

JCM Implementation in Thailand

- Innovation for Carbon Neutrality through JCM

2.5MW Solar Power Project with Blockchain Technology
in Chiang Mai University Town Community (2020)

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Information & Electronics Div. III

1. Inabata Cooperate Profile
2. Project Summary
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4. CMU Smart Campus Project
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7. Future Project

Management



Director, President
Katsutaro Inabata

Domestic Offices



Osaka Head Office,
Tokyo Head Office,
Nagoya Office, Shiojiri Office,
Hamamatsu Office,
Kyushu (Kirishima) Office

Founded



October 1, 1890
131 years

Incorporated



June 10, 1918



Osaka
Head Office



Tokyo
Head Office

Number of Employees



Unconsolidated

656

Consolidated

4,203

Global network



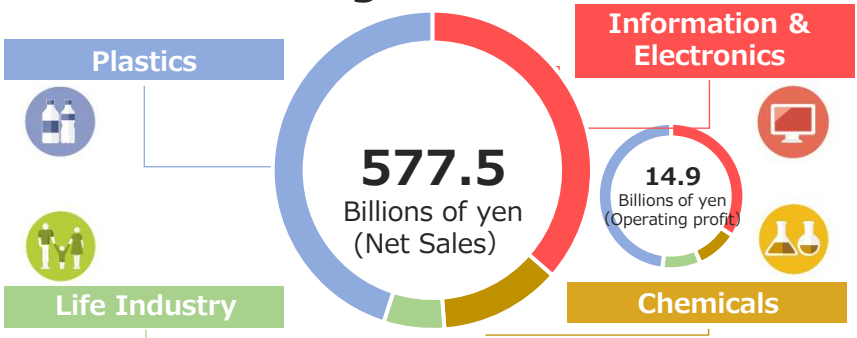
17 countries,
About **60** locations

Capital



9,364 million

4 Business Segments



4 Focal fields and markets



Automobiles



**Life Science
Medicine**



Environment Energy



Food Agriculture



Thailand Solar Power Project under JCM Scheme

“2.5MW Solar Power Project with Blockchain Technology in Chiang Mai University Town Community”



- ✓ Installing a 2.5 MW solar power generation system on the roofs of multiple buildings in Chiang Mai University,
- ✓ Operating by blockchain technology which realizes expansion and maximum utilization of renewable energy on campus and reduces greenhouse gas (GHG).

Expected GHG Emission Reductions

1,041 tCO₂/year

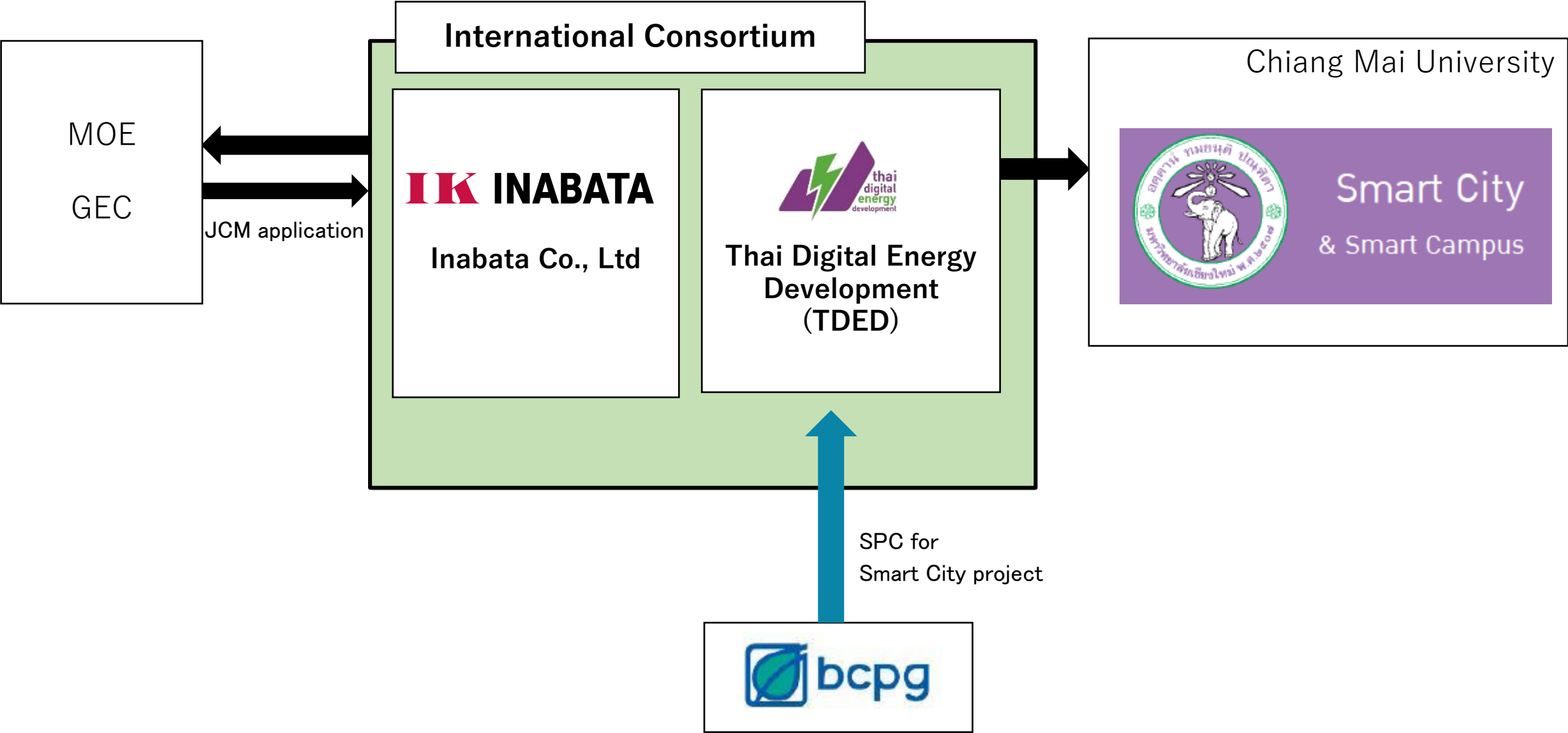
= reference CO2 emissions- project CO2 emissions

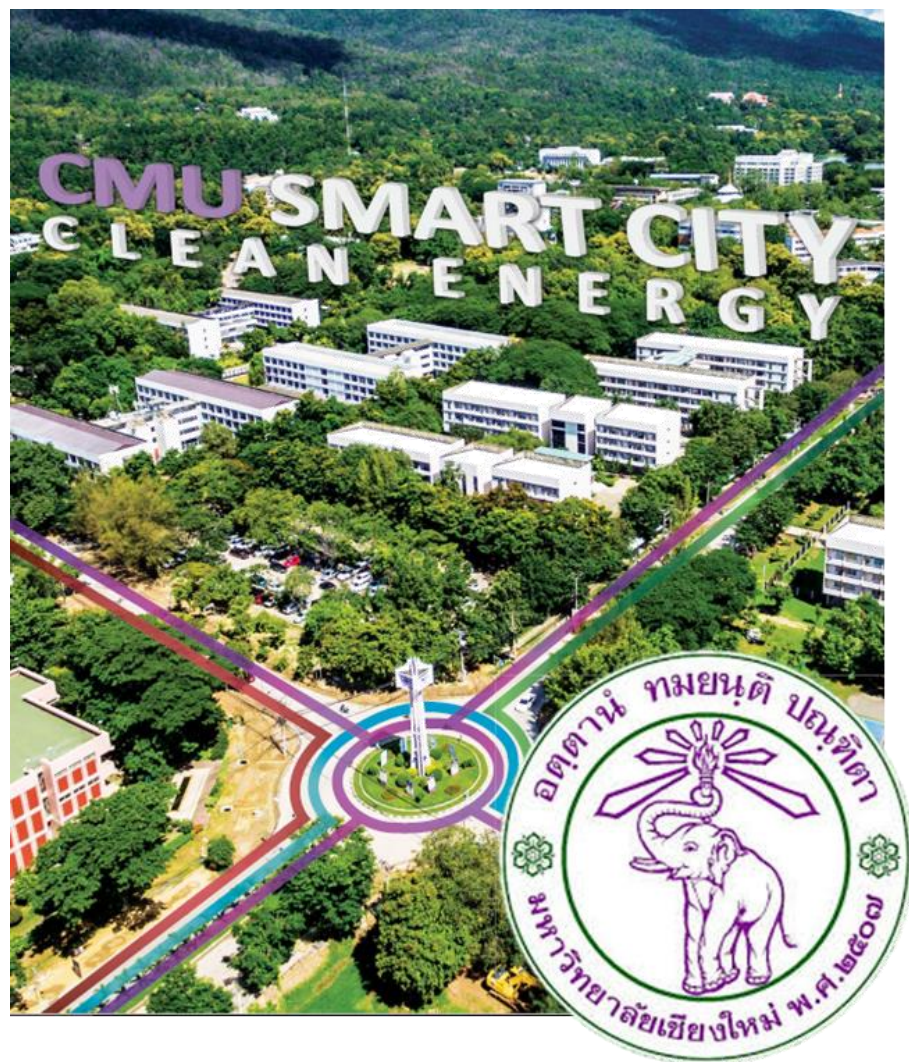
- Reference CO2 emissions
= Quantity of the electricity generated by the project [MWh/year]
x Emission factor [tCO₂/MWh]
- Project CO2 emissions
= 0 [tCO₂/year]

Site of JCM Project



Scheme





Chiang Mai one of 13 Smart Cities

- “Smart City Clean Energy Project Award” from EPP0 to CMU
- A part of “Chiang Mai Smart City Project”.



Solar Power Generation as 1st Stage

- 12 MW_{DC}
- 20 Yrs. PPA Between BCPG and CMU
- Require Battery Installation.

2.5MW
is subject
to JCM



Smart Campus as Initiative of Smart City

- BCPG’s BlockChain for Energy Management between Faculties and Offices.
- Use the Students Projects of Smart Cities to the projects.

University’s Target vs TDED’s Contribution

Increasing clean energy portion

Contribution
17.2 GWh
(40% of target)

41.5 GWh

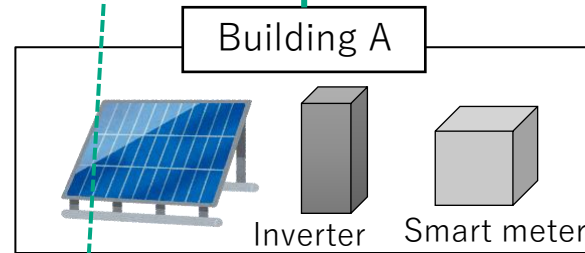
CO₂ Reduction

Contribution
7,600 tCO₂
(~50% of target)

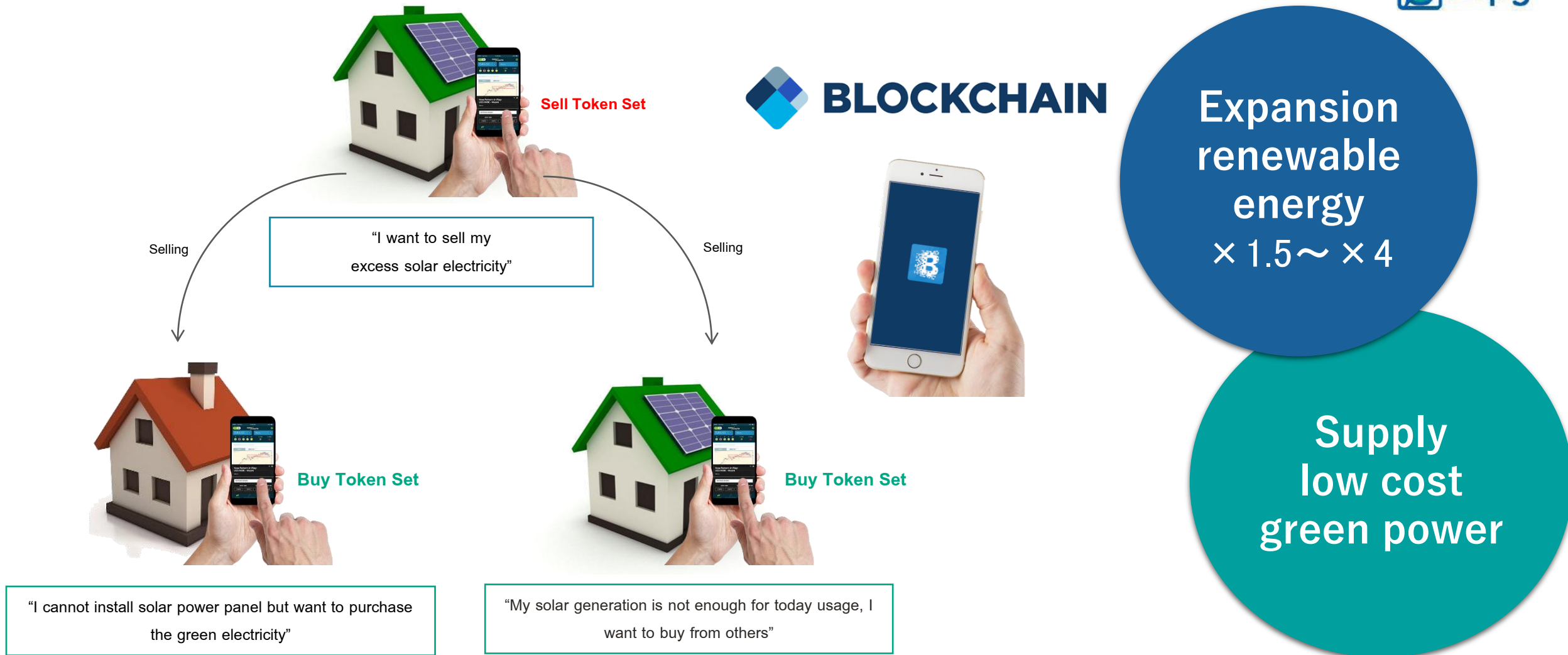
49,238 tCO₂

Green power sharing by Blockchain technology

Chiang Mai University Town



Management system with Blockchain technology(1)



SMART GRID



Fully Implemented
with Intelligent Platforms

- Virtual Power Plant
- Blockchain P2P
- **Zero Export**
- **Weather Forecast**
- **Demand Response**

Agro Industry Faculty
Prosumer

240
kW

Biomass Plant
Prosumer

55
kW

Animal Laboratory
Center
Prosumer

205
kW

Agricultural
Research Center
Prosumer

82
kW

Dormitory Office
Consumer

0
kW

Faculty of Veterinary
Science
Prosumer

164
kW

ERDI Building
**Net zero carbon
building**
Prosumer

144
kW

EV
Charging



Energy Storage
1.2 MWh

