OBERON COUNCIL

BASIX Information Sheet
Oberon Council

What is BASIX?
It is the implementation of the NSW Government Policy, via a web-based tool that aims to ensure that each new dwelling design meets the targets of a 40% reduction in water consumption and a 25% reduction in greenhouse gas emissions, compared with the NSW average house. As a State Environment Planning Policy (SEPP) it will over-ride the sections of the Oberon Council's Development Control Plan that relate to sustainability in residential buildings.

BASIX Helpline
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The current operational tool for Sydney is available as well as the exhibition version of the regional tool. Note that the tools appear different but the input requirements will be the same. Refer to the "Resources" page, most of the information required can be found including the Data Input checklist and the BASIX Specifications. Please note that Oberon Council does not offer a BASIX advice service.

Do I need to get a BASIX Certificate?
From **July 1 2005** all applications for development consent for single or dual occupancy residential developments will need to include a BASIX certificate. Alterations and additions, including swimming pools with a capacity of 40,000L or greater and residential multi-unit developments will also require a BASIX certificate from **October 1 2006**. The BASIX Certificate lists the schedule of "BASIX Commitments" that will then form part of your Development Consent Conditions.
Any of the above that have a value of $50,000 or more require a BASIX certificate.

Who can use the on-line tool to get a BASIX certificate?
Anyone can, there is no requirement for any training, qualifications or accreditation. Obviously the development/building designer, who will be responsible for incorporating the BASIX commitments into the building project is best suited to obtain the BASIX Certificate.

Is a NatHERS Assessment still required?
In many cases the thermal performance section of the tool can be completed using the "deemed to comply" path. If the design does not fit into this framework then the simulation method will need to be used – this will require a NatHERS assessment to be completed by an accredited assessor.

Will BASIX mean that it will cost more to build a house?
In Oberon Council's area there is likely to be additional costs as a result of the BASIX requirements. Additional costs will be dependent on the design of the project and the overall size of the dwelling.

What needs to be done to comply with BASIX?
Council is not in a position to tell building designers or applicants what needs to be done to comply with BASIX. Having said that it is expected that most dwelling designs will require a water tank, an efficient Hot Water Service, north orientation for living areas and good thermal design. Larger houses (over 300 m2) use more energy and are harder to get through the BASIX tool than smaller dwellings. Three main areas of impact:

- Documentation – the plans and specifications MUST clearly specify all necessary information to ensure the BASIX commitments are met on site. Eg. If a rainwater tank is proposed it must be shown and dimensioned on the site plan, and elevations.
- Water storage and conservation – water tanks and water efficient fittings
- Greenhouse Gas Emission reduction – thermal performance and efficient appliances.

Guidelines for what you need to do to meet the BASIX targets.

<u>Documentation</u>
BASIX will require additional documentation for all projects. The **BASIX Certificates** indicate what commitments need to be shown at which stage and what the Council or private certifying authority has to check. The plans will need to indicate, and be consistent with the details of the BASIX certificate. The certificate is unlikely to be the document used on site by trades during construction.

Development consent is granted on the basis that the BASIX "Schedule of Commitments" is complied with.

For an Occupation Certificate to be issued and the buildings occupied applicants will need to provide the certifier with adequate proof or documentation that commitments have been met. The applicant MUST provide a **final inspection verification form** that certifies that all BASIX commitments have been met. This could include plumbing, window types,

ratings of shower roses, hot water system types or heating and cooling appliance efficiency ratings.

Applicants and builders will need to implement a system to ensure that the necessary documentation is available and there own site inspections are completed. Council will not be able to carry out a satisfactory final inspection without the BASIX verification certificate. If Council Building Surveyors are called for a final inspection and there are any outstanding items a reinspection fee will be charged. ***NOTE: an occupation certificate (final and interim) cannot be issued until all BASIX commitments have been satisfied.***

It is unwise to tender or enter into a contract on plans and documentation without a BASIX certificate, or where the plans and specifications are not consistent with a BASIX Certificate. It is likely that additional costs and on-site practical problems may arise to meet the BASIX commitments.

Below is a sample of a possible BASIX commitments format for incorporation into the plans and specifications.

Summary of Typical BASIX Commitments

Landscaping
Total area of vegetation (m2)
Area of indigenous planting's (m2)

Water
Rainwater tank capacity (litres)
Area of roof that needs to be connected to tank (m2)
Connect tank to at least one garden tap and all toilets Yes
Connect tank to cold water tap of washing machine Yes/No
Rating of all showerheads installed 3A
Rating of all toilet cisterns installed 3A
Bathroom tap fittings 3A
Kitchen tap fittings 3A

Thermal Performance
Refer to Thermal Performance specification attached to plans and stamped by accredited assessor.

Energy
Active cooling to living areas? (insert type, may be none)
Active cooling to bedroom areas? (insert type, may be none)
Active heating to living areas? (insert type, may be none)
Active heating to bedroom areas? (insert type, may be none)
Hot water system (insert type)
Lighting (if required for compliance) Refer electrical schedule
Cooking (type - gas, elec or gas/elec)
Clothesline (if nominated)
Ventilated Fridge Space (if nominated)

Project Details
The BASIX tool calculates the performance and score using the information that you enter on the project details page (site area, roof area, conditioned and unconditioned floor areas). It has to be accurate. Definitions of each of these terms can be found by clicking on the **?** icon. This gives you context sensitive help on all the BASIX pages. Note particularly that "Conditioned floor area" is floor area contained within the dwelling walls, and not gross floor area.

Water (Target 40%)
Landscape
The Landscape section is under the water heading as it is determining the irrigation demand. BASIX currently has no mandatory targets for landscaping. You get rewarded for having smaller gardens ie. less theoretical irrigation requirements (and it's a crude measure with no consideration of soil type, exposure or irrigation methods).

The designer may not choose to specify any indigenous plantings as the rewards gained are minimal compared with the extra documentation required ie. a full landscape plan specifying the indigenous species.

The species lists are on the "**Basix Specification**" and please be aware that some plants may not be available.

Documentation: Garden areas (lawn and plantings) need to be clearly marked. Garden area is everything left after building footprint, driveways, paths, paved areas (permeable or otherwise), gravelled or mulched areas (ie no plantings) have been taken off.

Fixtures
The likely option is to nominate triple AAA rated showerhead, toilet and kitchen and bathroom tap fittings. These save water, are available, cost effective and will score significantly towards the target.

Documentation: Most fittings are not currently branded as to their rating, they may have a sticker but few are actually "embossed" on the fitting. You will need to retain packaging or obtain a letter or certificate from the installer or supplier.

Alternative Water Supply
The exhibition tool has 2 options for alternative supply; water tanks and reticulated recycled water supply (Grey water re-use). It is anticipated that most designers will not specify the reticulated recycled grey water use as an option. Such systems require a separate approval from Council.

It is expected that most BASIX commitments made for dwellings will involve a rainwater tank and pump system that will normally be connected to a garden tap, the toilet cistern and the laundry. The three variables are the size of tank, roof area used for collection, and where the alternative water supply is connected.

BASIX has a tank size calculator to recommended tank capacity using the rainfall data, the roof area collected and the water demand. Most designers of single dwellings are likely to specify a tank of around the 4500L size.

Documentation: Tank size, type, colour and position are to be shown on plans. Roof areas to be collected should also be marked. Disposal of stormwater and overflow must be detailed.

Thermal Comfort

BASIX has two pathways as options in the thermal comfort section, Simulation Method and Deemed to Comply (DTC). It is likely that many dwellings will fit into the DTC framework and DIPNR have advise that the DTC path will not fully reward good thermal design. This is important as good thermal design will make the home more comfortable and reduce heating and cooling loads. It is anticipated that more dwellings designers will use the simulation method.

Documentation: DTC path – it is advised that information used to complete the BASIX DTC should be clearly shown on the plans. Note particularly eave widths, insulation levels, glazing types and colours.

Documentation for the Simulation method – you must attach the ABSA Assessor Certificate to the BASIX certificate and the documentation is complete.

For Occupation Certificate evidence of items such as insulation used and glazing types will be required to assist the certifier; letters or certificates from suppliers or installers are recommended.

Energy (Target 25%)

Thermal loads are carried over from the Thermal Comfort page to the energy page and are used to determine heating and cooling appliance efficiencies. Buildings with efficient thermal design may not need to nominate any heating and cooling appliances to comply. Points are gained for appliances such as, Low greenhouse gas emitting Hot Water Services ie. 3.5 Star or better rating gas, solar or heat pump; Outside clothes line with good solar aspect; Indoor clothes drying line; well ventilated fridge space; fluorescent lighting; windows to kitchen and bath/toilet. Significant points are gained for the installation of Photovoltaic (solar) panels. Points are lost for some options such as electric cooking appliances, electric HWS.

It is expected that the designer of an average dwelling will specify an efficient HWS, outside clothesline and compact fluorescent lighting. Houses over 300 m2 will need more considered design.

Considerations for improving houses and complying with BASIX:

- Use passive solar design principals to achieve high thermal performance,
- Efficient HWS
- Well positioned external clothes line

- Well vented fridge space
- Natural lighting to kitchen and all bath/toilets
- BASIX will penalise floor areas greater than 200 m2

Documentation: The BASIX commitments must be clearly shown on working drawings so that clients are clear about what they are getting and why. Certificates show what needs to be installed for issuing of Occupation Certificate.

Multi Unit Development
For multi unit dwellings a complete help file for the new multi unit tool is now available at: http://www.basix.nsw.gov.au/information/common/pdf/help_files_multi.pdf

Swimming Pools
If planning to install a pool, extra water tanking and catchment may need to be installed. From the 1st October 2006 a pool installed on sites with an existing dwelling is likely to require retro-fitting of tanking and connections.

Alterations and Additions (from 1st Oct 2006)
A BASIX Certificate will be required for additions and alterations from October 2006. Projects with a value of less than $50,000 will be exempt from the scheme as of 1 July, 2007.

Connection Speed
If you don't have a broadband (ADSL) connection, then the tool will be slow to load pages and do the calculations. It won't be impossible but it will take longer depending on your connection speed. BASIX isn't available as an offline tool. However please be advised that the Internet is available at the Oberon Library.

The Future
July 2006 sees the Energy target increasing to 40%. Meeting the 25% target is generally easy in most cases (except for larger houses) but getting to 40% is going to require smarter passive solar house designs. Increased investment in the design phase of building dwelling houses will be required. It is recommended that designers gain the skills to ensure they are capable of incorporating passive solar architecture into all building projects.

Disclaimer
The information contained in this document is provided to generally inform the building professions and trades serving the Oberon Local Government Area. BASIX is a performance based assessment tool and there are many different options available to the building designer to ensure a particular project can be awarded a BASIX Certificate. The information in this document should not be relied upon when designing a building and the reader should rely on their own advice.