



Results

Within 1 hour, you will receive three reports on your account. These reports contain all the **results of the calculation** and many specifications about your project.

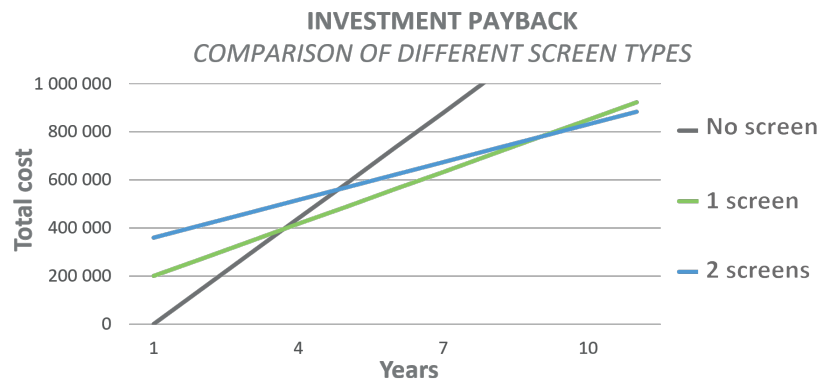
A PDF report **summarizes specifications** about your project and let you know:

- **Energy consumption** for heating,
- **Inner climate** (temperature, humidity, PAR reaching canopy),
- **Energy consumption**, cooling and dehumidification,
- **PAR** reaching canopy and **artificial light required** to reach day light integral,
- **Climate analysis**,
- Estimation of **greenhouse Gas emitted**,

You also receive two Excel reports with detailed data:

- **Monthly summary**
- **Hourly values** during two typical year

You can proceed to **online comparisons** of the technical solutions **based on your different scenarii**, to **compare your investment** and **find optimal configuration** for your greenhouse project.



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Energy and climate analysis for
greenhouse project



A simple software to **design energy efficient** greenhouses with an **optimal climate**.

With the Hortinergy software, you can simulate standard and innovative configuration to reduce your energy consumption and optimise your inner climate.

With a simple decision-maker tool, you can compare technical and economical solutions. The software gives you an impartial evaluation to make the best choices to optimise your investment and reduce your running costs.

Result reliability was validated with measurement campaigns classic and semi-closed greenhouses in technical center in France.





Main input parameters

Innovative algorithms take into account specific greenhouse parameters. Here is a non-exhaustive list of these parameters.

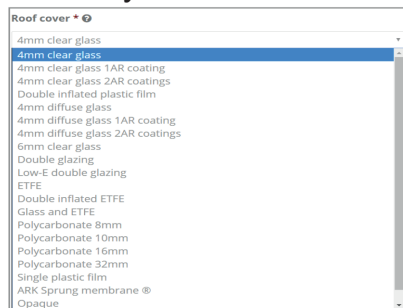
Our weather file includes a typical year on an **hourly basis** based on the **GPS coordinates** with parameters such as:

- Temperature,
- Relative Humidity,
- Wind,
- Solar radiation (global, diffuse, PAR...)

Greenhouse covering includes:

- Type and shade of the greenhouse project (Venlo, gothic...),
- Orientation and dimension,
- Covering materials of each wall,
- Climate screens...

Hortinergy is very complete: a **large material library** is available. It is updated with the **latest branded materials**. Here is an example of our covering material library:



Hortinergy also takes into account the **crop evapotranspiration**. For this purpose, parameters about crop management have to be filled in: crop types, growing medium types, transplanting date and uprooting date, etc...

Hortinergy also considers **climate control settings** just as a climate computer would do:

- Temperature setpoints and relative humidity control,
- Screen regulation types,
- Morning revival...

Day / Night switch - Thermal screen management strategy *

Delta Temperature inside/outside and Solar radiation ▼

Solar radiation minimum *

(in W/m²)

100

Please enter a value between 0 and 1000.

Delta Temperature inside/outside maximum *

15

Please enter a value between 0 and 50.

Morning revival *

☐ Yes

☒ No

You can model **standard and innovative equipments** such as:

- Semi-closed and closed greenhouses,
- Pad and fan,
- Assimilation light (LED, HPS),
- Natural ventilation...

4. Humidification and cooling system

☐ No

☒ Pad

☐ Fog

Pad thickness

(mm)

☐ 100

☐ 150

☒ 200

☐ 300

Pad height

(cm)

0

Please enter a value between 1 and 700.

Pad length

% of greenhouse gable

0

For **heat production and storage**, Hortinergy includes:

- Energy source for primary and secondary systems,
- Heat production and distribution yield,
- Buffer tank: volume, regulation...