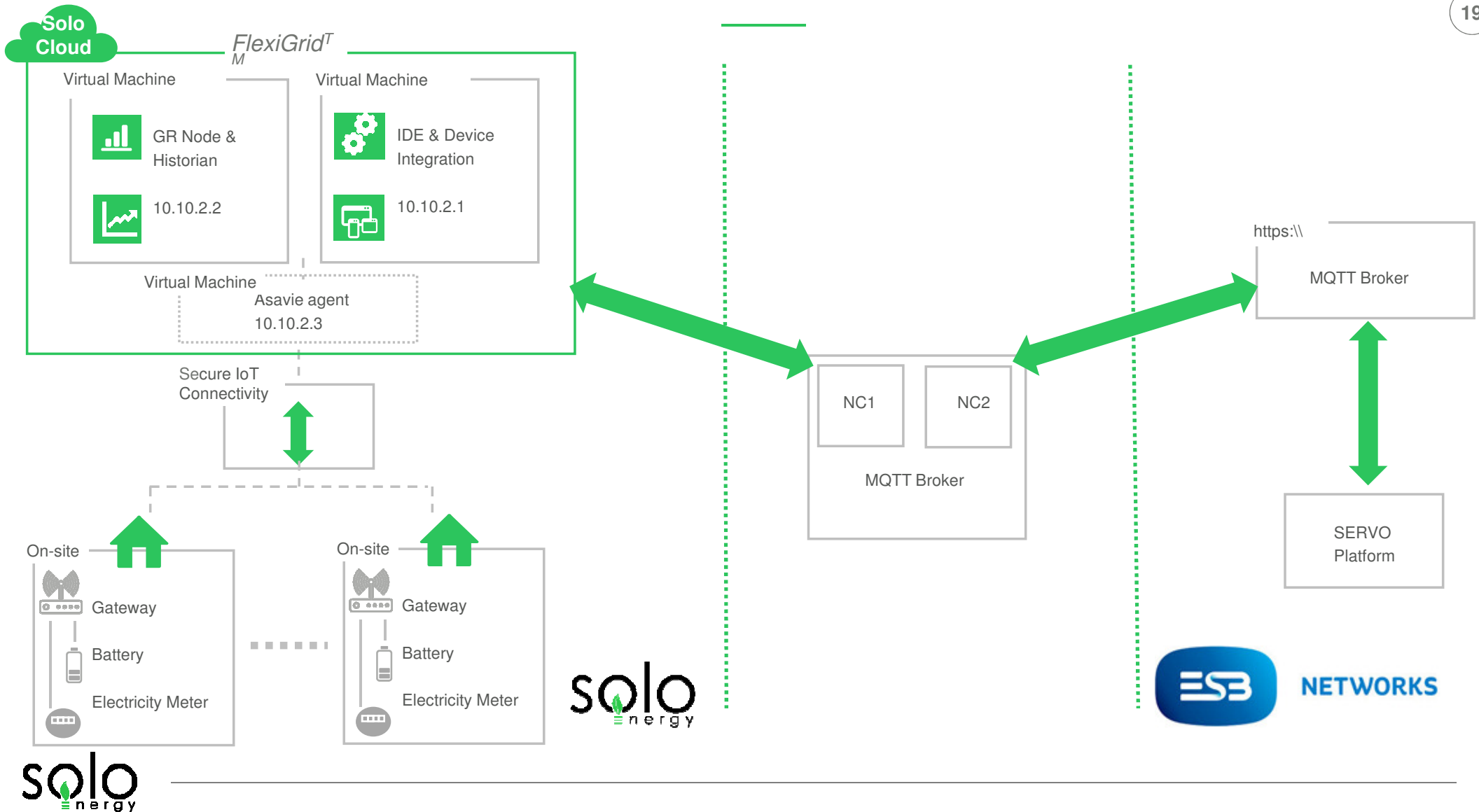
- Act as physical demonstration project
- Compare operation under different scenarios
 - Aggregated and unaggregated
 - Back-up power
 - Time of use (day/night tariff)
- Assess benefits to consumers; savings through:
 - Time of use
 - Increased self-consumption of on-site renewables
- Trial provision of services to ESB Networks
 - Local voltage support

Store objectives – provision of voltage support

Q transfer:
depends on voltage difference =>
cannot transfer long distances => local
support required



FlexiGrid SERVO interaction



A large green trapezoidal shape with a fine woven texture, positioned on the right side of the page. It has a white horizontal line above and below the text.

Ballyvolane Fire Station

Ballyvolane - installation

- Featuring on RTE's *10 Things to Know About...* programme in November 2017



Ballyvolane - FlexiGrid

Browser Panel

- Project home
- Home
- Favourites
- C:/
- DB2
- MSSQL
- Oracle
- PostGIS
- Spatialite
- ArcGisFeatureServer
- ArcGisMapServer
- OWS
- Tile Server (XYZ)
- WCS
- WFS
- WMS

Layers Panel

- SoloEnergyStorageNodes
- GBR_admin1
- WFD_LakeSegment
- Census2011_Admin_Counties_generalised20m
- WATER_RivNetRoutes
- NationalRoads2013
- Census2011_Settlements
- GBR_roads
- GBR_water_areas_dcw
- GBR_water_lines_dcw
- GBR_rails

Layer Styling

SoloEnergyStorageNodes

- Single symbol
- Marker
- Simple marker

Unit: Millimeter

Transparency 0%

Color: [Green]

Size: 4 0000

Layer rendering

Layer transparency: 0

Layer blending mode: Normal

Feature blending mode: Normal

Draw effects

Control feature rendering order

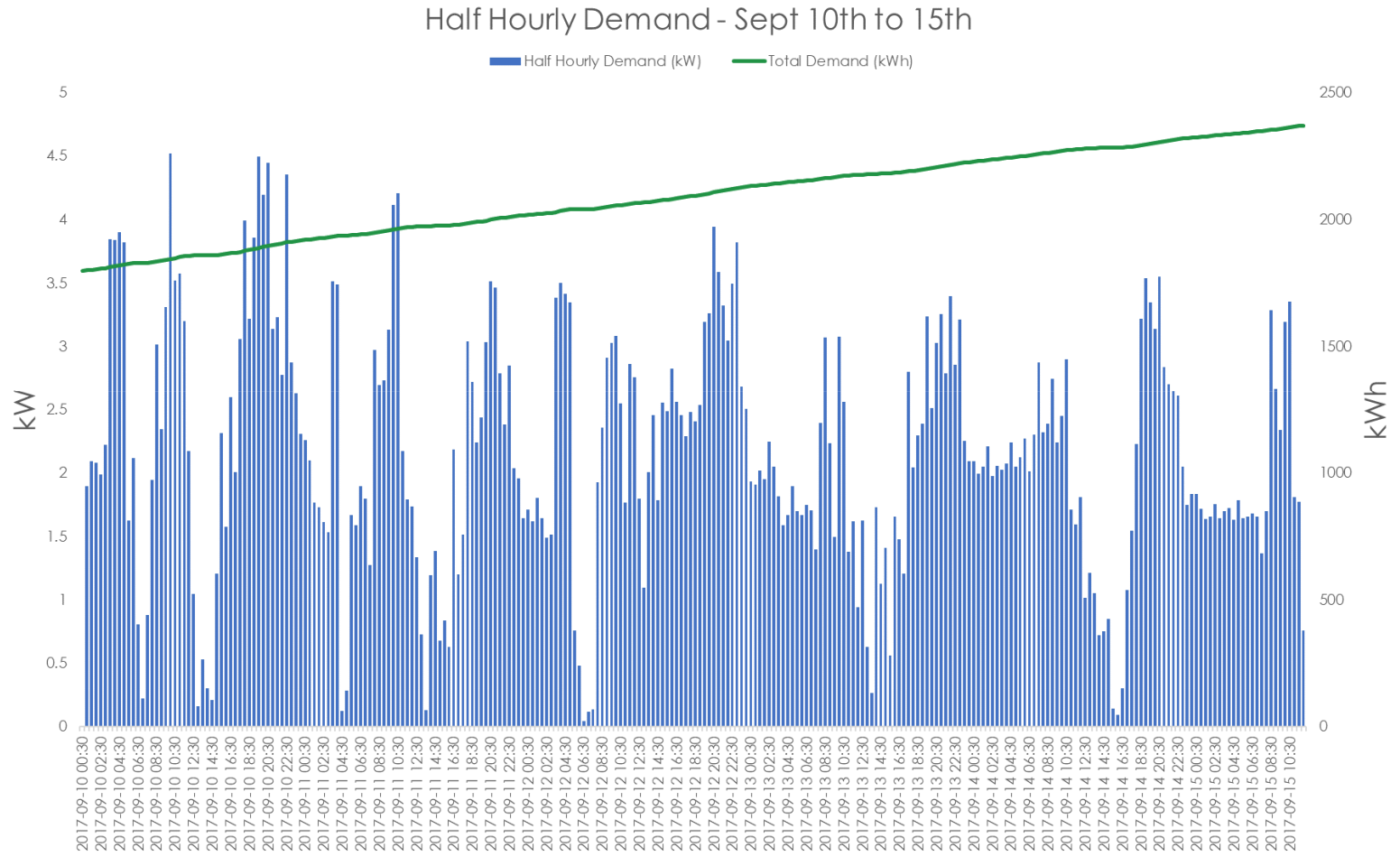
Identify Results

Feature	Value
SoloEnergyStorageNo...	
MPRN	10005803469
(Derived)	
(Actions)	
t_Batt	LG Chem RESU10H
t_GtWv	Sierra Wireless LS300
t_InFc	Solar Edge ST2
t_Invr	Solar Edge SC SE3500
r_Batt kWh	10
r_Invr kW	3.5
sn_GtWv	
sn_Batt	
sn_Invr	
sn_InFc	
MPRN	10005803469
n_phases	3
ip_num	192.168.100.6
PV	Yes
t_PV	260Wp Conergy Modules
r_PV	10.92
r_PVInv	9

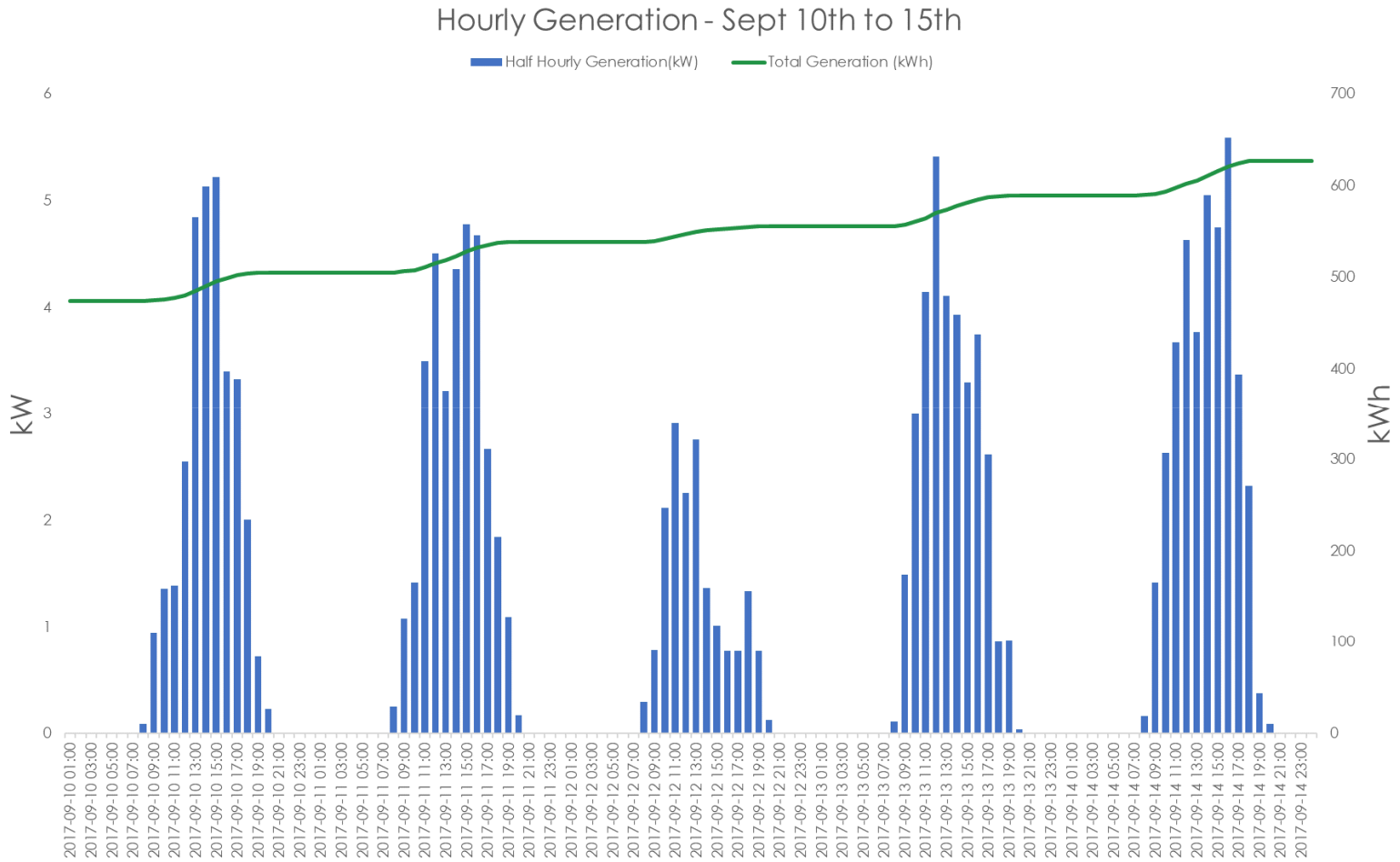
Coordinate: 180851.68549 Scale: 1:5,464,611 Magnifier: 100% Rotation: 0.0 Render USER:100000 (OTF)



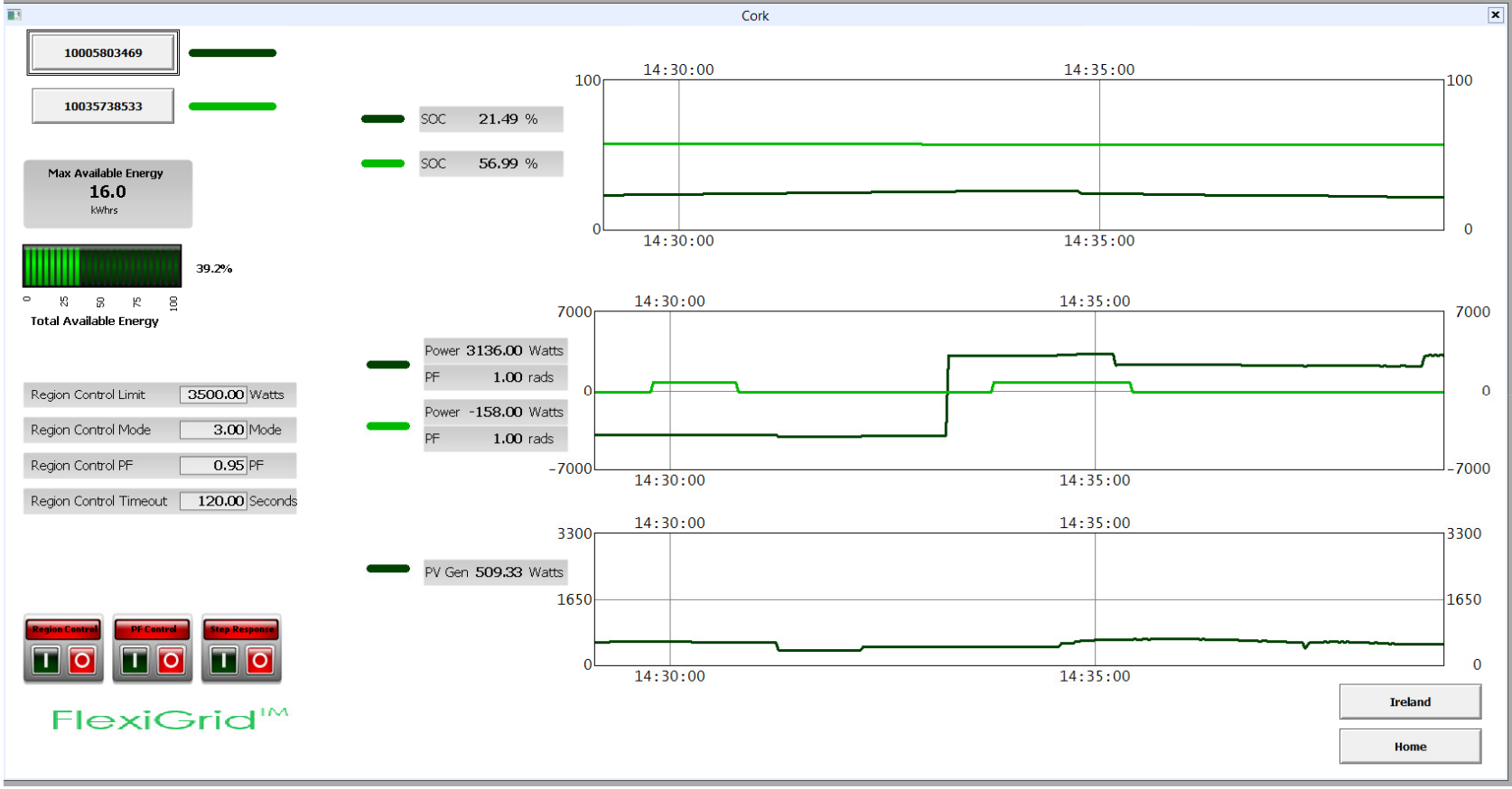
Ballyvolane monitoring - demand



Ballyvolane monitoring - generation

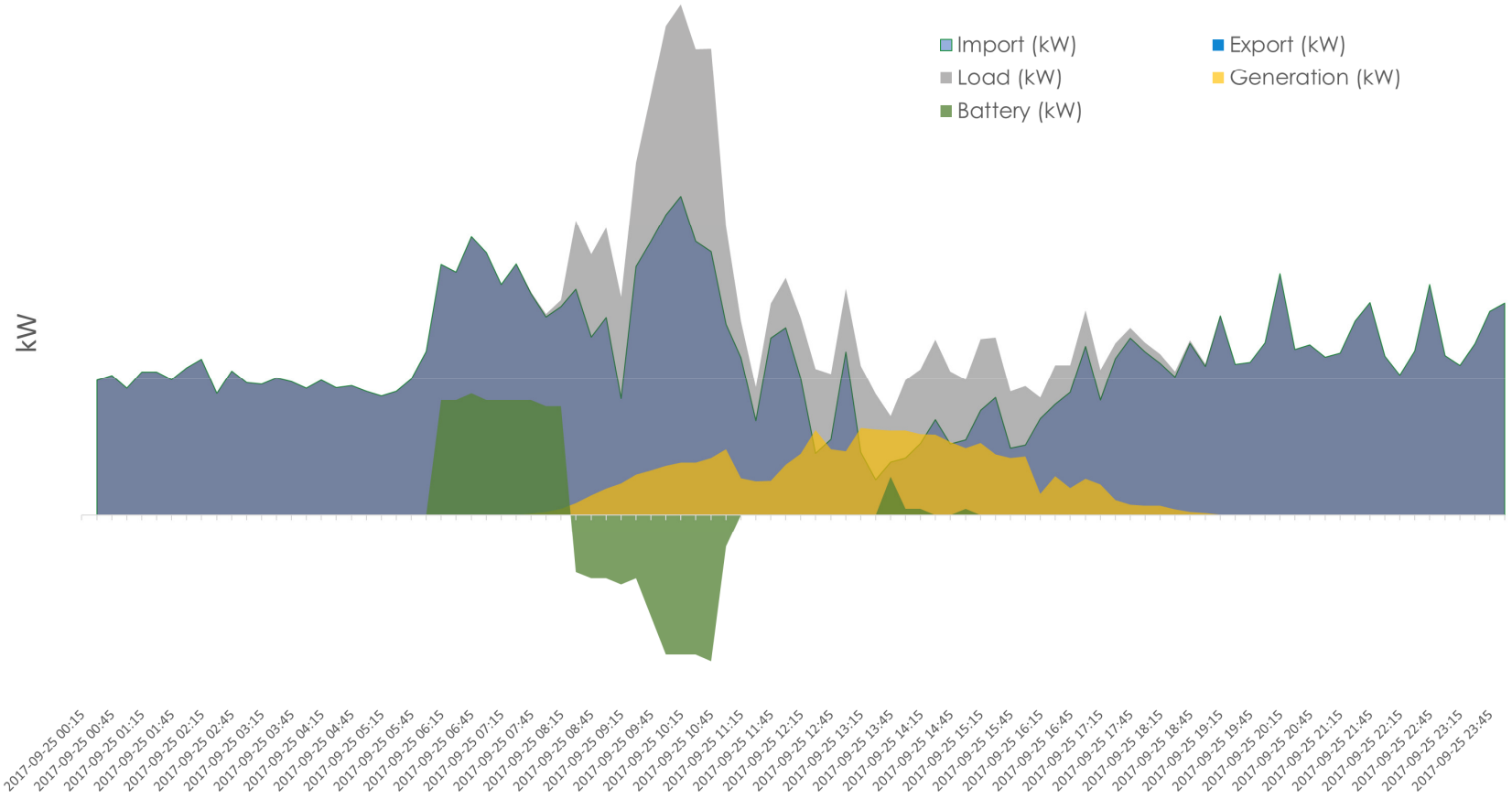


Ballyvolane control - live

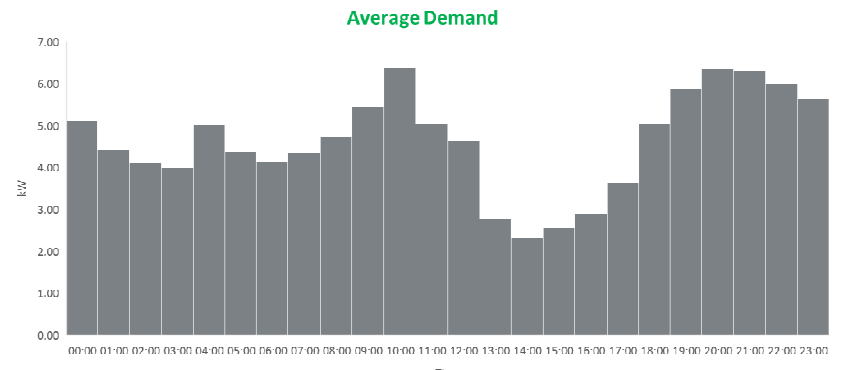
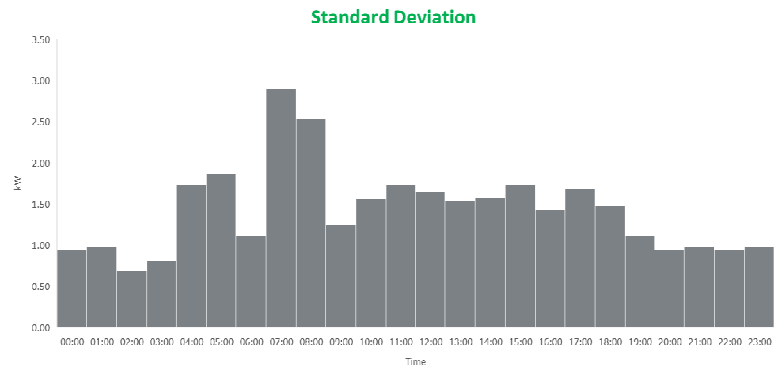
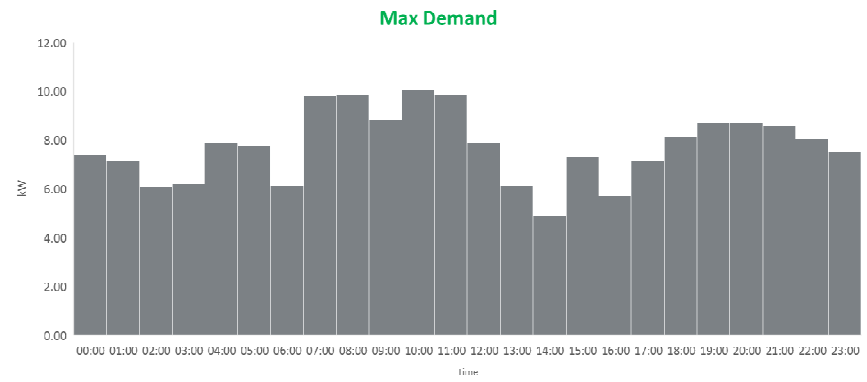
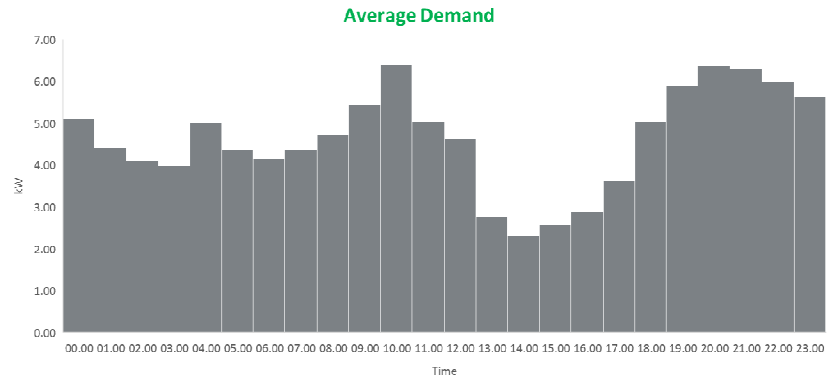



Ballyvolane control – scheduled charging

Mon 25th Sept 2017



Ballyvolane control – data analytics





Further
Information

HQ

PHOENIX HOUSE, MONAHAN ROAD, CORK



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