



CUTS THAT DON'T HURT!

HOW TO SAVE €100 MILLION ON PUBLIC SECTOR ENERGY USE

Summary

DUBLIN FRIENDS OF THE EARTH TELLS GOVERNMENT MINISTERS TO TURN OFF THE LIGHTS, REDUCE THE HEAT... AND SAVE MILLIONS.

Up to €100 million a year can be saved if we move quickly on energy efficiency in thousands of public buildings – schools, hospitals, offices, libraries and more. At a time of huge cuts in services, why is the Government so silent on cuts that don't hurt?

Ireland's total public sector energy bill is €500 million a year, so cutting 10% means saving €50m, and 20% means €100 million. With the crisis in public spending, surely simple measures such as turning off the lights and re-setting the boiler thermostat should top the list?

These are cuts that hurt no-one. In fact, they can make the workplace more comfortable and promote good working relations as well as helping the environment.

And yet there is no leadership from the Government in driving this change.

None of the highest-spending Ministers – Ruairí Quinn in Education, Dr. James Reilly in Health or Joan Burton in Social Protection – has uttered a single word on the record about cutting energy use in the public buildings under their departments.

Ireland has big targets on energy efficiency – a cut of 33% in public sector usage by 2020. But Dublin FOE's research shows that progress relies too much on well-motivated individuals. Existing projects show that low-cost measures bring about 15 - 20% savings within a few years. Imagine how these savings would help our schools, where capitation grants are facing 3.5% cuts.

Dublin FOE contacted a random selection of schools, hospitals, health centres and social welfare offices and found that most have no energy efficiency plan. As one school principal said, "We've had circulars from the Department of Education on every other cut, but none on cutting energy."

We need strong leadership and mandatory targets. Softly, softly is wasting us millions.

DUBLIN FOE'S FINDINGS

Every week we hear of new cuts and new charges. We're told that cuts are never easy. But we've found some which are. Cutting energy use across the public sector can save taxpayers a lot of cash – and reduce our disgracefully high greenhouse gas emissions too.

SEAI, the Sustainable Energy Authority of Ireland, has some very good schemes. They say that “Many organisations can achieve 20% savings in energy use through proven management and technology solutions” – and that “the first law of energy saving is: the greater the commitment, the greater the saving.”

But experts in energy management have told Dublin Friends of the Earth that this is not being promoted publicly and loudly as a Government priority, making it much harder to motivate managers and staff to take action.

Dublin FOE has researched what's happening on energy efficiency in schools, hospitals and other health centres, and social welfare offices. In Ireland, these are the three areas of highest public spending. We've found that progress is being made – but far too slowly and unevenly, in spite of the urgency of saving money.

“The first law of energy saving is: the greater the commitment, the greater the saving.” Just as SEAI says.

Take the HSE's annual energy spend of €85 million, of which an estimated 70% goes on lighting, heating and cooling. In 2010 they signed a partnership agreement with SEAI, and our random sample found some hospitals and other facilities cutting energy use. But there's STILL no national efficiency programme for ALL hospitals, health centres and care centres. Meanwhile, oil prices are increasing every year.

In education, vital capitation grants will be cut controversially by 3.5% this autumn. But Minister Ruairí Quinn has not told our 4,200 schools that they can save money through consistent energy efficiency programmes – AND that he's going to require them to do so. Instead, his Department and school patron bodies leave energy saving to individual schools.

Facts and figures in this report come from official online sources, and from Dublin FOE meetings and research in the field. For more on sources, see the end of the report.

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There are many good examples of how to reduce energy consumption. OPW, the Office of Public Works, ran a campaign between 2007 and 2012, cutting €5 million from an energy spend of €30 million across 250 buildings. Now it's being extended to 400 more.

If every large public sector building in Ireland did likewise, OPW believe that €50 million could be saved. If all 7,000 public buildings in Ireland were involved – that's the smaller ones included – €100 million a year could be saved within a few years.

Major effective, targeted energy campaigns are not free – in OPW's case, the initial costs were €600,000 a year, but five times that money was soon saved, and once such programmes are well-established, the costs reduce greatly, while the savings continue each year.

OPW's campaign was not about expensive retrofitting – it was aimed at changing behaviour. They collected data by installing smart meters giving readings every 15 minutes. Professional awareness campaigns were organised, led by voluntary energy officers and teams in every building. Turning lights and computers off at night, reducing overheating and better controls of wasteful airconditioning produced big savings. Other low-cost solutions include motion sensors for lighting, software programmes and unannounced night-time waste audits.

OPW found that energy use fell by an astonishing 19% where staff engaged well with the programme. But energy use rose – by a full 11% – in buildings that didn't take part. Meanwhile, Ireland's total public sector energy use rose by 32% in 1990 – 2007.

This evidence shows that standing still is not an option. Ireland cannot afford the financial cost of poor leadership, nor can the planet continue to pay the environmental cost of such a gross waste of scarce resources.

SEAI is working on partnership agreements with many major public sector bodies. They also have a database of 30,000 meter points, giving them access to regular information on 90% of the sector. They told Dublin FOE that there are no official annual targets for energy cuts, and that their approach is to “run with the willing”, developing good examples on a voluntary basis which all will follow in their own time.

Dublin FOE believes we cannot wait that long. We're going through a crisis – a double crisis of plunging public finances and a dangerously changing climate. On BOTH fronts, the more we save this year, the less painful next year will be.

SCHOOLS: HOW TO WASTE ENERGY IN THREE EASY LESSONS

1. No leadership from Minister Ruairí Quinn

We can find no record of Minister for Education and Science Ruairí Quinn speaking about cutting energy use in schools. This is despite the fact that schools pay their energy bills from his department's capitation grant for each pupil – a grant being cut by 3.5%.

The capitation grant pays for heating, lighting, cleaning, insurance and other day-to-day costs. Many schools fundraise to top it up – so the more is spent on energy, the less there is for books, educational facilities and repairing the fabric of school buildings.

2. No direction from the Department of Education and Science

The Department of Education and Science has issued no circulars on reducing the proportion of the capitation grant which is spent on energy.

The taxpayer spends over €200 million every year on capitation grants to primary and post-primary schools. Our research indicates that as much as a third of a school's grant is typically used to pay for energy. So energy use in our schools must cost the tax-payer at least €70 million a year. Saving 20% would mean an extra €14 million for education.

But the Department does not take responsibility for how this money is spent. Schools are seen as independent entities run by voluntary management boards. As one department official said to us, as far as energy use goes, it's a case of "some drivers drive well, some drive badly."

The Department does not make it optional to cut the pupil-teacher ratio. So what's the problem with telling all schools to cut their energy use?

The Department and SEAI have developed a website called www.energyineducation.ie, designed to "help" schools reduce energy use. SEAI told us they'll decide soon how to promote it – but Dublin FOE believes that unless schools are *required* to use it, or at least to work to mandatory targets, it will take too long to make big nationwide savings.

Meanwhile, Dublin FOE contacted a sample of 40 schools in Dublin, both primary and post-primary. None had any contact with SEAI, and most knew nothing about its work.

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3. No direction from the patron bodies

We contacted the patron bodies which control our schools. None of them has made any recommendations on reducing energy use. For example, the Education Secretariat of the Catholic Archdiocese of Dublin said that energy management was left at the discretion of individual schools. Similarly, County Dublin VEC told us that “This is left to the respective School Principal to manage at local level.”

...AND THE RESULTS OF THESE LESSONS? POOR

Of the 40 schools we contacted in Dublin, only three of them had an Energy Efficiency Plan with clear targets.

Two of these were fee-paying, post-primary schools – Wesley College, Ballinteer and Belvedere College, Dublin 1 – which do not receive a capitation grant from the State. The third was St. Joseph's Boys' School, Terenure, where one teacher has taken a lead.

No school could give us information on savings made, either in cash or emissions. Some were trying to make savings but had no plan or targets. Many were involved in An Taisce's Green Schools Scheme – but as ‘Energy’ is a Green School theme for just one year in five, some said that efforts lapsed and staff routines did not change permanently.

Every school which engaged with Dublin FOE's survey, however, was keen to get “guidelines and support” on how to save energy.

... BUT FULL MARKS ARE POSSIBLE

It is possible to make cuts in energy use in schools without major retrofitting, as this data from An Taisce's educational Green Schools initiative shows:

- In 2006 Scoil Phroinsias Naofa, Clara, Co. Offaly reported a 70% reduction in energy costs after making low-level changes like reduced settings on the heating system, a time switch on the staffroom heater, turning off boilers at night and motivating pupils and teachers to close doors and turn off lights.
- Gaelscoil na Cruaiche, Westport, Co. Mayo halved its energy use in 2005 by lowering settings on heaters, turning them off in summer instead of running them “needlessly”, appointing monitors to ensure lights were turned off and making draught excluders.

HEALTH: A SICKENING WASTE OF ENERGY

Again, in the area of health, there is no leadership from top: Minister James Reilly. We can find no public record of any comment, speech or encouragement from him on cutting this waste – despite the HSE’s estimated energy bill of €85 million a year.

In 2010, the HSE signed a partnership agreement with SEAI, to develop a long-term strategic programme of energy reduction across the health service. In 2011, the HSE was to engage an energy management company to develop and implement this strategy in detail. Dublin FOE tried hard to find out if this happened, but neither HSE Estates nor SEAI replied to our queries on it.

Dublin FOE has also been unable to get answers on HSE targets and plans for energy reduction in Dublin or in Ireland as a whole, or how much was saved in 2011. We look forward to this information in the HSE’s Annual Report 2011, yet to be published.

HOSPITALS

Dublin FOE contacted six major hospitals in Dublin, and four of them gave us information on measures taken to reduce energy usage. Some have liaised with SEAI, and received grants for retrofitting and other measures. All were aware of the need to reduce enormous hospital energy bills - for example, gas and electricity costs in St. James’ Hospital in 2009 came to €2.7 million.

But from our contacts and from hospital annual reports, we could see a significant disparity in levels of awareness and in the range of efficiency actions taken. There is no requirement on hospitals to liaise with SEAI - instead, there’s an over-reliance on motivated individuals setting internal targets.

Individual findings include:

- Temple Street Children’s Hospital has an Energy Efficiency Plan, using SEAI’s Energy Map, and said there was a significant reduction in gas and electricity use in 2011, saving 50,000 kg of carbon emissions.
- Energy use in James Connolly Memorial Hospital has remained static since 2007 despite an increase in floor space of 20%. Their bills for electricity and gas in 2009 were approximately €50,000. They received grants from SEAI for an automated lighting system in 2009, as did Beaumont Hospital.

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- In Beaumont Hospital, the total energy bill for 2010 was €2.1 million, and this cost had been cut from the previous year. But this was done by renegotiating terms with their energy provider, and in fact, there had been a 4% increase in their KWh usage.
- So while cutting costs in this way is useful, it will not have the same long-term financial and environmental benefits as genuine energy efficiency measures that save at least 20% of costs *and* emissions.
- Waste disposal and incineration is a huge additional energy cost for all hospitals – in James Connolly Hospital, almost the same as gas and electricity together.

Given the specialist nature of hospital work, retrofitting is emphasised by many. Potential savings have been shown at Stewarts Hospital in Palmerston in Dublin, where a retrofit of 30 buildings began in 2009, using capital of €1.5 million from an energy management company, Dalkia, plus a €350,000 grant from SEAI. Savings on utility bills will repay the capital in 15 years: in year one, savings were €230,000, including 50% on grid electricity, 40% on heating oil and a cut of 1,200 tonnes in greenhouse emissions; in year two, savings increased to €400,000. Solar thermal systems for hot water, new boilers, zone controls for heating, and replaced lighting systems are among the measures being taken, and the forecast is a total 41% reduction in total fossil fuel consumption.

Such retrofit work is essential across the public sector, but Dublin FOE believes it should be *in addition* to the immediate implementation of low-cost behaviour change.

In the context of the new Children's Hospital, it is also worth noting that the best energy savings in the long term are made at the planning and engineering stage of new buildings – according to one academic expert who spoke to Dublin FOE, 90% of energy costs can be eliminated then. By 2018, indeed, the EU will require all new buildings occupied by public authorities be “nearly zero-energy”. Retrofitting is much more difficult, and as a Technical Services Manager at a major Dublin hospital put it to us: “...(Hospital) engineers are often alienated from the building process, and then have to work with a finished building to make it in any way energy-efficient.”

OTHER HEALTH FACILITIES

Dublin FOE contacted five other health facilities in the Dublin area: three health centres, a residential care centre and an HSE office for environmental health.

Just one had an energy management plan, based on a manager's own initiative. Another had an informal policy of switching off lights and computers. None had had contact with SEAI. One office manager volunteered that the heating was on “24/7” and that there was no thermostat.

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The good news was from an HSE environmental health facility for Food Control in Clondalkin, where a manager implemented his own energy efficiency plan, switching off heat over weekends, evenings and even during lunch-time, and regulating it according to the weather. He has also engaged in a staff awareness campaign.

As a result, he achieved savings of about 16% in six years. But in hundreds of other health facilities in Ireland, the same money is being wasted every day while our health funding crisis continues. A mandatory plan for 24/7 energy efficiency is clearly urgent.

SOCIAL PROTECTION – GET YOUR OWN HOUSE IN ORDER!

Minister for Social Protection Joan Burton has not spoken on cutting energy costs in hundreds of buildings under her department, according to Dublin FOE's research.

Her department's cuts in fuel allowances to the elderly and needy from 32 to 26 weeks have been widely criticised - and in many written Dáil answers on them, the Minister has referred to great progress on domestic efficiency under the Better Energy Homes scheme. But she has never mentioned how her budget is still paying for wasteful energy use in offices and training centres under her department.

Dublin FOE contacted five social welfare offices and five training centres. None had a plan to cut energy use, although three were aware of the OPW's awareness campaign. As always, some individuals were taking the initiative to monitor turning off lights and computers. But they had no sense of a national campaign to do so. And there are up to 200 social welfare and employment centres around the country.

The OPW's energy campaign, called Optimising Power @ Work, has been running since 2007, covering 250 buildings. They include the Dept of Social Protection headquarters, their IT Data Centre, and some regional offices, one of which pioneered a great cost-saving initiative – a software system that turns computers off in the evening, turns them on automatically later at night to do backups and anti-viral scans, and then off again. This system is now in use in Revenue Commission offices too.

So why is the Minister so shy about sharing this good news on energy efficiency – and motivating people all over the country to clamour for their own cost-saving programmes?

IF OUR LEADERS WOULD LEAD...

When the Governor of Montana in the United States, Brian Schweitzer, got into office in 2005, he summoned the heads of State agencies and told them they had a week to come up with plans to cut their energy use by 20 per cent. He made them to cut “low hanging fruit” such as temperatures set too high and heating and lights left on in empty offices.

Montana has been running budget surpluses since Schweitzer has been in office. Imagine if his example was followed in Ireland, not just in education, health and social protection, but across the public sector, including local authorities and large semi-state organisations such as RTÉ, Aer Rianta and Iarnród Éireann?

A fantastic example of what can be done comes from Kilbarrack Fire Station on Dublin’s northside, where fireman Neil McCabe has been fighting energy waste as well as fire. In the space of four years he reduced electricity use by 80%. His vision for the fire station has led to 1.5 million litres of water being saved annually, a cost saving of 90%. He also converted four wasteland areas into creative spaces, with two beehives, a vegetable allotment and a commemorative garden for deceased members.

All of this came about on McCabe’s own initiative, and now he is working on an action plan aimed at working the same wonders in all Dublin fire stations. But government ministers have remained silent on making these kinds of savings elsewhere.

SEAI has issued a booklet on ‘Energy Efficiency in the Public Sector – Leading from the Front’, giving more examples of progress and potential savings, both in buildings and in other facilities:

- In RPA, the Railway Procurement Agency – “a 19% reduction in electricity consumption has been recorded in a six month period in one of its office buildings (compared to the same six months in the previous year).”
- In Bus Éireann – “energy efficient lighting has been installed in the Waterford and Broadstone garages with approx 7% reductions in electricity bills.”
- “Local authorities use up to 60% of their electricity on water services at a cost of approx €48 million per annum. Real opportunities exist to reduce this amount by 20 - 30%.” In Kerry County Council, for example – “an efficiency project at Dingle wastewater treatment plant will yield an estimated €2,000 per year in savings.”
- “There are over 400,000 public lights in Ireland. The vast majority are operated by local authorities who annually spend €50 million operating and maintaining them. This expenditure could be cut by up to 30%.”

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SEAI told Dublin FOE that a panel has just been appointed to help deliver its public sector programme. We hope this will speed up its implementation – and that all public sector bodies, including schools, will also be reminded that since January 2011, their annual reports have been required to provide information on measures taken to reduce energy usage in the previous year. Dublin FOE has seen annual reports for 2010, published in 2011, which have failed to do so.

Another area of concern is the EU's requirement for all public use buildings to have a DEC or Display Energy Certificate, showing the public its energy rating. By January 2013, thousands of buildings over 1,000 m² in size will be required to do so, and many more smaller buildings will be included by July 2015. But how many have prepared for this?

Since summer 2011, the Government has promised an update of NEEAP, the National Energy Efficiency Action Plan 2009 - 2020, in which targets and implementation plans are set out. In early February this year, Minister for Energy, Communications and Natural Resources, Pat Rabbitte, told the Dáil he was bringing the updated plan to the cabinet “shortly”, but as yet, it has not been published.

At a recent NESC/UCD conference, however, a presentation by Dr StJohn O'Connor, from Minister Rabbitte's department, detailed aspects of the planned update. On the public sector, he said: “We will introduce obligations on all public bodies to develop and implement energy management programmes appropriate for their organisations.” Dublin FOE welcomes this indication – but awaits evidence of the political commitment to make it work properly.

Dr. O'Connor also gave figures on projected energy savings in the public sector:

- By 2010, savings were 650 GWh; for 2020, the projection is 3,240 GWh.
- By 2010, savings were 155 Kt of CO₂ emissions; for 2020, the projection is 730 Kt CO₂ equivalent emissions.
- These public sector savings equal just under 10% of the total savings projected, including those from the business, residential, transport and energy supply sectors: a total of 34,060 GWh savings by 2020, and a total of 7,665 Kt CO₂.

These are the savings that Ireland has to make to meet our 2020 Kyoto targets – and Dublin FOE has calculated that a public sector saving of 3,240 GWh is the equivalent of the domestic energy consumption of up to 133,000 homes.

So why delay these savings by years, when we have so much to gain and nothing to lose?

Minister for Energy, Communications and Natural Resources, Pat Rabbitte, has said that “there's an economic benefit of €5 for every €1 the government spends on energy efficiency”.

CONCLUSION: WASTING AWAY IN THE PUBLIC SECTOR

How many times have we all been in stifling hospital waiting rooms, libraries, trains or elsewhere, wishing the heating could be turned down? How often have we seen a classroom or office window open above a hot radiator – or opened it ourselves?

Evidence from OPW and others shows that behaviour change can save 15 – 20% of energy usage, but only if properly planned, targeted and monitored. In some cases, much bigger savings are possible, for example, in the case of computer data servers using high-energy airconditioning.

Retrofitting can save another 10 – 20%, depending on the building itself and the resources available; and other energy efficiency measures include those on procurement, under which a register has been compiled by SEAI of thousands of energy efficient products that the public sector is required to use. From now on too, all new buildings should design out energy costs.

So Ireland's target of 33% cut in public sector energy usage is achievable by 2020 – but Dublin FOE believes that we also need annual targets to galvanise everyone, and not just the committed individuals, into action. In three years time, in 2015, we could cut by 15%, and in 2017, we could be saving 25%. Every cut saves us millions of euros in desperately needed public funds – and reduces our greenhouse gas emissions, still among the highest in the developed world.

An Energy Efficiency Directive is being considered by the EU, which may make it obligatory to set such annual targets. But instead of waiting until we're told to do, Dublin FOE believes we should act now – because these are cuts that don't hurt.

It's not enough to have the best schemes in the world. Dublin FOE believes that the government as a whole has to give leadership – including the Taoiseach, Enda Kenny, Minister for Public Expenditure and Reform, Brendan Howlin, and high-spending ministers in education, health, social protection and indeed environment and local government. Only then can we ensure that the maximum possible savings are made in all buildings and facilities paid for by their budgets, and that staff and public are motivated to play their part.

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Sources of information

The information in this report comes from official websites and reports; meetings organised by Dublin FOE with SEAI and other experts; and Dublin FOE's direct research, through phone calls and emails to a random selection of schools, hospitals and other state-funded facilities in the Dublin area. The following references give more details on the sources of the main factual statements made in the report:

Government Ministers comments on public sector energy use:

- from Oireachtas record searches on www.KildareStreet.com and general internet searches.
- Minister Pat Rabbitte on economic benefit: Speech on 08.12.2011 available at www.ibec.ie

SEAI and NEEAP 2009-2020, including figures on the total public sector energy cost, Ireland's reduction targets, examples of good projects and potential savings, and quotes on approach taken:

- http://www.seai.ie/Your_Business/Public_Sector/Public_Sector_Programme.html
- SEAI booklet on Energy Efficiency in the Public Sector, from www.seai.ie/Publications
- Dublin FOE meeting with SEAI and other NEEAP implementation group members, 09.11.2011.

OPW's Optimising Power@Work energy efficiency campaign:

- www.seai.ie/Your_Business/Public_Sector/Sectors/Civil_Service/Role_Model_Organisations.
- Dublin FOE email contacts and meeting with OPW's coordinator of the campaign, Conor Clarke (engineer in Mechanical & Electrical Services, OPW), held on 19.10.2011

Education, including capitation grants, patron bodies and quotes:

- Total capitation spend was not available from the Dept of Education. Dublin FOE calculated a baseline figure from total pupil numbers and capitation grants per pupil at first and second levels. Dublin FOE contacted 40 schools by phone and email, as well as the main patron bodies and Department officials.
- An Taisce Green Schools: <http://www.greenschoolsireland.org/case-studies/energy.221.html>

HSE's energy spend, and the figure of 70% on lights, heating and cooling:

- Presentation by Brian Gilroy of HSE given at SEAI event on 27.05.2011 and available at http://www.seai.ie/News_Events/Previous_SEAI_events/Brian%20Gilroy.pdf
- HSE Annual Report 2010, Appdx on Energy Efficiency, www.hse.ie/eng/services/Publications
- Dublin FOE was unable to get a response on current savings and targets from HSE Estates.
- Dublin FOE spoke to managers at four of six major Dublin hospitals, and to individual staff at five health facilities.
- Stewarts Hospital: www.stewartscare.ie/about_us/stewarts_care_and_dalkia.541.1315.newsgen.

Department of Social Protection facilities:

- Dublin FOE contacted 10 centres in Dublin and Facilities Management Section in Store St.

Governor of Montana: Pat Kenny Show: www.rte.ie/radio1/todaywithpatkenny/2012-03-09.html

On fireman Neil McCabe: National Green Leader award April 2011, at:

www.dublincity.ie/WATERWASTEENVIRONMENT/WASTE/Pages/GreenAwards2011.aspx

NEEAP/2 presentation at NESCC/UCD Workshop on Climate Change: <http://www.nesc.ie/en/news-events/events/icc-workshop/>

EU Directive 2010/31/ (recast) of 19 May 2010 on energy performance of buildings is available online.