03

Demonstration Performances

By utilizing the Korea South-East Power Co.'s win-win fund, the company has test-supplied Agro PV generation plant to six locations in South Gyeongsang Province. In order to set up a social cooperative in each village, the company have carried through informative educations centering on villagers, and applied for authorization of social cooperatives to MOTIE (Ministry of Trade, Industry & Energy). Eventually, social cooperatives were founded, through which Agro PV power plants are now running. The proceeds out of the power plant shall be used to promote village welfares.

2017

Grid-connected Agrov-Photovoltaic Power Plant R&D

KOEN

Goseong Bupyeong Village | 99.84kW

Autumn harvesting event on the Grid-connected Agro PV Power plantation

2019

Project for Agro-Photovoltaic Model Complex

KOEN
KOFCA

Goseong Shinchon Village | 76.8kW

Hamyang Gidong Village | 97.12kW

Haman Myungdong Village | 97.28kW

Hadong Youngchun Village | 97.12kW

Geochang Gwajoung Village | 97.12kW

Namhae Gwandang Village | 97.12kW

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Agro-Photovoltaic Power Generation

KLES

Agro-Photovoltaic Power Generation

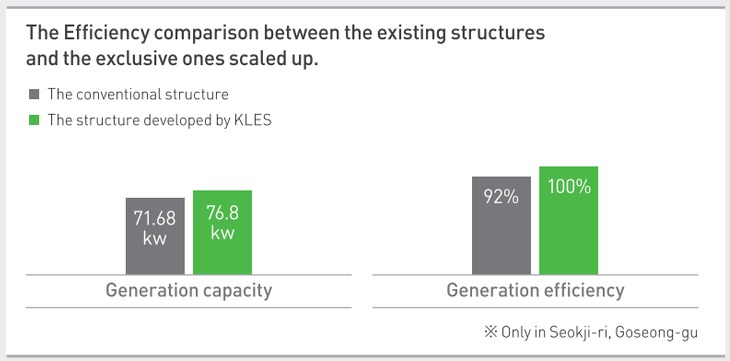
Agro-photovoltaic power generation is an Eco-efficiency technology that can produce both crops and energy collaboratively at the same time.
This power generation system can make the farm income increase.
Since starting up technology development of agro-photovoltaic power generation in 2017, KLES have been leading the solar power generation industry with this matchless technology.

01

The Features entitled Green Economy

01 / Support structures facilitated for crop cultivation

- The support structure of the solar module is designed to be placed 3.5m high and interspaced by 5m wide, through which the farming machinery can afford to move freely.
- Fairly high power generation capacity and efficiency compared to existing ones, as these exclusive structures can be put up irrespective of farmland shapes or farming directions.



02 / Optimized architecture fashioned through dedicated R&D

The solar modules are installed by working out the optimal placement and interspace between modules using the sunlight analysis program to enable the crops to take in sufficient sunlight.

03 / Relieving the instability of farm income

By cultivating rice and electricity collaboratively, farming households can be relieved from income instability if caused by falling rice prices.

04 / Efficient utilization of land

Agro-PV system opened the way to enable efficient utilization of the limited land, taking advantage of the science of photo-saturation principle, that is, plants no longer photosynthesize once they overrun the photosynthetic threshold. Technically, 70% of the amount of sunshine is consumed for growing crops, whereas the redundant sunshine is to be used up to produce PV power.

05 / Keeping up functions of farmland

Effective placements of photovoltaic structures ensure no soil losses and alterations, maintaining a crop yield of at least 80%.

02

Demonstration Results

'KLES', 'Korea South-East Power Co.', and 'Gyeongsang National University' have conducted research and development collaboratively for about two years. Diverse experiments and R&D activities have been carried on to check up the growth status of rice, the amount of sunshine and so on, in the comparison site. In the course of the processes, the effectiveness of Agro PV generation has been validated by way of demonstrating the optimal angle adjustment of the solar module.