



CONNECTING
THE WORLD

The logo consists of a dark blue globe with a grid of latitude and longitude lines, centered within a light blue circular border. The letters 'NF' are positioned above the number '23', both in a large, white, sans-serif font.

NF
23

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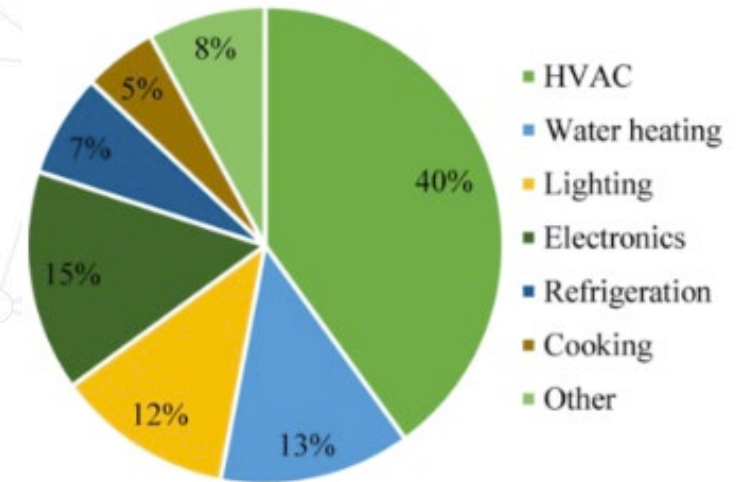
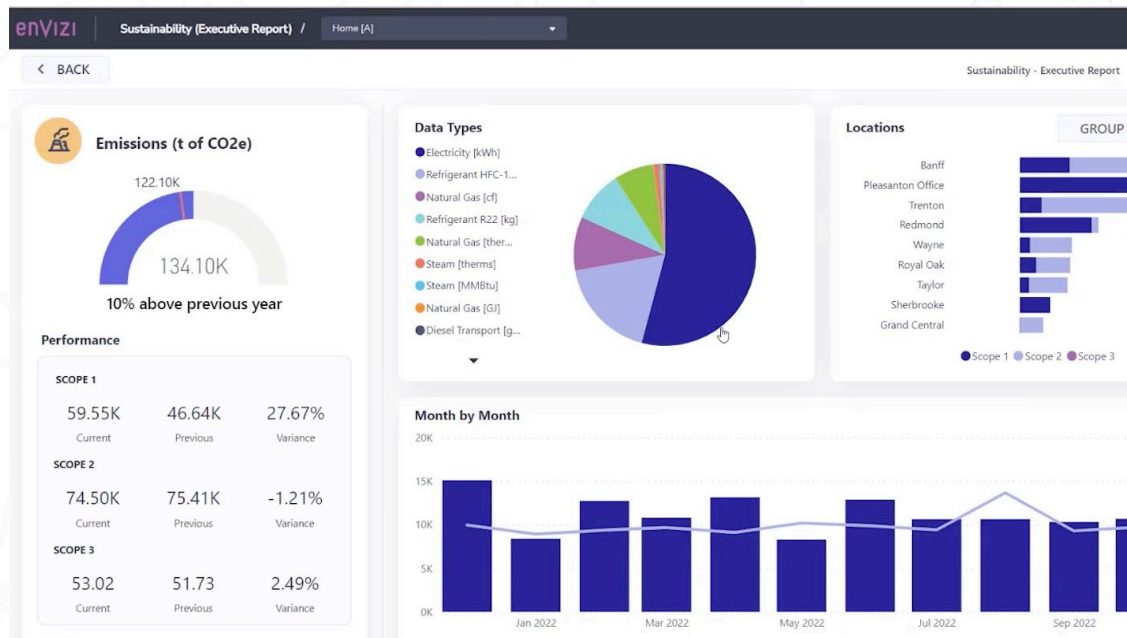
Closed Loop Sustainability Optimisation with Niagara, Maximo and Envizi

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IBM Sustainability Software

ESG Reporting Data



Detailed ESG reporting relies on data acquired from multiple sources.

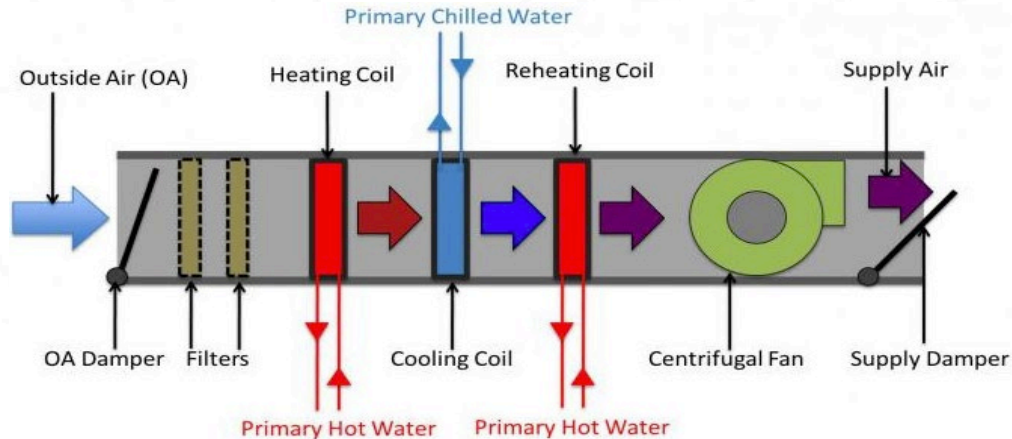
Data from utilities is common, but internal energy consumption is normally non-granular and does not focus on problem areas.

Heating, ventilation and air conditioning (HVAC) accounts for the majority of energy consumed in commercial buildings.

You feel fine, so there are no problems?

Typically nobody complains about a comfortable working environment.

Air quality is managed by a building management system that controls the air flow, heating and cooling provided by an air handling unit



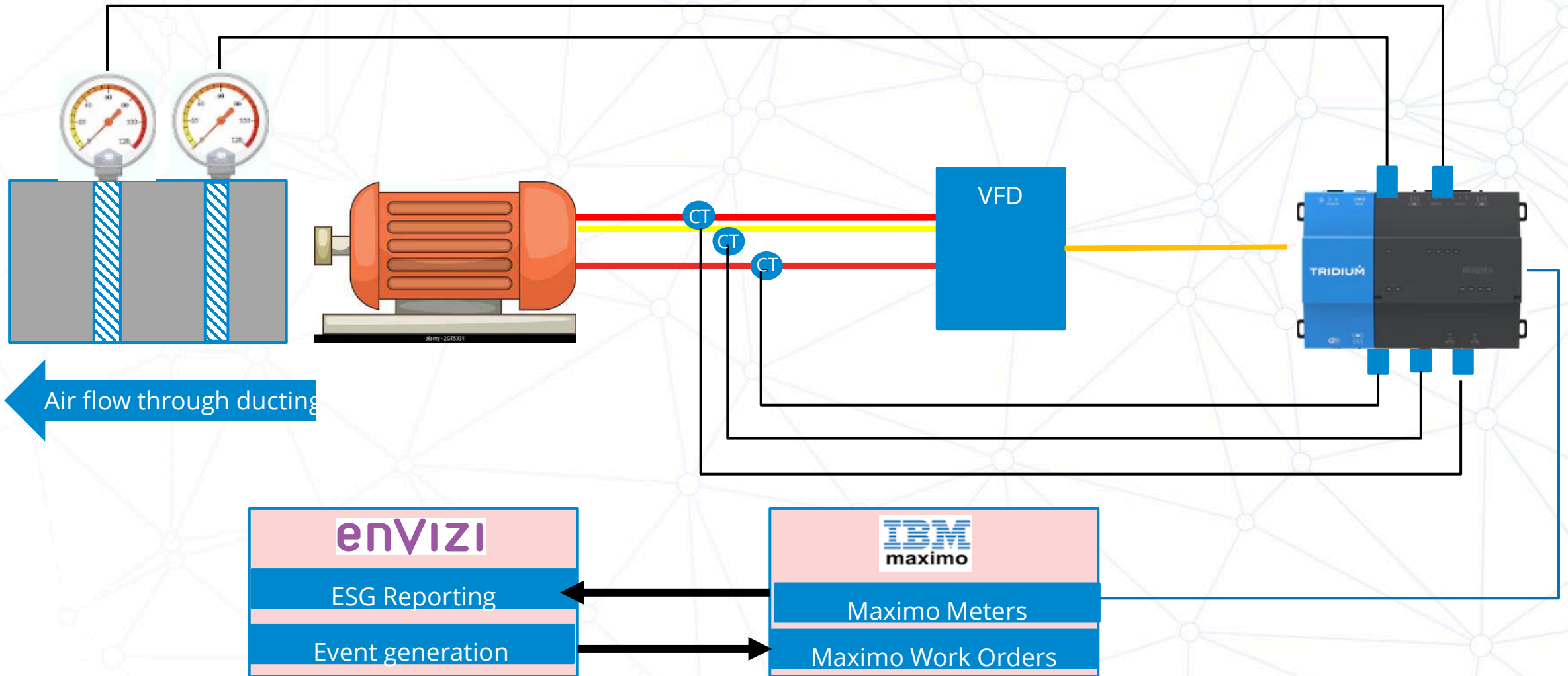
- AHUs pull outside air into a building using speed controlled electric fans.
- Outside air is passed through a set of filters before being heated or cooled.

Things don't always perform as efficiently as they should!

- Dirty air filters cause increased pressure drop across the filter – more electrical power required to draw air through the filter
- Poor temperature control systems may cause the heating and cooling coils to be active at the same time
- Badly adjusted automated OA and SA dampers restrict or provide too much processed air

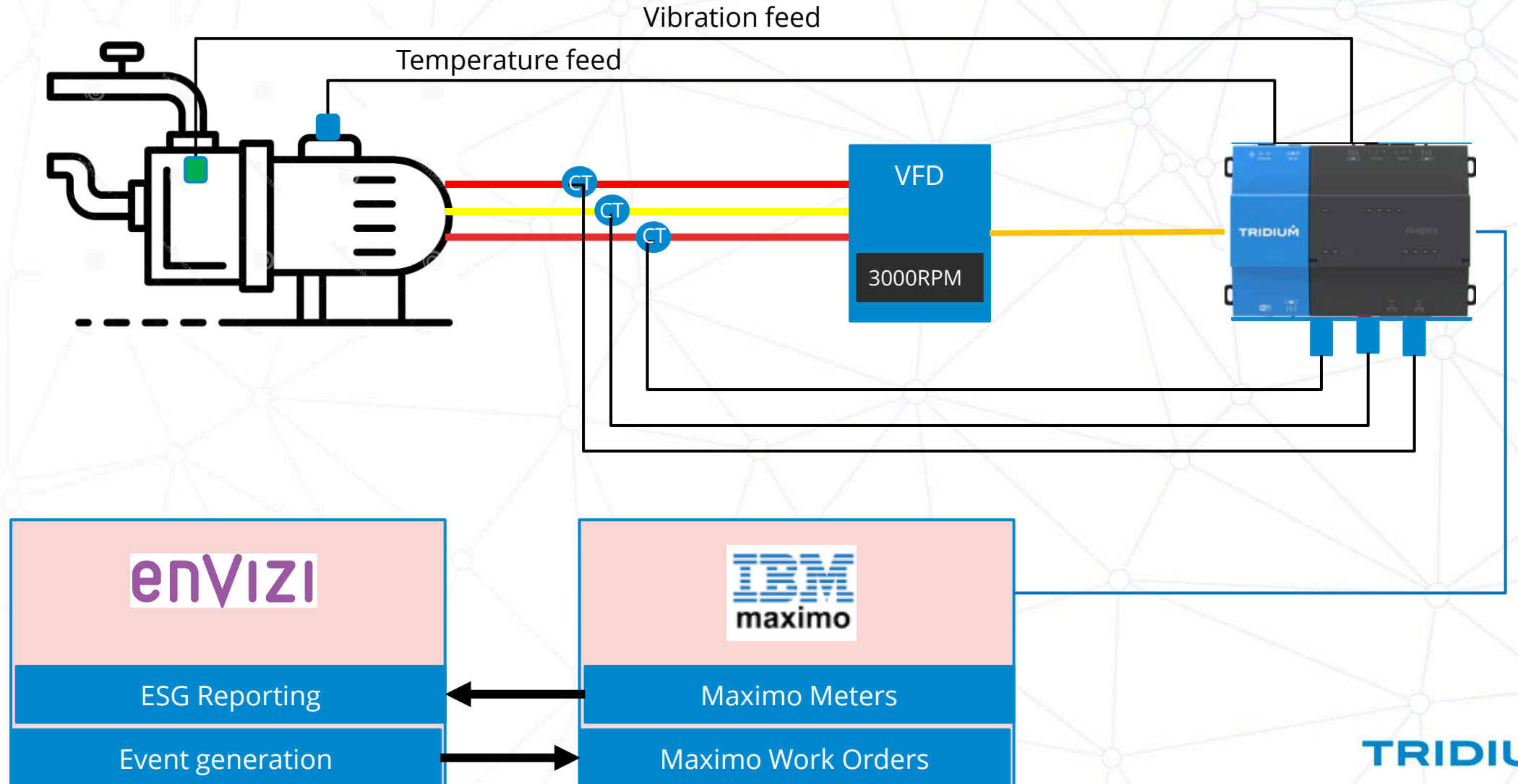
In order to fully understand the performance of an AHU we need to monitor the energy consumption and the quality of the air delivered. We also need to monitor the pressure drop across the various filters

How do we monitor AHU parameters



Integration of the BMS with Asset Management and ESG reporting enables closed loop control for sustainability, efficiency and economy

How do we monitor Pump / Motor parameters

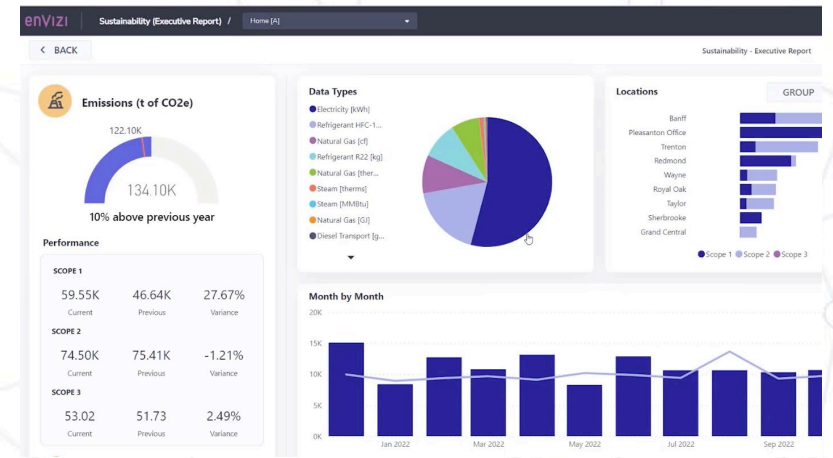
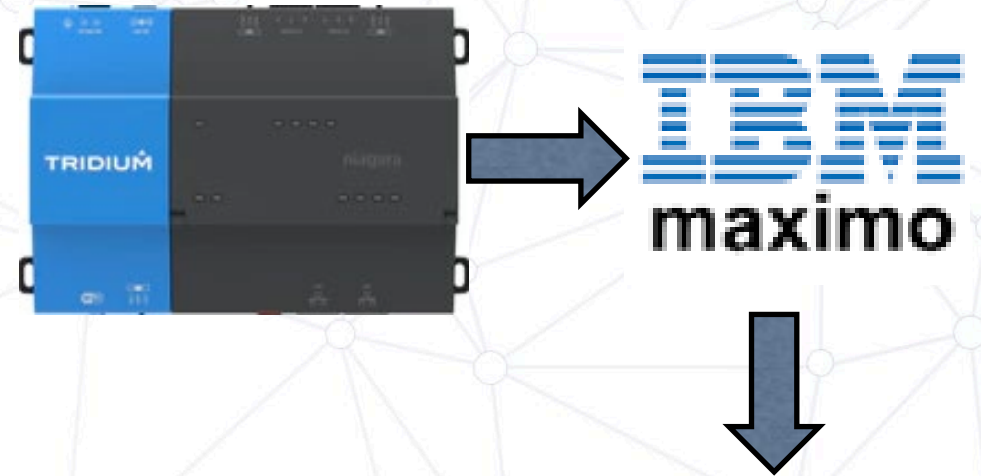


Closing remarks

Monitoring the health of your systems, and acting on the data will:-

- Reduce costs
- Increase asset life
- Improve carbon performance
- All better ESG reporting

Niagara already communicates with Maximo, and Maximo feeds ESG data to Envizi





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