

AI-suggested CO₂-reduction methods to improve productivity

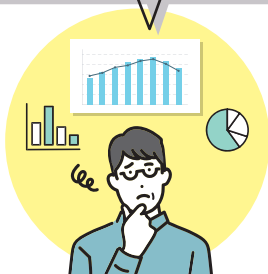


Carbon neutrality
production engineering version



Looking for answers to questions like these?

I know carbon neutrality is important, but we can't sacrifice productivity.



I can't think of anything else I can do to reduce energy use.



With EcoAdviser,
you don't have to choose one or the other.

- ✓ AI will find the waste you failed to notice.
- ✓ Achieve carbon neutrality and improve productivity.

Carbon neutrality cannot be achieved in a day.

CEO



I need everyone's idea on carbon neutrality operations.

Don't have time for that.

We are too busy with production.

I don't want to be held responsible for quality problems by trying new things.



Production engineer



Any progress?

Well, we've been trying to remember to turn off unused lights.

Progress? Uhm...



Let EcoAdviser help you.

Production engineer

Let's try the AI-assisted analysis function.



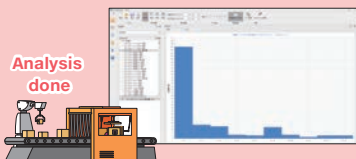
One month later

I suppose I have enough data for analysis.



Now I have the data for all facilities.

Analysis done



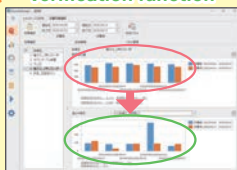
Why are some equipment using so much energy on Monday morning?

We can save money by improving this.



Office

Energy-saving effects verification function



I would have never imagined changing the time to hold morning meetings could reduce CO₂ emissions.



Cutting down on the wasted energy has improved productivity in other facilities.



Thank you.

Your department will be awarded an extra bonus for the great case presentation on carbon neutrality.



CEO



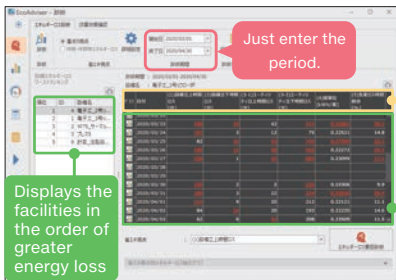
EcoAdviser's AI-assisted analysis

function does it all for you.

Example analysis functions

Automatically detects wasteful energy usage
(available only on the AI-assisted diagnostic version)

Energy-loss identification function



Top 5 focus areas in energy-use reduction

- Facility startup time loss
- Facility shutdown time loss
- Utility equipment time loss
- Specific energy consumption
- Production time loss-ratio

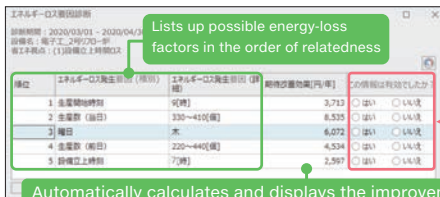
Energy-loss time (unit: minute), specific energy consumption, and production time loss-ratio at a glance

The AI diagnostics slashes the data analysis time.



Automatically suggests the cause of energy losses
(available only on the AI-assisted diagnostic version)

Energy-loss diagnostic function



All you need is to look at the diagnostics results.

Automatically calculates and displays the improvement in price

The AI diagnostics tells you where to start.



Displays the energy use before and after applying the energy saving measures
(available only on the AI-assisted diagnostic version)

Energy-saving effects verification function



Displays the energy-reduction effects in price

Shows the energy-reduction effects from the green viewpoint

See the difference before and after applying the energy-reduction measures.



How EcoAdviser works

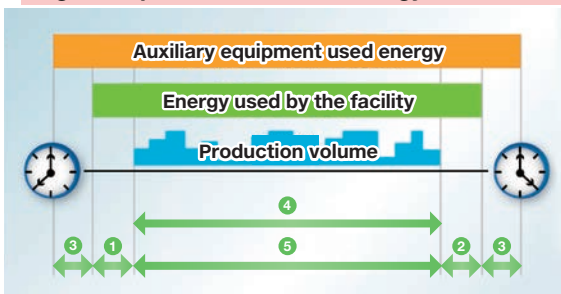
✓ Analysis method



EcoAdviser features AI technology Maisart of Mitsubishi Electric Corporation.

Built on a long-cultivated know-how of Mitsubishi Electric Corporation, EcoAdviser focuses on the 5 focus areas in energy-use reduction and finds the causes of energy loss as well as calculates the amount of energy loss.

✓ Mitsubishi Electric's original top 5 focus areas in energy-use reduction



- 1 Facility startup time loss**.....From the startup of production facility until the beginning of production
- 2 Facility shutdown time loss**.....From the end of production until the end of the shutdown of production facility
- 3 Utility equipment* time loss**
 - **Utility equipment startup time loss**...From the startup of utility equipment until the end of the startup of production facility
 - **Utility equipment shutdown time loss** ...From the shutdown of production facility until the end of the shutdown of utility equipment
- 4 Specific energy consumption**.....Specific energy consumption from the beginning until the end of production
- 5 Production time loss-ratio**.....Ratio of non-productive time from the beginning until the end of production

*Utility equipment (exhaust fan, mist collector, compressor, etc.) operated in conjunction with the operation of the production facilities

Best choice for users who are looking to

- ✓ Quantitatively know where energy loss is happening
- ✓ Know the energy loss from starting up the facility too early or forgetting to shut down the facility
- ✓ Automatically calculate energy intensity and the ratio of non-productive time of the facility



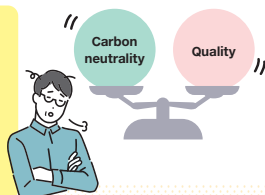
✔ Efforts toward carbon neutrality

What is carbon neutrality?

Carbon neutrality is a state in which emissions of CO₂, or a global warming gas, are offset to zero by absorption and removal.

Social situation

- Global growth in the number of companies moving toward decarbonization
- A greater number of companies striving to reduce energy-use and control CO₂ emissions at their production facilities
- Increasing demand for suppliers to provide greener products and set goals to reduce CO₂ emissions



Carbon neutrality or quality?

That is NOT a question anymore.

Get both and still increase productivity.

Consult Mitsubishi Electric Corporation.



See the video presentation on EcoAdviser for more information.

**MITSUBISHI ELECTRIC
FA YouTube**



Find out more about the new functions, and download manuals.

**MITSUBISHI ELECTRIC
FA Global Website**



**Energy-use analysis and
diagnostic application
(MES3-EAP1-AI) Trial version**

