

<Armenia> Case study

ROSE FIELD - Modern green house for Roses



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Green House for Roses

- **Country:** Armenia
- **Localization:** Aparan region, Saralange Village
- **Status of the project:** Implemented
- **Date of finalizing:** December 2020



- Financial model: Leasing
- Total investment size [EUR]: It was estimated that **3,900,000** was needed, including 2,200,000 for green house equipment
- Total energy related investment size (EUR): **2,160,121**
- Financing: The full investment was financed by ACBA Leasing, ACBA Bank and the client. The 54% of 2,160,121 Euro investment of Green house equipment was funded by ACBA Leasing and 46% of the investment was made by the client.
- The main terms of the leasing -2 leasing contracts, 6 year maturity, 6 months grace for initial capital repayments with equal monthly installments. One of the contracts also in under government subsidy for the interest payments.



The Project was completely new for the client as earlier the client did not have any experience in green house. The land was purchased back in 2019 and the client has decided to make a 2.5 hectares of green house. The mountainous area was specially selected as the climate is cool and the days of sunshine are prevailing in this region.

18 types of roses are planted including unique Montmartre rose, which is assumed to be the “business card” of the green house.

Green house complex equipment are obtained from the French Richel Group which for more than 50 years has been the French specialist and Europe’s leading manufacturer of plastic green houses.



- The financial analysis was done by forecasting future income from the green house.
- Considering worth and best scenarios, the analysis and the assessment of the project was performed based on the realistic scenario.
- The following ratios were considered
 - ✓ Break even point
 - ✓ Loan/leasing coverage ratio
 - ✓ Acceptable decrease in turnover
 - ✓ Gross and net margins

4.5 mln roses are assumed to be collected during the year and sold.



- Primary energy savings : estimated 4 GWh/year
- Equipment/facility lifetime is estimated 15 years
- Lifetime primary energy savings 60GWh
- Methodology used for the verification of energy savings/production is performance measurement
- Greenhouse gas emission reductions is 1500 t CO₂/year



The Green house equipment is fully imported. It is a greenhouse with plastic covers.

Priva innovative irrigation system offers smart (re)use of water from disinfecting water and removing bicarbonate, to mixing and dosing water with the right concentration of nutrients at the right time and from measuring the drain water to recycling it. **Fully automated** fertilization and irrigation systems are specially designed to suit project needs and are managed automatically

- **Screening** - it features motor-driven mechanisms and are positioned horizontally under the roof of the greenhouse. Shading screen protect the plants against direct radiation.

The Green house is a 4 generation technologically advanced project
18 types of different roses beautifully grow from imported seedlings.



During the analysis the main shortcoming/risk of the project was the fact that the clients were new in the business and did not have any experience in this particular area.

From the other hand, the client has contracted a very famous French supplier, who also provides consulting and in addition the green house has an experienced agronomists from abroad.

The flowers are fully exported to the NIS countries by modern refrigerator trucks and the consumption market is quite large and there is enough market space to attract and position.



Conclusions

We have recently visited the Green house to once more see the beautiful project implemented. We were told the expectations were over performed.

Besides the energy efficient investment, the utilization of unused rural area and profitable business this project has also a social benefit. Currently 60 families are employed in the green house and in average earn much more than the average salary that very few jobs available offer in this particular rural region.

The client is going further and enlarging the green house by starting the construction of an additional green house in the other 2.5 hectares area. ACBA Leasing is considering to partially finance the new construction as well.