Green libraries

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This article takes a look at "green" websites and webpages that provide information which can help librarians and other information professionals manage their work in a more sustainable and environmentally friendly way as well as potentially making cost savings.

INTRODUCTION

Many librarians and other information professionals are taking action to ensure that their workplaces will be environmentally friendly. This depends on working with institutional initiatives or working out what needs to be done and gathering institutional support for action. Acting to take care of the environment can result in major cost savings (eg when turning off unneeded lights) but can also cost more (eg responsibly disposing of old videos or paying carbon offsets). This article aims to provide links to web resources and communities that can offer support. The "big issues" of water management, power sources and climate change are not covered here.

There is a great deal of information available to help librarians manage their work more sustainably. This includes general advice as well as details of initiatives in specific libraries and on places to get support. This article starts with definitions, the Sustainable Librarians Group, learning opportunities, funding sources and government websites, and then moves on to the principles of reduce, reuse, recycle and some specific green library initiatives.

GLOSSARIES

The Ecokids glossary (http://www.ecokids.ca/pub/eco_info/glossary/index.cfm) is an excellent source of definitions (for adults as well as children). It defines sustainable development as:

> Environmentally friendly forms of economic growth activities (agriculture, logging, manufacturing, etc) that allow the continued production of a commodity without damage to the ecosystem (soil, water supplies, biodiversity or other surrounding resources). Meets the needs of present generations without compromising the ability of future generations to meet their own needs.

The Integrated Sustainability Analysis Glossary (University of Sydney) is encyclopedic and includes origins of words, detailed descriptions and sometimes references. As well as environmental terms and names of projects, it includes terms from systems theories (because systems are crucial to sustainable development) and financial accounting (for use in discussions of the triple bottom line). At this website you can offer your own definitions as suggestions and you can post words you would like to see defined (http://www.isa.org.usyd.edu.au/education/Glossary_entries/A-G21.pdf).

Other useful glossaries include the Global Development Research Center Solid Waste Management Glossary (http://www.gdrc.org/uem/waste/swm-glossary.html) and the Sustainability Victoria Glossary (http://www.sustainability.vic.gov.au/www/html/1726-glossary.asp).

ALIA SUSTAINABLE LIBRARIES GROUP

The ALIA Sustainable Libraries Group (SLG) was established to "inform & educate colleagues on issues of sustainability. The group will support and promote research and professional development, and increase the awareness of environmental concerns amongst library staff. The group also seeks to enhance and promote documentary resources connected to sustainability". The goals of the group are listed at http://www.alia.org.au/groups/sustain and include:

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All websites and webpages referred to in this article were viewed in April 2011.

- Consider the effects of climate change on libraries (modification of the conditions of storage and preservation, building insulation, impacts on library finances and management …).
- Share information and ideas about the application of environment-friendly practices in libraries, or transferable to libraries (recovery of rain water, power supply from renewable energies, control of printings, resource recovery).
- Sustainable collection development, including sourcing materials from Australian publishers and subscribing to digital collections such as eBooks.

You can follow the SLG on Twitter at http://www.twitter.com/greenlibraries and see photos of sustainable libraries on Flickr at http://www.flickr.com/groups/greenlibraries. Two important services from the group have been the *Green Libraries Guide* and the aliaGREEN mailing list.

Green Libraries Guide from ALIA

The *Green Libraries Guide* (http://www.alia.org.au/groups/sustain/Green.Libraries.Guide.pdf) was prepared by members of the ALIA SLG for the ALIA Access conference. It has been released under a Creative Commons license and provides an excellent overview of issues in environmentally-sound library practice.

Mailing list

The ALIA SLG also manages the aliaGREEN mailing list. You can subscribe to the list at http://www.lists.alia.org.au/mailman/listinfo/aliaGREEN.

Postings have included questions about recycling old videos, green events and managing no-waste programs within a university. Traffic on the list is not heavy.

STUDIES IN SUSTAINABILITY

Swinburne University of Technology and Canberra Institute of Technology

Swinburne University of Technology (http://www.swinburne.edu.au/ncs/Education/diploma.html#about) and Canberra Institute of Technology (CIT) (http://www.cit.edu.au/future/courses/sustainability_diploma) offer a diploma in sustainability (costs and on-campus availability vary between campuses). The diploma includes the following core units:

- apply the concepts of sustainability to a major challenge;
- develop and implement a program to support behavioural change and sustainable practices;
- develop a business plan for responsive and sustainable businesses;
- analyse the long-term outcomes of sustainable production and consumption.

CIT says: "This program provides you with the skills and knowledge to incorporate fundamental principles and emerging developments in sustainability into the workplace." Job opportunities are said to include "[c]areers in corporate responsibility and sustainability across public and private agencies and industries; consultant in sustainability".

Ausgrid/energy efficiency centre

Learning opportunities from the Energy Efficiency Centre at Homebush, New South Wales are being moved to Ausgrid's new Learning Centre (http://www.ausgrid.com.au/eec), where business people and community members will be able to learn about energy efficiency through interactive displays, seminars and exploration of the building itself. While this change is being implemented, Ausgrid presentations on energy efficiency are available at http://www.ausgrid.com.au/Common/Ways-to-save/Energy-Efficiency-Centre/Past-seminar-presentations.aspx

Online games

Links to online games for learning about sustainability have been gathered at http://www.learningforsustainability.net/internet/online_games.php. Many of these could be used by library staff and by library customers. The "BT Better Business Games" (the first link on the page) is now at http://www.btplc.com/Responsiblebusiness/Ourstory/Interactivegames/BetterBusinessDilemmas/index.htm. In this game you make decisions about ethical and environmental issues and are then shown the potential responses of various stakeholders to your choices. There are Flash and non-Flash

versions available. I also played "The Great Green Web Game" but found it to be largely based on numbers rather than activities (eg guessing the weight of "trash" discarded by the average American each year).

FIND GREEN MONEY WEBSITE

The Find Green Money website (http://www.findgreenmoney.com.au), created by Maxine Armitage, provides well-structured information about funding opportunities offered by government and non-government organisations to help individuals and groups reduce their environmental impact.

The site is indexed by area (Australia; State or Territory; or local government); topic (55 topics from air conditioners to wood heaters); and provider (alphabetically by name).

There is also a "Find facts in a nutshell" section providing brief introductions on:

- ceiling insulation;
- energy efficient appliances;
- grey water in the garden;
- grey water recycling;
- light globes;
- rainwater tanks;
- smart meters;
- solar hot water systems;
- solar photovoltaic panels; and
- water efficient products.

GENERAL ADVICE

The Australian government Living Greener website (http://www.livinggreener.gov.au) gives information and advice about:

- saving energy and costs;
- saving and re-using water;
- reducing waste and recycling; and
- travelling greener.

The website also has information about government rebates and other assistance, and provides a special guide to "A Green Christmas".

The New South Wales Office of Environment and Heritage provides information on waste reduction in office buildings http://www.tinyurl.com/WasteRedOB. Resources provided include fact sheets, PDF posters and calculators (using Excel spreadsheets) to determine cleaning costs and waste density.

The ABC's Green at Work website (http://www.abc.net.au/greenatwork/GreenYourWork) gives general advice on greening the workplace including performing an environmental audit. The site also includes energy, water and waste calculators and an environmental game called "Are You a Green Collar Worker?" The video section is apparently "no longer in service". A Q&A section addresses questions such as "Which office plant will clear the air?" (http://www.tinyurl.com/GreenAtWorkABC).

The Queensland University of Technology provides general information about computer energy use, sustainability and green office action (http://www.qut.edu.au/about/university/sustainability/everyday/index.jsp).

REDUCE, REUSE, RECYCLE

The waste hierarchy refers to the 3Rs of waste management – reduce, reuse and recycle. In Europe, recovery and disposal is added to the list. The hierarchy presents the options in order of priority, so reduction is better than to reuse or recycle, although all three are better than simple disposal (http://www.en.wikipedia.org/wiki/Waste_hierarchy).

Reduce

Libraries can reduce paper and ink consumption and delivery costs by:

- purchasing e-books and using e-journals rather than print books and journals (eg the ABC discussion on e-book lending by public libraries at http://www.abc.net.au/rn/bookshow/stories/2011/3176323.htm). For a contrary view, see http://www.boingboing.net/2011/04/14/found-sign-why-the-i.html;
- sourcing free material online rather than requesting copies (eg, you can find Australian government reports at http://www.australia.gov.au/topics/government-and-parliament/annual-reports);
- using intranets and internets for communication with staff and users. Association for Information and Image Management (also known as the Enterprise Content Management Association) has information about going green, especially in the context of online knowledge management. You have to enter contact information in order to download reports (http://www.aiim.org/green-ecm);
- sending electronic greeting cards (eg http://www.suite101.com/content/ideas-for-green-holiday-cards-and-letters-a152921); and
- setting photocopiers to default to double-sided copying and offering free scan-to-email services from photocopiers.

In addition, libraries can reduce energy use by purchasing efficient equipment and turning it off when not in use. *Choice* magazine has surveyed many products including the Ecoswitch, which allows you to turn off all of your electrical products in one go (http://www.choice.com.au/reviews-and-tests/household/energy-and-water/saving-energy/ecoswitch.aspx). The government's energy rating website (http://www.energyrating.gov.au/appsearch/default.asp) makes it easier to choose energy efficient appliances.

Libraries can also reduce the impact of their carbon generation by paying for carbon offsets (eg for aeroplane travel, http://www.carbonoffsetguide.com.au). A *Carbon Offset Guide* has been created by EPA Victoria and Global Sustainability at the Royal Melbourne Institute of Technology (RMIT) and provides a list of Australian carbon offset providers. It was first developed in 2007 and is updated every six months. There is more information on carbon offsets (http://www.epa.vic.gov.au/climate-change/carbon-offsets/default.asp) and carbon management (http://www.epa.vic.gov.au/climate-change/carbon-management/resources.asp) at the EPA Victoria website.

One innovative way of helping communities reduce energy use is the hiring out of pushbikes by Mount Gambier Library in South Australia (http://www.mountgambier.sa.gov.au/library/docs/bikehire-brochure.pdf). The library is open seven days per week and provides a brochure with road and safety guidelines and a map showing roads and bicycle routes.

Reuse

People are often better at both reducing use and recycling than they are at reusing resources. One reason for this may be that reused materials look less "professional" than new ones. It was therefore refreshing to read the suggestion in an abstract in Emerald Insight (http://www.tinyurl.com/SecHandEmerald) that libraries could extend budgets and often get speedier delivery through the purchase of second-hand books.

Similarly, while it is acknowledged that inappropriate donation of out-of-date materials to other countries has been of little value to the recipients, this does not mean that every old item is worthless. In one fundraiser for Australian disaster victims, the donated second-hand books were sold to raise money to buy new books to donate. There is an odd contradiction here, with the assumption that the books were good enough for someone to buy, but not good enough for someone else to receive as a donation.

Another example of potential reuse in libraries is printing on the clean side of used paper, but scrap paper is usually looked on as totally unacceptable for external use. Of course, reuse of paperwork has to be done responsibly. When Planet Ark encouraged organisations to go through their filing cabinets and recycle or reuse unneeded papers, the Australian Society of Archivists and the (then) Records Management Association of Australasia responded quickly stressing that "[b]efore organisations fling, they need to ask" various questions, including those relating to secure destruction,

potential confusion through the use of scrap paper, legal obligations relating to file maintenance, and questions to do with the value of the files to the business (http://www.recyclingweek.planetark.org/news/display/92).

Libraries can support reuse by selecting products that have themselves used old materials. For example, one innovation is the use of a new, fungus-based synthetic foam packaging material called MycoBond that is made from agriwaste. For technical details, see http://www.ecovativedesign.com. Support for initiatives such as this is important for their ongoing success.

Artists are often good at reuse. The web has many images of creative projects using old books. For example, the TU Delft architecture bibliotheek used discarded books to build a circulation desk (http://www.recyclart.org/2010/09/library-information-desk) and Isaac Salazar uses old books to make book origami (http://www.recyclart.org/2011/01/book-origami). You will find links to photos of many other items made from recycled books and newspapers once you are at the Recyclart.org website.

One of Britain's traditional red phone booths has been recycled into a lending library. Villagers can use the library around the clock, swapping a book they have read for one they have not (http://www.recyclart.org/2010/07/phone-booth-library). Blaxland Railway Station, in the New South Wales Blue Mountains, has a similar scheme, in which commuters take books and leave books in the station waiting room.

Recycle

Recycling of some sort is practiced by nearly every individual and organisation and its scope is constantly widening.

Flinders University is working towards a "Zero Waste to Landfill" solution (the current goal is that no more than 15% of the waste will go to landfill, http://www.flinders.edu.au/campus/environment/zero-waste-to-landfill-solution.cfm). Food will be composted, recyclable materials will be recovered and remaining waste will be processed into alternative fuel. This project has green champions in the library. Waste is pre-sorted by consumers into colour-coded bins. This is working quite well, although some non-organic waste is making its way into the organics bins (3 April 2011 and 7 April 2011, emails to aliaGREEN by Kylie Jarrett).

Polystyrene (Styrofoam) packaging material is a bulky waste product. Families with small children can often reuse polystyrene materials in craft "junk construction" projects, but in other situations it often ends up in general waste. Monash University has bought a "Hungry Giant" polystyrene compactor which reduces the bulk of polystyrene, making it easier and cheaper to store and deliver to the recycler once every three weeks (http://www.fsd.monash.edu.au/environmental-sustainability/newsletter/hungry-giant-monash-s-new-polystyrene-crusher).

Computer waste, video tapes and DVDs

Many libraries are at the stage of weeding their video collections, as these receive little use now that DVDs are available. Although it might take some searching to find a local option, there are companies that recycle videos. Some may also accept them by post.[1]

You can search on the Planet Ark Recycling With You website for services in your area. Video disposal is included in the category "Computers and Electronic Waste". You can also search more specifically at the Planet Ark Business Recycling website, where there is a category for "Video and Audio Tapes" under "Electrical Equipment" (http://www.businessrecycling.com.au).

Ausmag Media offers a recycling service. The paid service destroys the index area of the disc to ensure that no data can be recovered. Disks are then sent to China where the polycarbonate and aluminium content can be recovered (http://www.ausmagmedia.com.au/index.php?option=com_content&view=article&id=53&Itemid=67).

Sims Recycling Solutions has four electronic recycling centres in Australia (http://www.apac.simsrecycling.com/contacts-and-locations/australia-locations). PGM Refiners offers a range

[1] Information on this topic was gathered by Sonja Barfoed and posted on the aliaGREEN mailing list.

of business e-waste services including e-waste recycling events such as those run by local councils (http://www.pgmrefiners.com/e-waste-solutions/e-waste-recycling-events).

Product stewardship

The Planet Ark Business Recycling website has recycling news, including the announcement that a *Product Stewardship Bill 2011* (Cth) has been introduced into the Australian Parliament. "Televisions and computers will be the first products to be covered under the legislation. The proposed scheme will require importers and manufacturers of TVs, computers and computer peripherals to fund and implement national collection and recycling of these products" (http://www.businessrecycling.com.au/news/display/243).

GREEN CREDENTIALS

Information professionals may wish to proclaim their green credentials and to check the credentials of organisations they are working with. This may be small scale or large scale. For example, individual websites might include a link about the sustainability of the website hosting company (eg http://www.justhost.com/ecertified?domain=sutherland-studios.com.au) or of a home office (http://www.webindexing.biz/glendas-articles-mainmenu-117/indexing-mainmenu-108/729-green-indexers).

Publishers also announce their green credentials. For example, Cengage provides evidence of many business-related steps taken to ensure sustainability (http://www.cengage.com.au/1/201/1/our_green_message.pm). The only one I noticed that directly affects libraries is the use of electronic catalogues instead of printed ones. The use of environmental inks and papers in printed books is also important.

The program and abstract book from the Information Online Conference 2011 noted environmental initiatives taken by the conference organisers and exhibition centre. These included donating left-over satchels to local schools and working with OzHarvest (http://www.ozharvest.org), a food rescue service, to ensure that excess pre-packaged food could be delivered to people who could use it.

GREEN LIBRARY BUILDINGS

Much of the discussion above is about ways that libraries can act sustainably in their day-to-day activities. This section focuses on the design of libraries and is of most relevance for new libraries or those undergoing substantial redevelopment. There may, however, be ideas that can be adapted to all libraries.

"This Old Library" by Peter Gisolfi (http://www.americanlibrariesmagazine.org/features/03022011/old-library-transforming-existing-libraries-sustainable-buildings) examines strategies for reducing energy consumption in existing libraries.

The LibrisDesign e-book, *Sustainable Library Design*, provides general information about sustainable design, along with case studies of four green libraries. Wikipedia offers a general introduction and has a list of green libraries (http://www.en.wikipedia.org/wiki/Green_library).

Cooroy Library

The September 2010 issue of ALIA's *inCite* magazine focused on sustainability, including articles on green libraries. At p 20, it referred to the Cooroy Library in Queensland, which is cut into the ground and has a grass-covered roof for temperature control and use as a community space. It also has photovoltaic cells on the roof capable of generating approximately 40% of the buildings' internal lighting needs. You can take a photo tour of the library at http://www.sunshine-coast.finda.com.au/photos/new-cooroy-library/#id=new-cooroy-library&num=1.

Supreme Court, New Zealand

The Supreme Court of New Zealand building in Wellington is a new building featuring the country's traditions and history while also focusing on sustainability (http://www.architecture-view.com/2010/11/08/eco-supreme-court-building-in-new-zealand). The civic building was inspired by native plants of New Zealand and uses local and sustainable materials throughout. "Solar thermal panels provide

hot water for the building, while energy consumption is minimized with double glazed windows, energy efficient lighting and air quality control systems. All the native wood used in the Supreme Court came from sustainable sources." One of the small images shows the library interior.

Paperless library at Loyola University

The paperless library at Loyola University in Chicago, United States (http://www.architecture-view.com/2010/11/21/paperless-library-at-loyola-university-campus) was built using sustainable design principles. It has digital reading rooms which connect students with information "while they relax in arm chairs facing the waterfront tides". The building uses a three-tiered method for heating and cooling and uses half the energy allowed by standard building codes. The lake breeze moves through automated openings in the glass wall windows and in winter, tubes beneath a raised floor combine with a radiant ceiling system to heat the building. A high percentage of recycled content was used, materials low in volatile organic compounds were specified and a green roof helps to manage stormwater.

Macquarie University

Sydney's Macquarie University wanted to do something different with its library and instructed the architects to "[f]orget everything you think you know about academic libraries". The library's design features an automated storage and retrieval system for 80% of its collection to reduce the floor space required. Energy use is minimised primarily through passive design approaches including building siting, solar access, natural lighting and ventilation and appropriate material selection (http://www.lib.mq.edu.au/newlibrary/thedesign.html).

CONCLUSION

Librarians interested in implementing green solutions in libraries are fortunate that today there is a growing awareness of and support for many sustainable initiatives; that there is an increasing number of organisations offering funding or services; and that there is more and more practical and useful information becoming available.