HYBRID SYSTEM WIZARD

Software to help your projects thrive

ARISTON
The home of sustainable comfort

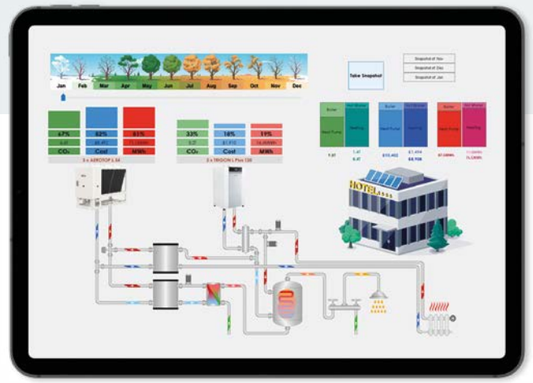
elco heating solutions

ATAG COMMERCIAL

Contents

Introduction

- Obtain comprehensive calculations (energy, running costs, CO_2 emissions)
- Solutions based on historical weather data
- Solutions with heat pumps, hybrid systems & boilers
- Includes heating and DHW modules
- What used to take hours, now takes just minutes



Awards / Shortlistings

WINNER ASHRAE Award for Sustainable Digital Technology

ASHRAE UK Chapter

THE ENERGY AWARDS 2023 — Headline Sponsor: wilo — FINALIST

CIBSE BUILDING PERFORMANCE AWARDS 2024 — SHORTLISTED

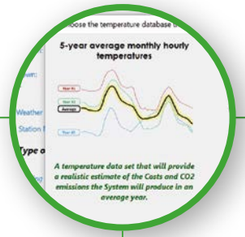
> *It has proven to be an extremely valuable asset at a sales and funding development level.*
>
> D. Thornhill - ACS

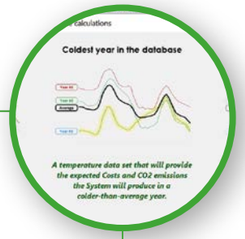
Our powerful cloud-based tool is easy to use.

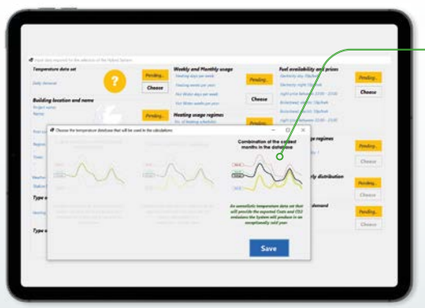
Simply enter your project data step by step and the tool quickly calculates the best options for you.

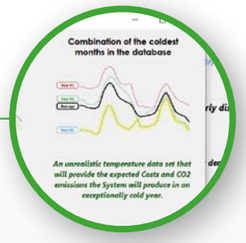
Temperature data set feature allows you to choose data from the last last 5 years based on the average hourly temperature each month!

5 year average
Coldest year over 5 years
Coldest month over 5 years









Data from 49 UK weather stations

Variable heating usage data

Fuel types and pricing

Hot water usage

Choice of building type

Heat demand & emitter data

Once project data is entered, simply hit “save”

The tool provides a number of reports for you.

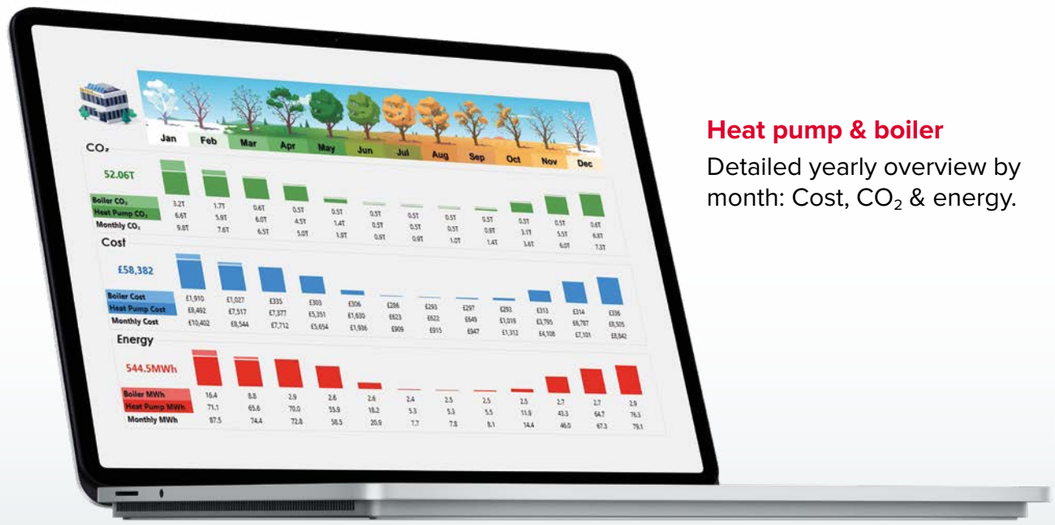
You can choose to save the ones you want and email them for your records.

Simplified yearly overview

Shows combined annual data in a single report: Cost, CO_2 & energy.

Heating & hot water

Detailed yearly overview by month: Cost, CO_2 & energy.

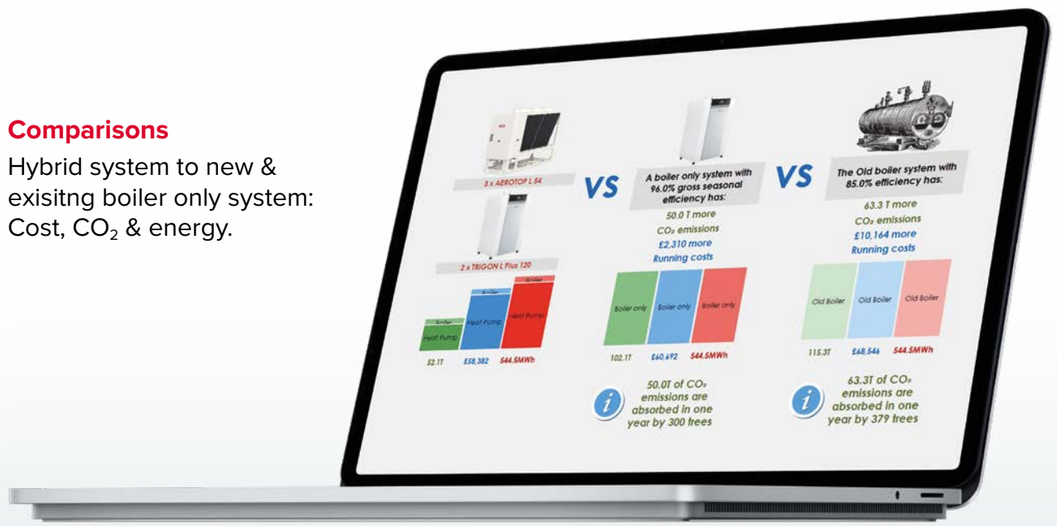


Heat pump & boiler

Detailed yearly overview by month: Cost, CO_2 & energy.

Comparisons

Hybrid system to new & exisitng boiler only system: Cost, CO_2 & energy.



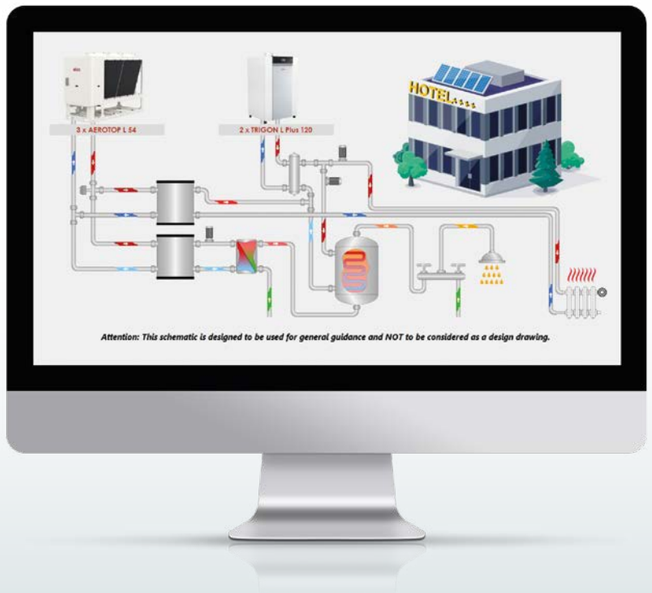
Following the main reports, the tool provides a generic schematic and equipment list.

You can also choose to see how the system is performing at different parameters.

Equipment list:

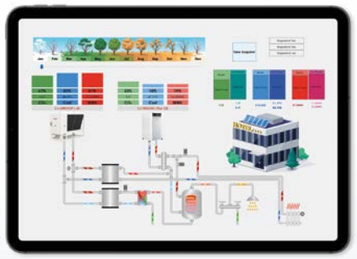
Works with many products from the Ariston Group brands:

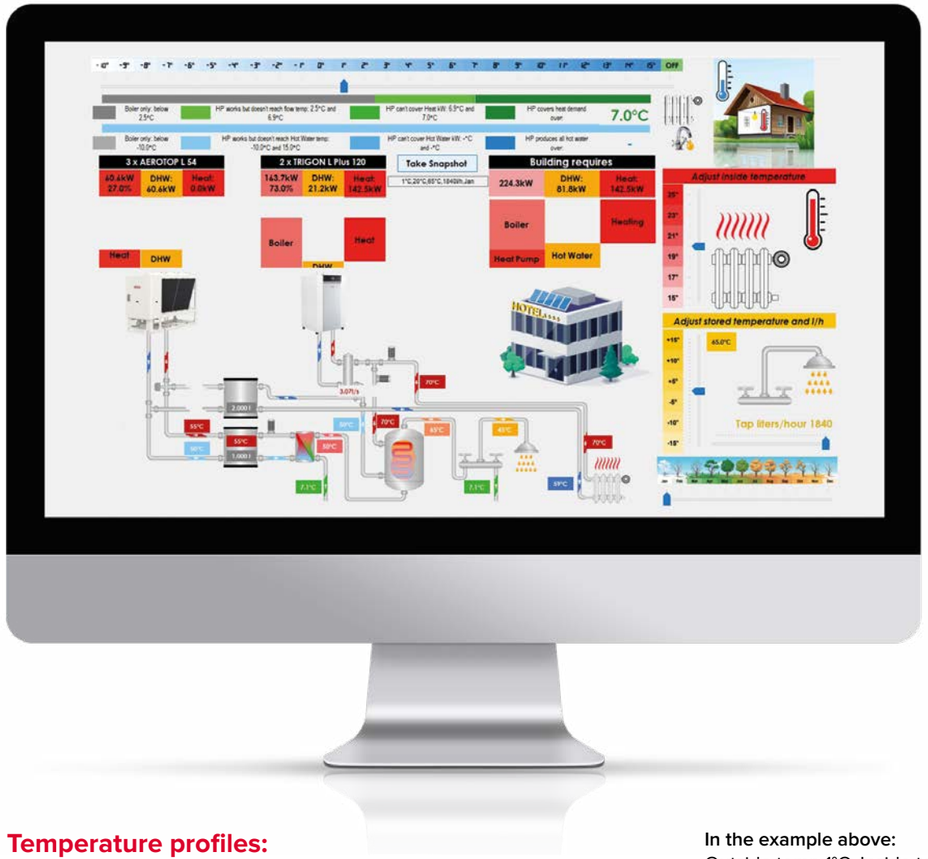
Ariston
ATAG Commercial
ELCO Heating Solutions



The generic schematic:

It can also be viewed with monthly overview:





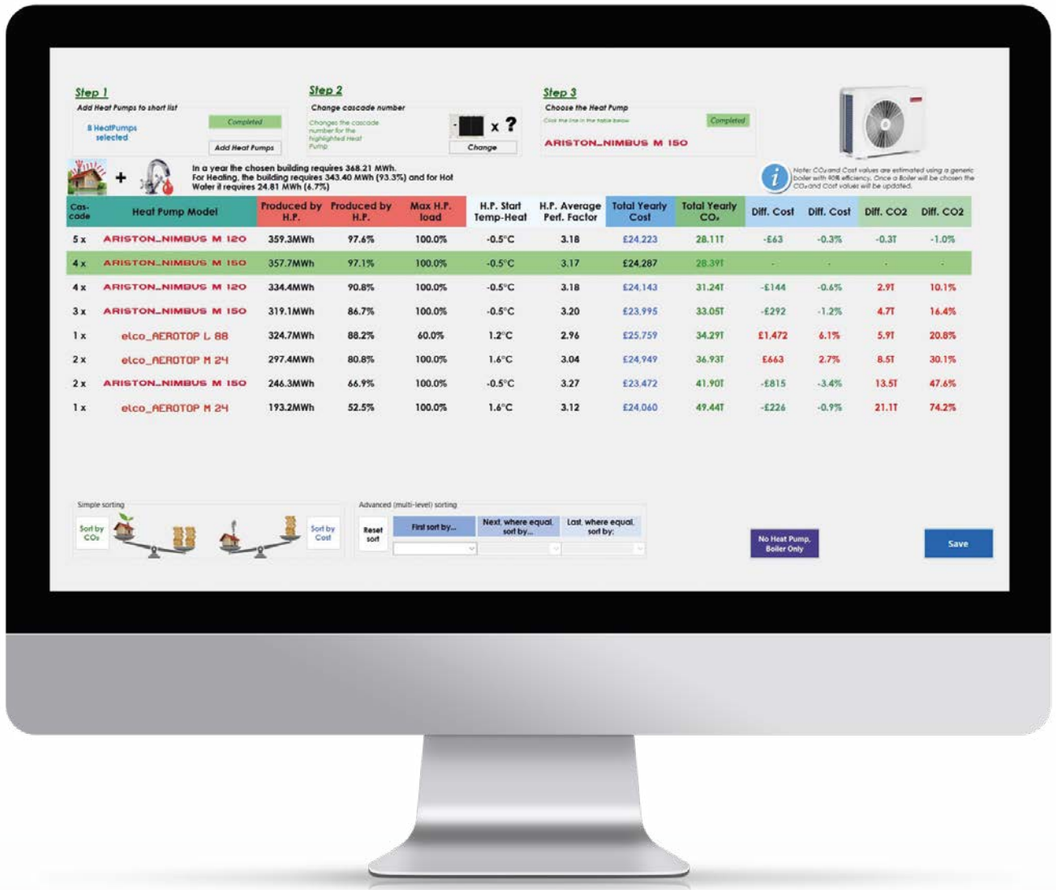
Temperature profiles:

With simple sliders you can see different indoor, outdoor and stored hot water values in different months. Five scenarios can be saved and emailed with the ‘Take a snap-shot’ feature.

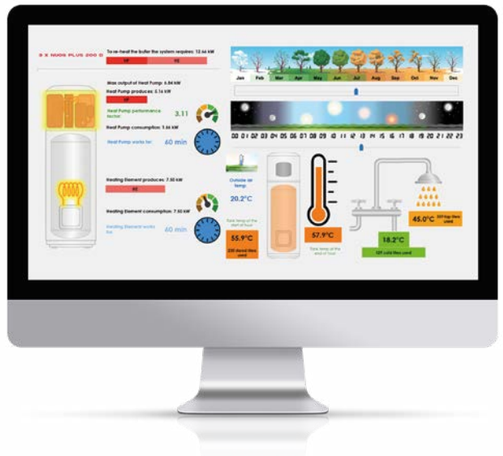
In the example above:
Outside temp 1°C, Inside temp: 20°C, Hot water temp: 65°C, Hot water peak flow rate: 1840l/h, Hot water month: Jan, Cold water temp: 7.1°C

Variable cascades

The cascade feature of the HSW compares variable cascades of heat pumps for the same building – for example, 3x15 kW heat pumps against 1x45kW or 1x88kW. With this feature, you can choose the most efficient solution for a building.

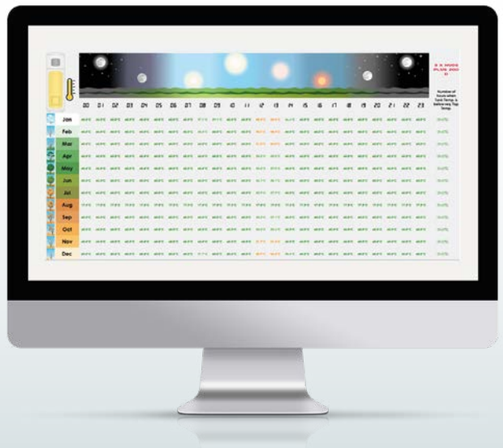


Heat pump water heating



By selecting the dedicated heat pump water heater solution for DHW, you can see exactly what DHW temperature you will have at a certain time of day under certain conditions and how the heating element contributes to produce the total DHW requirements.

The tool shows monthly CO_2 emissions, running costs and energy produced by the air source heat pump and by the integrated immersion heater(s).



You can also see the hourly tank temperature variation throughout the year to spot weak periods and help you decide any remedial actions. Just as with other solutions, the Hybrid System Wizard also provides a sample schematic.

Testimonials for the Hybrid System Wizard

"My students are training to be building services engineers, consultants and designers, learning the essential details about the fabric of buildings and the system options available to them to help achieve net zero and reduce CO_2 emissions. [...]

I'll be making my students aware of the HSW, so they can use it in their careers. I hope to implement it among my students next year to ensure they have all the necessary tools available to help decarbonise the building industry and achieve a net zero future."

Prof. Mahroo Eftekhari (CEng DPhil FCIBSE MASHRAE MInstR SFHEA)
Professor of Building Services Engineering
Course Director: MSc in Net Zero Building Services Engineering
ASHRAE Region XIV: Director and Regional Chair DRC 2023-2026
Regional Chair of East Midlands CIBSE 2022
School of Architecture, Building and Civil Engineering Loughborough University

"The Hybrid System Wizard has helped us explain to our customers that integrating heat pumps in existing systems can be done. The tool has helped us by improving our efficiency in delivering a project. What used to take us weeks of calculations and collating the data for our customers is now done in minutes by the HSW. [...]

If we look only at the feature with the variable CO_2 emissions for electricity – this feature helped us show to our customers how much they could decarbonise a certain building in the years to come depending on how much more renewable sources the UK will use in the future production of electricity. The tool is perfect for feasibility studies, for design stage 2 & 3."

Alin Pepene, Principal Mechanical Engineer (BEng MEng MSc CEng MCIBSE)
Harley Haddow, London

"Having used it on a recent hotel project, we were able to understand how the building would react in terms of heat and CO_2 consumption, as well as analyse yearly and monthly running costs [...] with the results showing that changing to a hybrid system would reduce CO_2 emissions by over 50%! [...]

By eliminating the need for manual calculations, the HSW is a huge help, offering a very good starting point and good visualisation, while being easy to present to customers."

Andrea Marano, Mechanical Engineer
SWP Ltd Consulting Engineers

"Thanks to Ariston U.K. for demonstrating the Hybrid System Wizard. We decided to use one of the leisure centres that we maintain and service (Leytonstone Leisure Centre) as a real-life example, as we knew what the energy costs were for running that centre for a year. After putting all the necessary data in for the hot water and heating, we were very impressed that the tool came within £1000.00 of the actual bills which were £132,000.00.

We look forward to hopefully using the selector tool on future projects to enable us to give our clients a better understanding of their buildings and what is on offer to reduce heating and hot water costs, as well as to improve the efficiency of their buildings."

Keith Scull, Site Services
Pumps & Motors

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Nimbus NET R32

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Ariston.com

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