

Kiwa's gas network calculation and analysis tool has been updated and expanded

# Irene Pro 5



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Progress**



# Irene Pro<sub>5</sub>

**A new version of Irene Pro, Kiwa's calculation and analysis tool for gas networks, is available.**

**In version 5 of Irene Pro, the user-friendliness in particular received a major boost. In addition, Irene Pro 5 can be expanded with a number of modules that make the added value of Irene Pro for your organization even greater.**

Kiwa's Irene Pro helps to answer energy issues. For example, it can be used to calculate natural gas and hydrogen networks, the supply of green gas and the transition from natural gas to hydrogen.

## Why Irene Pro 5?

- ▶ Irene Pro provides relevant insight into supply and demand and the resulting pressures and flows in your gas network.
- ▶ Irene Pro can be easily integrated into your existing information systems.
- ▶ Irene Pro has proven reliability (e.g. for calculating the Dutch gas distribution network).
- ▶ Irene Pro is user-friendly and fast, even when large networks have to be calculated.

## Irene Pro Basic

The Irene Pro Basic module is the heart of Irene Pro. It contains powerful functionality for capacity calculations and calculates supply and demand and the resulting pressure drop, flow direction, velocities and flow rates in your pipeline network. That is why Irene Pro is an important tool for the design, construction and management of gas networks and for optimal asset management.

## The power of Irene Pro Basic

- ▶ Ability to calculate all kinds of gas distribution networks, from small networks to complete supply areas with different pressure levels and shared networks;
- ▶ Options to calculate with different types of gases, such as: biogas, green gas, hydrogen and CO<sub>2</sub>;
- ▶ Complete insight, such as: where does the gas go from a selected point, what is the transit time from the nearest feed and where does the greatest pressure loss occur?

## Easy integration, user-friendly operation

Through the globally supported XML format, Irene Pro can be easily integrated with CAD, GIS and other information systems. Furthermore, information from Irene Pro can be copied directly to other applications or saved as an Excel, PDF, ESRI-Shape or DXF file. The user-friendly operation ensures that the user quickly finds his way in the many possibilities of Irene Pro. Irene Pro provides instant insight into the information that matters!



# Irene Pro modules

**Irene Pro can be expanded with a number of useful extra modules. Below is a brief overview of these modules and their functionality. Do you want to know more? Contact us and we'll be happy to tell you all about them!**

## **Irene Pro Green (free of charge)**

Irene Pro Green is an extension that comes free of charge with Irene E Pro Basic. Irene Pro Green enables you to evaluate the effects of the supply of green gas. Additional functionality of Irene Pro Green:

- ▶ Defining and adding suppliers (flow can be forced);
- ▶ The supply area of suppliers can be made visible, showing the share of gas coming from the selected supplier for each pipeline;
- ▶ Transit times of the gas from the supplier or station to the consumers;
- ▶ Compressor: transfer surplus gas supply to a network with a higher pressure;

## **Irene Pro Customer Minutes Lost (CML) (optional, additional fee)**

The Irene Pro CML module enables you to determine the supply reliability of a gas network (i.e.: the 'lost customer minutes'). The impact of three types of risks can be analyzed: climate, pipeline failure and station failure. In the case of climate, we look at the chance that such a low temperature will occur that the demand can no longer be met everywhere in the network. In the case of pipe failure, the probabilities and consequences of a pipe break are considered, taking into account the repair time. For the risks of station failure, the failure probabilities of station components (regulators and safety devices) as well as the maintenance schedule used are taken into account.

## **Irene Pro Green Plus (optional, additional fee)**

With Irene Pro Green Plus, the user can calculate with gas consumption and supply profiles, taking into account the buffer capacity of the network. This is important for the analysis of the options for connecting green gas suppliers. The consumption profiles can be used to analyze the gas demand at any time. In the case of suppliers, the moments when the gas demand is lowest are just as important. For instance, based on the consumption profiles Irene Pro Green Plus is able to automatically determine for any time of the week the maximum outside temperature the supplier can still supply at full capacity. Naturally, Irene Pro Green Plus also has extensive display and reporting options.

### **Calculate pressure variations during the day**

The ability to calculate with consumption profiles is also useful to visualize pressure variations during the day. Whereas the standard capacity calculation of Irene Pro Basic only calculates the situation at peak demand, Irene Pro Green Plus offers the possibility to calculate the demand at any time of the day and every day of the year. The demand is determined per hour per individual consumer based on actual annual consumption and consumption profile.

## Irene Pro Designer (optional, additional fee)

The Irene Pro Designer module has been developed to calculate the optimum diameters: the minimum diameters at which with sufficient pressure can be supplied. This is possible for one or several individual pipes in an existing network or for a completely new network that has yet to be installed. This module is therefore also very suitable for replacement projects. Think, for example, of replacing cast iron pipes with PVC.

## Irene Pro Operations (optional, additional fee)

Irene Pro Operations shows the actual situation in the network. Planned work as well as incidents with for instance gas leaks are taken into account. The actual temperature can automatically be retrieved from the nearest weather station. It is also possible to calculate future situations based on submitted work plans and a chosen outside temperature.

### Support Irene Pro

Irene Pro users can contact a dedicated service desk for support. The Irene Pro service desk can answer all your questions and is open for feedback that can make Irene Pro even better. During the annual Irene Pro user day, user wishes (realized and new) are prominently on the program. In this way, users have a direct influence on the further development of the program.



### Free demo version

A demo version of Irene Pro Basic can be downloaded free of charge from [www.irenepro.com](http://www.irenepro.com). This demo version can be used for gas network calculations up to fifty pipes and one station. If you want to calculate larger gas networks, you can request a special demo license free of charge.

### License fees

The Irene Pro license fee depends on, among other things, the number of pipes, partial networks and feed points in your networks and the number of extra modules that you want to use. For more information, please contact us by phone (+31 (0)88-998 3521) or email ([technology@kiwa.com](mailto:technology@kiwa.com))

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