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HOPE E-news Bulletin 2024 #02 --- February 2024

The following items have been gathered from various e: newsletters received by HOPE in recent times; and/or prepared specifically by HOPE members and supporters. If you have any news to contribute, please forward to office@hopeaustralia.org.au . Deadline for articles is 15th day of the month.

Editorial

Welcome to the February edition of the newsletter! In the hottest month, it is a good time to learn about topics such as the National Australian Built Environment Rating System (NABERS) which is a sustainability measurement system designed for various building sectors; different ventilation strategies; and Citizens' Own Renewable Energy Network Australia (CORENA) which undertakes community-driven renewable energy projects. In International news, IPEN (International Pollutants Elimination Network) is of interest as their ultimate aim is to eliminate the most hazardous chemicals used throughout the world.

Kind regards,
Nina Stick, Newsletter Editor – HOPE Inc.

2024 Environmental Observances

Environmental Events Calendar of information gleaned from United Nations Observances

The existence of international days predates the establishment of the United Nations, but the UN has embraced them as a powerful advocacy tool. The United Nations observes designated days, weeks, years, and decades, each with a theme, or topic. By creating special observances, the United Nations promotes international awareness and action on these issues. Each international day offers many actors the opportunity to organize activities related to the theme of the day. Organizations and offices of the United Nations system, and most importantly, governments, civil society, the public and private sectors, schools, universities and, more generally, citizens, make an international day a springboard for awareness-raising actions. The majority of observances have been established by resolutions of the United Nations General Assembly, although some have been designated by UN specialized agencies. The United Nations also observes anniversaries of key events in its history.

Links:

- International Days and Weeks | United Nations
- International Years | United Nations
- International Decades | United Nations

February

2 World Wetlands Day | United Nations
10 World Pulses Day | United Nations
10 HOPE quarterly Ordinary Meeting (Toowoomba, Qld – both in person and via ZOOM(
20 World Day of Social Justice | United Nations

March

3 World Wildlife Day EN | United Nations
21 International Day of Forests | United Nations
22 World Water Day | United Nations
23 World Meteorological Day (wmo.int)
30 International Day of Zero Waste | United Nations

National News

National Australian Built Environment Rating System (NABERS)

The impact of the built environment on climate change is significant, with an estimated 40% of the world's carbon emissions coming from buildings. For 25 years, NABERS (National Australian Built Environment Rating System) has been recognised as a trusted and reliable tool for measuring and promoting sustainability within the built environment. Since its inception, NABERS has played a pivotal role in driving environmental responsibility across different building sectors, demonstrating that what gets measured gets managed.

What is NABERS?

NABERS is a simple, robust, and comparable sustainability measurement system designed for various building sectors, including hotels, shopping centres, apartments, offices, data centres, and more. The overarching goal of NABERS is to create environmentally friendly buildings that not only benefit the planet but also provide happier and healthier spaces for occupants to thrive in.

The rating system operates on a one to six-star scale, similar to the efficiency star ratings found on appliances like fridges and washing machines. The rating assesses a building's efficiency in four key areas:

- Energy: Measures the energy consumption and efficiency of the building.
- Water: Evaluates the building's water usage and water-saving initiatives.
- Waste: Assesses waste management practices and waste reduction efforts.
- Indoor Environment: Considers factors affecting indoor air quality and occupant comfort.

The impact of NABERS

NABERS has proved to be highly effective in inspiring positive change and promoting sustainability across the built environment. It encourages building owners to prioritize energy and water efficiency, waste reduction, and indoor environmental quality, supporting the transition to a decarbonized future. Over the years, NABERS has helped customers achieve significant savings, with customers reducing their energy usage on average by 30-40% over 10-year period.

The impact of buildings on global sustainability cannot be underestimated. Buildings are major contributors to climate change, responsible for approximately 40% of the world's carbon emissions, 40% of the world's energy consumption, and 30% of the world's available drinking water usage. By rating buildings, NABERS actively addresses this environmental impact and empowers building owners to make informed decisions that reduce their carbon footprint.

Benefits of NABERS Ratings

The benefits of NABERS ratings extend far beyond environmental stewardship. Building owners who pursue NABERS ratings gain several advantages, including:

- Comparison: NABERS ratings serve as a benchmark for a building's energy and water efficiency, enabling comparisons within the industry. It provides building owners with valuable insights into their building's performance compared to similar structures.
- Validation and Communication: NABERS offers cost-effective, high-trust, and independent validation of sustainability data. This assurance enables building owners to confidently report their environmental performance and effectively communicate their commitment to sustainability.
- Continuous Improvement: With its annual rating model, NABERS establishes an essential framework for sustainability strategies and annual reporting. Building owners can track performance improvements, reduce energy consumption, and minimize emissions over time.
- Competitive Edge: NABERS ratings enhance a building's appeal to potential buyers, renters, procurement teams, or hotel guests. A lower environmental impact and reduced operational costs can provide a competitive advantage in a market increasingly prioritizing sustainability.

NABERS Key Principles

NABERS' success as Australia's leading building performance rating system is built on seven key principles:

- Measuring Actual Impact, Not Intent: NABERS focuses on quantifiable outcomes and actual environmental impact, avoiding ambiguity.
- Relevance to Building Operations: The rating system considers the real operational aspects of a building to ensure practical applicability.
- Meaningful Ratings: NABERS ratings are meaningful, accurate, and trustworthy due to robust assessment methodologies.
- Simplicity and Ease of Performance: NABERS strives for simplicity, making the rating process straightforward and accessible for building owners.
- Reliability: NABERS maintains a high level of credibility and trustworthiness in its assessments.
- Trustworthy Management: The NABERS framework operates transparently, promoting confidence among stakeholders.
- Collaborative Development: NABERS involves collaboration with industry experts, continuously improving and refining its methodologies.

What's next for NABERS?

NABERS has evolved substantially over its 25-year history. Since rating only office buildings initially, it now covers buildings across a wide range of sectors including shopping centres, hotels, data centres, apartments, public hospitals, retirement villages and warehouses, with work underway to expand to additional sectors in the coming months.

To support the transition towards net zero, and better recognise buildings utilising renewable energy, NABERS has developed its Renewable Energy Indicator. This is displayed on NABERS Energy ratings and shows the proportion of the building's energy that comes from on-site renewable energy generated and off-site renewable energy procured. Since launching in June 2023, it has been rewarding to see this well received by customers, as it encourages transparency in the journey towards net zero.

NABERS is also working to address the challenge of embodied carbon in buildings and how this can be consistently and accurately measured. As energy efficiency and electrification drive down operational emissions, the proportion of emissions from the manufacture and transport of materials for building construction will swell. Our colleagues at the Green Building Council of Australia (GBCA) have estimated that, by 2050, embodied emissions could account for up to 85% of emissions in the built environment, up from just 16% in 2019.

With no consistency in how embodied emissions are measured today, NABERS, in partnership with the GBCA, is developing a national standard to measure, compare and certify the embodied carbon footprint of buildings. We are engaging with hundreds of professionals across the building ecosystem – from designers to developers, lifecycle analysts to architects, product manufacturers to policymakers.

We are currently working on the technical foundations of the standard, including a thorough public consultation process.

The Australian building sector has most of the ingredients needed for a sustainable revolution this decade, and everyone in the NABERS community has a role to play. We've built knowledge, networks and technology solutions. We've trained assessors and engaged suppliers.

We've built business cases and policy frameworks. Most importantly, we've built momentum. We look forward to the future with excitement and optimism.

To find out more about NABERS, visit nabers.gov.au, join our mailing list or find us on LinkedIn.

Proper Ventilation and Energy Efficiency in Australia

By Mohammad Mazibar Rahman, HOPE researcher Qld

Finding practical solutions to maintain comfort in our homes and workplaces while reducing our environmental impact is more crucial than ever, given the challenges of climate change and the increasing cost of electricity. To underscore the significance of these issues, researchers from various sectors have been diligently examining, evaluating, and refining ventilation strategies (Chenari et al., 2016).

Ventilation, the procedure of replacing stagnant indoor air with fresh outdoor air, plays a pivotal role in ensuring optimal indoor air quality. This process, known as mechanical ventilation, can be achieved using mechanical devices like fans or blowers, or it can occur naturally, without the need for any mechanical equipment (Fisk, 2018).

Inadequate ventilation can compromise the health and safety of a home by allowing the build-up of gases from combustion equipment, such as fireplaces and stoves. Beyond health risks, excess moisture in a home

can deteriorate insulation, foster mould growth, and even harm the building's structure. Additionally, high humidity can force cooling systems to work harder, resulting in increased energy costs (DOE, 2020).

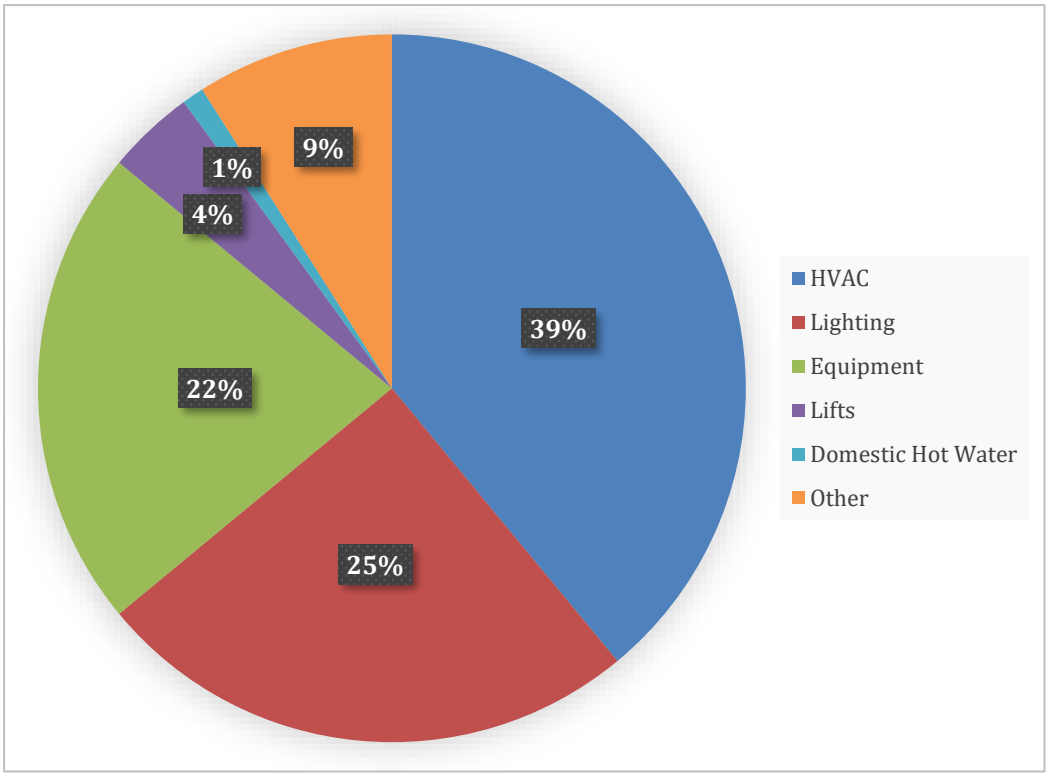

Figure 1: Typical Energy Consumption in office building in Australia (Source: http://ee.ret.gov.au/)

Types of Ventilation

There are three types of ventilation process:

1. Natural Ventilation: Natural ventilation relies on the temperature and pressure differentials between the interior and exterior environments to induce air movement. This method can significantly reduce energy consumption by using buoyancy or wind-driven forces to provide necessary ventilation in buildings. Furthermore, compared to mechanically ventilated buildings, naturally ventilated buildings consume less energy and emit fewer greenhouse gases, thus contributing to the mitigation of climate change risks.
2. Mechanical Ventilation: Mechanical ventilation utilises targeted exhaust fans to swiftly eliminate moisture and pollutants at their source, effectively controlling air flow. Common examples of this approach in homes include bathroom exhaust fans and range hoods above stoves. This ventilation can enhance the efficiency of natural ventilation, though it is typically used in combination with one of the other techniques.
3. Hybrid Ventilation: Hybrid ventilation, an approach identified by researchers, combines features from both natural and mechanical ventilation methods (Hesaraki et al., 2015). During unfavourable environmental conditions, hybrid ventilation employs mechanical fans to compensate for the lack of natural ventilation. The system utilises motorised sidewall fans for enhanced air intake, while passive natural ventilation serves for exhaust. As a result, warm air naturally ascends to the ceiling and exits through the vents. In such scenarios, automated building systems prove beneficial as they can independently recognise and adjust to the appropriate building conditions.

Energy Efficient Ventilation Process

Hybrid ventilation can be categorised into three primary types, similar to those of natural ventilation

I. Natural and mechanical ventilation;
II. Fan-assisted natural ventilation;
III. Stack and wind-assisted mechanical ventilation.

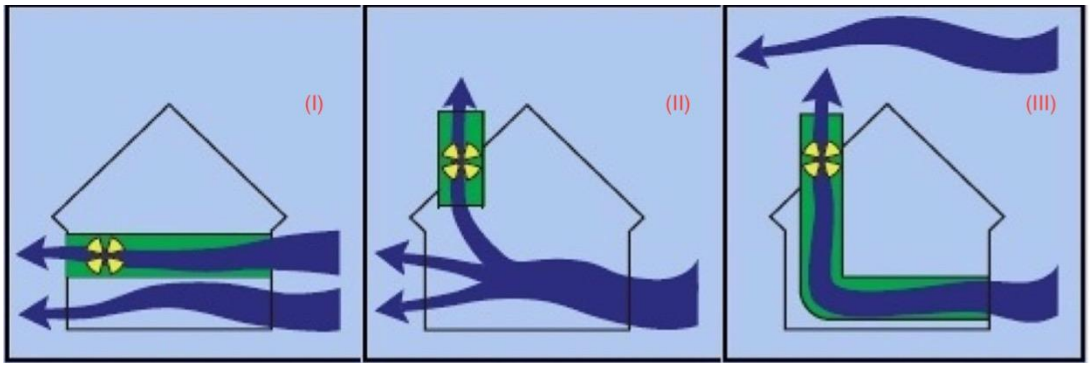

Figure 2: Diagram illustrating the various hybrid ventilation concepts. (I) Natural and mechanical ventilation; (II) Fan-assisted natural ventilation; (III) Stack and wind-assisted mechanical ventilation (Source: Chenari et al., 2016).

The International Energy Agency's HybVent project, which focused on buildings in Annex 35: "Hybrid Ventilation in New and Retrofitted Office Buildings," played a significant role in popularising the concept of hybrid ventilation (Delsante and Vik, 2002). This project involved eleven European nations, the USA, Canada, Japan, and Australia and operated from 1998 to 2002. In Australia, each additional degree of heating in winter or cooling in summer leads to an increase in energy consumption by about 5–10%. Researchers achieved an 11% energy savings by adjusting the supply of air temperature and fresh air flow rate. When they used PMV (Predicted Mean Vote) set points instead of temperature set points in hybrid ventilation process, they still reported an energy savings of 30.4% while adjusting the supply air flow rate, fresh air flow rate, and temperature (Ezzeldin and Rees, 2013). Another study demonstrated the competence of hybrid ventilation method to reduce energy consumption by 30–35% when compared to entirely mechanical ventilation (Cho et al., 2021).

Conclusion

Australian homes can benefit from a multidimensional approach to optimising ventilation. This approach involves understanding seasonal variations, utilising hybrid ventilation or both mechanical and natural ventilation techniques, and considering the unique layout of your home. By implementing these strategies, homeowners can create a comfortable, healthy, and energy-efficient living environment throughout the year. Adequate ventilation is crucial for the functionality and design of our homes as we work towards sustainability and adapt to changing environmental conditions.

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CORENA: Empowering Communities for a Renewable Future - https://corenafund.org.au/
Written by Samy Leyton, HOPE volunteer NT.

The Citizens' Own Renewable Energy Network Australia (CORENA) was founded on the idea that communities can unite to accelerate the transition to a renewable energy future.

Main Aims: Powering Australia with Renewable Energy
CORENA's commitment to community-driven renewable energy projects showcases the power of collective action in mitigating climate change. Join their mission and help create a cleaner, more sustainable Australia where clean energy is not just a dream but a reality. Their primary aims can be summed up as follows:

1. Renewable Energy Projects:
CORENA's core goal is to fund renewable energy projects, from solar panels on community buildings to large-scale wind and solar installations. They believe in decentralising energy production, making communities self-sufficient, and reducing greenhouse gas emissions.

2. Financial Mechanisms:
CORENA seeks to engage citizens uniquely. They encourage individuals and businesses to contribute to a revolving fund that finances these projects. This approach allows them to reinvest funds, enabling one project's success to fund future endeavours.

3. Education and Awareness:
CORENA is committed to raising awareness about renewable energy's benefits and potential. They advocate for the economic and environmental advantages of switching to clean energy sources, ensuring communities are well-informed and empowered.

Significant Achievements: Realizing Renewable Dreams
CORENA has achieved remarkable milestones in its quest to power Australia with renewable energy. Here are some of their significant accomplishments:

1. Solar Projects Galore:
CORENA has funded numerous solar projects nationwide, providing tangible benefits to local communities. From schools to community centres, their solar installations have made a substantial impact by reducing electricity bills and emissions.

2. Ongoing Funding Model:
One of CORENA's most impressive achievements is establishing a sustainable funding model. The revolving fund they've created allows the money generated from completed projects to be reinvested in new initiatives, ensuring a continuous cycle of renewable projects.

3. Community Engagement:
CORENA has inspired communities to participate in the renewable energy transition actively. They have fostered a sense of ownership among individuals who have contributed to the fund and partnered with organisations and local governments to promote clean energy solutions.

4. Demonstrating Feasibility:
CORENA's success stories have demonstrated the feasibility and benefits of community-led renewable energy projects, which can be replicated across Australia and the world.

Current Projects and Campaigns: Turning Sunbeams into Action
CORENA's current projects and campaigns actively contribute to a brighter, more sustainable future. Here are a few highlights:

1. Solar for Schools:
CORENA's "Solar for Schools" initiative aims to provide solar installations for schools across Australia. They recognise that schools are crucial in educating the next generation about sustainability and want to support their transition to clean energy.

2. Community Solar Initiatives:
CORENA supports local community projects, including the installation of solar panels on community buildings, which can have a direct impact on reducing energy costs and carbon emissions.

3. Climate Action Collaboration:
CORENA collaborates with various climate action groups and organisations to promote clean energy advocacy, develop policy recommendations, and advocate for a more renewable energy-friendly environment.

4. Fundraising:
CORENA continually fundraises to finance their ongoing projects. You can contribute to this effort by contributing to their revolving fund and helping drive the adoption of renewable energy projects.

Contact Info: Be a Part of the Renewable Revolution

Are you inspired by CORENA's mission and eager to contribute to a sustainable and renewable future? Here's how you can get involved and stay connected:

Website: Explore the official CORENA website to learn more about their projects, discover how to donate, and stay updated on their latest activities.

Volunteer Opportunities: CORENA welcomes volunteers passionate about renewable energy and sustainability. You can contact them through their website to inquire about volunteer opportunities.

Follow on social media: Stay informed about CORENA's progress, projects, and news by following them on Facebook and Twitter: @CORENA.

Subscribe to the Newsletter: Stay in the loop by subscribing to CORENA's newsletter, where you'll receive updates on their projects, achievements, and opportunities to get involved.
https://share.hsforms.com/18Y1nbh38S1yD5V_J09p6Kgd0iik

Positions Vacant

Due to the recent departures of key admin support staff, we are in need of extra personnel to fill the following vacancies:

- Researchers – required to review and comment on a range of discussion papers, policy documents and reports provided by government departments, business and industry organisations and NGOs.
- Media Officers – required to write media releases, event notices, date claimers and design promotional flyers/posters for projects, campaigns, events and activities
- Publications Team members – required to write information articles for our newsletter; website summaries; and assist with the development of PowerPoint presentations and information sheets

So, if you have some spare time and talents to offer, please give the office a call on 07 4639 2135 or email office@hopeaustralia.org.au .

Annual Pledge/Donation

http://www.hopeaustralia.org.au/annual-pledgedonation/
We invite members and supporters to consider making an annual financial contribution to help cover our operating costs of approximately $20,500 p.a.

Currently, our income is derived from project grants, fund-raising, corporate sponsorship and donations, but falls well short of our requirements.

Your financial support, by way of an annual pledge or donation, will considerably help us to achieve better financial viability.

International News

IPEN (International Pollutants Elimination Network) is a global network of over 600 NGOs across more than 120 countries that work to strengthen environmental policies with the ultimate aim of eliminating the most hazardous chemicals.

IPEN's interest areas cover a broad range of hazardous chemicals, and include the following priority areas:

- Pesticides
- Industrial Chemicals
- Waste By-Products
- Heavy Metals (particularly mercury and lead)
- Nanotechnology
- Ocean Pollutants
- Toxic Fracking
- Women and Chemicals
- Youth and Chemicals

In terms of policy, the following are considered key:

- Mercury Treaty (the Minamata Convention); it entered into force on 16 August 2017, and includes bans on new mercury mines; phase out of existing mercury mines; phase down and phase out of mercury in products and processes; control measures on emissions and releases of mercury; regulation of the informal sector of artisanal and small-scale gold mining; and storage and disposal.
- Stockholm Convention on Toxic Chemicals, which entered into force on 17 May 2004, is a treaty to protect global health and the environment from persistent chemicals. A number of pesticides are included in the Stockholm Convention, including: aldrin; DDT, dieldrin and lindane.
- Chemical Safety (SAICM; Strategic Approach to International Chemicals Management) which provides an overarching strategy for chemical management and safety.
- A Plastic Treaty to address the complete lifecycle of plastics, and reduce the health impacts from plastics.
- Participation at the UN Oceans Conference
- 5th United Nations Environment Assembly (UNEA5)

Many of these are interrelated: for example, plastics are a source of persistent organic chemicals in land, air and water. The issue of microplastics is increasingly being seen as a major threat to health and environmental welfare.
Mercury bioaccumulates in organisms, leading to very serious effects: for example, the Minamata Disease that killed 100 people in 1958 in Minamata, Japan. The source being effluent from a PVC plant, which used mercury (II) chloride. The effluent was released into Minamata Bay, and the mercury was bioaccumulated and biomagnified in fish and shellfish.
Unfortunately, even if production of all hazardous materials were to be stopped today, the long residence time of these materials means many would be around for centuries. Some plastics will still be decomposing 500 years from now; and during that same time, many toxic chemicals will still be released, along with greenhouse gases such as methane.
Consider this: 8.3 billion tonnes of plastic has been produced; half in the last 13 years.
To learn more about IPEN, please visit: www.ipen.org/about

(Written by Jason Dingley, HOPE Media Officer, Vic)

Resources

Kate Wall, Consulting Gardener - https://katewall.com.au/

By Rob Nebodi – HOPE researcher ACT

Kate is a gardening consultant based in Brisbane, who specialises in teaching people how to garden in harmony with nature, ensuring gardeners of all levels of experience can create their own dream garden. By working with nature, she focuses on a very sustainable approach to gardening.

For her volunteer work in restoring flooded gardens after the 2011 floods Kate earned several awards, including a prestigious "Ray Phippard Fellowship" from Lions International and the 2022 Anita Boucher Award from the Horticulture Media Association Australia for her work helping gardeners recover from flooding.
She has received peer recognition and industry awards for her work, including the 2021 Award of Merit from the Australian Institute of Horticulture for *Working With Weeds*.
Her professional associates include The Queensland Herb Society Inc, The Horticultural Media Society Australia Inc, and the Griffith University Nature Bank.

Kate has an international following through her writings on www.GardenDrum.com/author/katewall/ and her own garden has featured on television and in numerous gardening magazines.
She runs regular gardening workshops in community gardens, local libraries and in her own garden, on a diverse range of topics including edible weeds, sustainable gardening, subtropical cottage gardening and gardening on a budget. She is a regular speaker at various garden clubs and garden events.

There are free online workshops you can watch any time.

- Working With Weeds
- Re-Purposing in the Garden
- Looking at Leaves (for young children)
- Make a Simple String Plant Hanger

Books written by Kate include:

- *Earth Repair Gardening*
- *Working With Weeds*
- *Gardening After A Flood*

If you need to repair your garden after a flood, you can download a free e-pub file of *Gardening After A Flood* or use a link to download the free eBook.

You can subscribe to news about upcoming events, new workshop schedules and occasional gardening updates, or contact Kate for more information.
If you need still more, see the latest on Kate's blog or follow her on social media.

As part of their *Sustainability in the Suburbs* program, Ipswich City Council made a video featuring Kate creating a vegetable garden on a $100 budget. You can watch it on YouTube to learn how she did it!

Helpful Hints

Green Cleaning Chart (Quick Reference) – The Self-Sufficiency Shoppe

Item	Cleaning Method
Kitchen:	
Oven Cleaner	Scrub with bicarb soda & water OR vinegar paste
Dish Detergent	Soap jelly* (1/4 cup) OR grated soap (2 tablespoons)
Surface Cleaner	Vinegar (in spray bottle) OR All Purpose Spray*
Floor Cleaner	Boiling Water with vinegar & bicarb soda OR soap jelly* (1/2 cup)
Abrasive Cleaner	Bicarb soda OR salt
Drain Cleaner	1/4 cup bicarb soda with 1/2 cup vinegar - followed by boiling water. Plunge if necessary. OR combination salt & vinegar
Drain Deodoriser	5-6 drops eucalyptus oil OR 1/2 cup vinegar or 1/4 cup bicarb soda
Laundry/Bathroom	
Laundry detergent	1 cup soap jelly* OR 1/2 cup grated soap (dissolved in hot water)
Stain Removal	Lemon juice or Stain Remover*
Water Softener	Washing Soda OR Bicarb soda (1/4 cup per full washing tub)
Fabric Whitener	Lemon juice OR vinegar
Disinfectant	Vinegar or mixture of half vinegar/water and few drops eucalyptus oil
Bath/Tiles	Bicarb soda and wet sponge OR vinegar OR Surface Spray*
Mildew/Mould	Vinegar OR Surface Spray* OR 1/2 lemon dipped in bicarb soda
Toilet Cleaner	Basin: Vinegar & bicarb soda Lid: Vinegar OR Surface Spray*
Toilet Deodoriser	Pour in: Vinegar (1/2 cup) OR 6 drops Eucalyptus oil (into basin)
Other:	
Carpet Deodorant	Bicarb soda (plain or add few drops lavender or eucalyptus oil)
Carpet Cleaner	Soapy water OR Bicarb soda
Wooden Furniture	Wipe with lemon juice & olive oil (half/half) OR use Surface spray*
Window Cleaner	Spray: half vinegar/water OR crumpled newspaper
Labels (jars)	Eucalyptus oil
Chewing gum	Eucalyptus oil
Walls	Bicarb soda & water OR (for difficult stains) Surface Spray*
Air-freshener	Spray room with: half vinegar/water with added scent (i.e. lavender or eucalyptus oil) OR simmer fresh flowers on stove
Plastics	Bicarb soda paste OR vinegar

Recipes:

***Soap Jelly:** Grate one bar of soap. Put one half in one 10 litre bucket. Put the other half of grated soap in another 10 litre of water. Add ½ cup washing soda and 2 litres of boiling water to each bucket. Stir both buckets until mixture has dissolved. Top each bucket up to full with water. (From Booklet No. 50 – Recycling Soap).

***Surface Spray (All-purpose Spray/Stain Remover):** Mix together 1/3 cup each of water, cloudy ammonia and liquid soap-jelly (see above recipe) OR bio-degradable dishwashing detergent. Mix and store in recycled spray container. (More information: Booklet No. 50 – Recycling Soap)

MORE INFORMATION in the following booklets: Green Cleaning (No. 23): Back-to-Basics Cleaning (No. 24), Amazing Bicarb - (No. 9), Versatile Vinegar (No.33), The Humble Lemon (No. 10), Uses for Eucalyptus Oil (No. 51), Recycling Soap (No. 50), Homemade Polishers & Cleaners (No. 5:)