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Air Conditioning and Keeping Cool

Cities in summer can be very hot places. The buildings absorb heat and retain it, meaning that cities are often a few degrees warmer than the surrounding counties. Many workplaces have a ready solution to this – turn on the air conditioning. Yet air conditioning uses a great deal of energy, which means that many offices use more energy keeping cool in summer than they do keeping warm in winter!

On top of that, all that energy usually means more carbon dioxide, which will contribute to climate change which will mean even warmer cities....

The problem gets worse each year as air conditioning becomes more widespread (about one-seventh of all the electricity generated in the US is used to air condition buildings). Unnecessary use of air conditioning will make it harder to reach the cuts on carbon dioxide emissions that we need make to avoid the more serious impacts of climate change.

A further problem is that most British offices are (understandably) designed to keep warm air in. Air-lock lobbies and double doors all make it hard for air to circulate. National workplace regulations do not set any upper limit for how hot an office can get but it's obvious that over-heating means people work less effectively.

So what can we do and can we live without 'air-con'? Here are EAC's top tips:

1. Try and keep the building as cool as possible (*obviously!*).

If your windows open, open them in the morning - and leave some open overnight if you can persuade your security staff to allow it. Outdoor air will cool overnight and cool the whole building. Many offices without air conditioning already do this. You can fit catches to windows to make them less vulnerable to illegal entry (and to stop people falling out!). If you have awnings or shutters on south and west-facing windows use them to shut out direct sunlight. If you're having your office refurbished this might be time to install them!

Keep internal doors open wherever possible (this may be seen as a fire risk!) but this will allow air to circulate in the building. Hot air will rise, so open windows on higher floors will help by letting it out if the air can circulate. All office electrical equipment left on generates heat, so switch off computers etc. that are not in use.

Keep most of the windows shut once it starts to heat up – keep the warm air out. Drawing the curtains or blinds inside may help, but once the heat is inside it won't leave so easily.

2. Keep cool yourself!

Wear loose clothing, and keep drinking water. 'Dressing down' should be normal practice in the warmest weather, and is there really any reason why the men in the workplace shouldn't wear shorts?

Co-operate to keep cool – organise a rota to go out and buy cool drinks and ice cream if that's what is needed.

3. Make this an issue for the whole office

Air conditioning is often run centrally. Get the office managers to discuss this, as part of your environmental programme. Look to get some of the suggestions here adopted officially, and promoted carefully so that people know that this is an important issue.

4. Plan your work.

Think about using flexitime. Some offices let people work 'summer hours' - 7am to 3pm - if service requirements permit. That way you can avoid the heat in the later afternoon and the evening rush hour. And for those that have to stay there will be fewer bodies and computers on in the office so less heat is actually generated in the building.

Don't forget that warmer countries have evolved a sensible solution to this problem – the siesta! Even if you can't close up for four hours consider a longer late lunch break so that people can go and sit on a shaded park nearby (and what's Wi-Fi for if not for working in the shade?)

If your work involves going out to meetings try and set them for later in the day (and try and agree a cool meeting place!)

5. Try hard not to resort to air conditioning – and use a fan

The world survived without air conditioning for a long time! People work in offices in many of the world's hottest countries with nothing more than a fan.

Ceiling fans use far less electricity than air conditioning. Desk fans are second best but also use less energy than the air con. Small battery powered fans can be run on rechargeable batteries (charged in your solar-powered recharger!)

6. If you must use it...

Set the air conditioning temperature at a sensible level. 24°C is cool enough for any office if people are not over-dressed. In Japan many offices are setting their temperature at 28°C.

Only use it when you really need it. That will usually be a few hours a day later in the afternoon. Keep a thermometer by your desk and see when it's really warm. Get out of the mindset that says the air con is on all day every day in summer.

Keep it clear and well maintained: air conditioning can get clogged with dust which makes it less efficient and energy-intensive.

If you are going to have air con then make sure it doesn't contain HFCs. These are gases that have very serious climate change impacts. There are plenty of systems that don't - check a database online at www.mipiggs-solutions.org.uk. The non HFC ones are also usually much more efficient and need less energy.

Thanks to London21 (www.london21.org) for this advice sheet