

## OGA Summer Open Meeting 12<sup>th</sup> June 2021

### Ian Courtney: Okehampton College

This is a story covering 15 years or so of what was a middle of the road good secondary school in Devon. It has the second largest catchment area in England.

30 buses a day

I took over as chair in 2007 and thought it would be good to have a community focused day. We invited in various people to talk to us about what they thought the school should do. Coming out of that day we felt we needed to appoint someone on the staff to make some of the commitments we'd made happen.

We appointed an experienced science teacher Keith Webber to run our community liaison activities; this is really Keith's story.

One of the early areas we picked up on was sustainability, energy use (& waste), the whole environmental thing – of huge interest to our students.

In first few months we found that

- On a bad day a large school can spend £1000 on energy
- Our annual spending on gas and electricity was over £100,000 and rising
- Realised we had a major problem with our water usage – it's the most expensive utility and often forgotten

The First Lesson we learned is that **if you don't measure it you can't control it**

So we quickly installed some new electricity meters – at time we thought these were high tech! After 4-5 years we realised how primitive they'd been but they got us on the journey. They gave us some shocks:

- We had 850 pcs around the school, each of which uses 30-50 watts when on standby. Generously they'd be used for say 6 hrs a day for 200 days a year and the rest of time be on standby.
- We had some squash courts with electric heaters, used by the community who did not turn them off. We found that alone had been costing us £1500 pa
- There were 3200 fluorescent tubes around the school. We learned that the starter does not just start it but goes all time and uses half the energy of the thing. In other words only half the energy is producing light
- The school is 40 miles from Plymouth & our heating was centrally controlled from there – It came on in October and went off in April regardless & was either on or off.
- Some classrooms were so badly controlled that both heating and air conditioning running at the same time and teachers were opening windows too!

We decided as board that this was something we cared about and in Keith we had a passionate advocate.

There were many barriers; we got through them with persistence and persuasion.

What we actually did over the next ten years or so included;

- Involving the local business community; a commitment to buy everything possible locally. This paid off in many ways, for example I knew a business that was importing new lighting

tubes and we agreed that they would give us 3200 free if we in turn supplied them with data about these tubes for 18 months. They got data and a strong testimonial from a public sector organisation and we got free tubes!

- We established Student teams; they were incredibly engaged and started to change the culture & behaviour in the school. For example they would walk around the school every afternoon and put either a red or green sticker on light switches in offices, classrooms, everywhere – this quickly got into the culture – and reminded people to turn things off.

Next we started to address many of the site issues we'd identified. Some examples:

- We spoke to EDF – we had a link to them through a partnership with a French school & a former pupil was their community liaison manager!
- They gave us a grant to put in the first solar PV on a roof
- The next step was to improve monitoring further. We installed a much more sophisticated system that monitored every circuit every 10 seconds
- Within 6 months we'd cut our standing overnight use from over 20,000 watts to about 1,500 watts by;
  - buying software to turn off PCs. It powers them off completely if not used for 30 minutes after 4pm
  - changing radiator valves, lighting controls etc
- These measures, along with culture and behaviour change also reduced our peak daily energy usage from 120,000 watts down to 70-80,000.
- We saw real financial savings
- Industry was getting interested in the whole sustainability agenda and funding started to become more available. We spotted various competitions so started to enter them. And we started winning!

With the grants and prizes we installed;

- Further PV – although the income generated through incentives is getting less and less, the costs are going down too.
- Biomass boiler
- A wind turbine. If you want to talk about resistance – try putting up a wind turbine!
- We found a water leak by fitting a simple listening device to water intake; if water never stops you've probably got a leak! Found a leak that had been costing £20k p.a.
- We fitted around 800 radiator valves, Draft proofing, insulation, double glazing etc.
- We installed light sensors in every corridor, classroom and office so the lights only turn on when they're needed & turn off automatically
- When we updated the toilets we went for things that use less water (e.g. automatic touch-free taps).
- We installed a yet more sophisticated system to show us exactly what we are using where and why

There was Resistance to some of this of course. Everyone is busy, but over time people were won over and eventually our way of doing things was built into the ethos of the school.

We:

- Made it clear it is everybody's job (not just Keith)
- All are responsible
- Built pride

- Eco schools awards keep Britain tidy
- Installed a digester to compost all kitchen waste & produce methane for use in the catering dept.
- Erected a green oak indoor/outdoor classroom with a large vegetable garden and a greenhouse made from plastic drinks bottles

The First sizeable prize we won was The 20k Ashden Award. We let Keith have complete control of that fund – he used a lot of it for consultancy and reports on our feeder primary schools' energy use & options

Other prizes included The Zayad International Award for global high school \$100,000, British Gas £150,000, Marks and Spencer £50,000. In total, over ten years, Keith raised almost £750,000 for the school in grants, prizes and incentive payments.

The money is great of course, but arguably more important are;

- We are a Zero carbon school
- We have zero energy bills (we actually make a profit)
- We have a National reputation as a centre of excellence
- There are several thousand young people out there now who lived our journey
- Keith gives his expertise to other schools

To sum up, here are my Recommendations if you would like to start your own journey;

1. Monitor everything you use in as much detail as you possibly can. You can't manage what you don't measure- understand your buildings.
2. Do low cost things firsts. Simple steps. Remember that the last 5% is always harder to get to than the first 50%
3. Culture change – get students involved. They will be your ambassadors.
4. Water leaks are hard to spot and can waste thousands of pounds (not to mention precious water!