ENERGY EFFICIENCY FOR COMMUNITY HALLS

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There are several possible paths to energy efficiency for community halls. The first is to make the best of what you have in terms of heating systems by improving the way you use them and doing what you can to retain as much of that heat within the building.

Another path is to change to a more efficient system of heating. That will require a capital investment and you will still need to ensure you are making the best use of the heat you produce. It makes sense to start with the latter.

Insulation

Heat is lost through walls, floors, windows and ceiling. Up to 40% of all heat loss can occur through the ceiling, making it by far the worst source of heat loss. This sort of loss can be reduced markedly by installing one of the several ceiling insulation products available on the market. Just which one you choose may be dictated by the design of the ceiling cavity in your hall. In some cases ceiling insulation may be nigh on impossible so you may need to get expert advice on the best option.

Gaps around doors and windows are also a bad source of heat loss, particularly in older buildings where the ravages of time have taken their toll on the joinery. There are products available which can help plug those gaps. Secondary double-glazing is also worth considering both from a heat and noise insulation perspective. Curtains over windows and doors provide another option, particularly if the hall has a lot of evening use.

There is not a lot you can do to insulate walls without major work, such as relining walls with plaster board, although there are forms of insulation available which can be pumped into the wall cavity.

Depending on the method of construction of your hall, underfloor insulation may be a worthwhile option.

Older halls may have chimneys which are no longer used and these should be blocked off.

If the design of your hall allows it you may want to fit room dividers so you can heat a smaller area for smaller gatherings.

The advice of a heating engineer, architect or builder could help you make cost-effective decisions.

***NB. You** should also be mindful of ventilation requirements so you don't have the situation where rooms become stuffy.*

Heating Wisely

Chances are you are not in a position to look at making major changes to your heating system. There are however steps you can take to avoid it costing you more than it should.

Consider fitting some form of timer on heating system, perhaps in the form of a timing button which, when pushed, turns the heaters on for an hour or two hours at a time. That way you reduce the risk of them being left on overnight - an expensive and dangerous oversight.

Also consider fitting a thermostat so that the heating switches on an off once hall temperatures have reached an acceptable level.

Water Heating

Water heating is an area of expense that is often forgotten.

One of the simplest ways you can save energy is by turning down the thermostat on your water heater to 60 degrees Celsius. Halls which have showers should also install low-flow roses to conserve hotwater.

If you don't have a Grade A hot water cylinder (check for the "watermark" label) install a cylinder wrap and lag the hot water pipes near the cylinder. In a domestic household a $70 cylinder wrap can save about $35 a year in electricity costs.

Make sure you repair any dripping hot water taps.

Lighting

Install fluorescent lighting in high use areas. This includes fitting energy efficient mini-fluorescent lights instead of conventional bulbs.

Consider using 26mm rather than 38mm diameter fluorescent tubes and the installation of reflectors to increase the amount of light they give you.

Make use of natural light whenever possible and encourage hall users to turn of lights in unused side rooms of the hall.

Changing Your Heating System

If, even after taking steps to improve your hall's insulation, you feel the need to look at changing the heating system you need to get good advice.

Making a change from one energy source to another, such as switching to LPG, will mean extra capital and installation costs. At the same time even using a different form of electrical heating will involve capital and installation costs, so you need to do your homework on comparative costs and likely benefits.

You should also work out what you need from a heating system. Who are you main users? Senior citizens will want somewhere warm and cozy to meet while sports groups will want only a bit of background warmth and any heaters will need to be well protected from possible damage.

You also need to look at issues such as the size of the building, how often it is used, and how long it is used.

Options

Electricity

Electricity offers a wide range of choices with heat quite literally at the flick of a switch.

- Radiant heating is generally the best for large spaces. Rather than heating the air, which is hard to do in large halls, radiant heaters throw heat on the people in the hall. If you concentrate on heating the air it will take longer to bring the heat up to a comfortable level and there will also be more heat loss from open doors and people coming and going from the hall which is often the case during larger functions. Radiant heaters are particularly useful in a building with high ceilings where heated air will just float up above the occupants.

- Fan heaters can provide quick warmth, especially in smaller areas. This system is more prone to heat loss from drafts and people coming and going into a venue, and their other major drawback is that they can be noisy which may not be appropriate in some situations, for example, a hall used for drama productions, meetings or music.

- Storage Heaters are an option if your hall has a lot of use. Otherwise you are heating a space for long periods when no-one is there to benefit from it.

- Convection Heaters circulate heated air. They come in a range of forms such as panel heaters or column heaters and can be thermostatically control. Because they heat air they are probably most suited to smaller, better insulated areas.

- Heat Pumps are an increasingly popular system of domestic heating. They may be worth investigating depending on the size of your hall but the capital costs would need to be examined.

The main drawbacks with electricity are the increased fixed charges. If your electricity demand is peaky this can be reflected in the amount of your fixed charges, making electricity less economical.

It should also be remembered that even if you already have electricity coming into your hall a change to another form of electrical heating may involve upgrading wiring and switchboards etc.

Gas

The availability of large bottles of LPG means this has become a much more viable option. On the plus side you avoid the issue of fixed charges but the capital cost of changing to an LPG system could prove too costly.

LPG offers similar heating options to electricity, such as radiant and convection heating. Another option is to use portable LPG heaters which provide you with heat where you need it. The main disadvantages are condensation from the water vapour released as LPG is burnt and there are also safety issues if your facilities are used by the likes of children's groups.

Central heating is another possibility. Energy can be provided by a number of different methods including solid fuel, diesel, LPG and electricity. Again, capital costs involved in installing a system may rule it out.

Good advice pays ……

Whatever you do don't make a decision to buy until you've had expert advice on what is best for your situation. Every hall has different requirements and characteristics and it is important to choose a system that will meet as many of those needs as possible within your budget.

For further information you can contact a heating engineer or seek advice on energy efficiency from the Energy Efficiency Conservation Authority, PO Box 8562, Riccarton, Christchurch. Ph (03) 341-1126 or fax (03) 343-1219.