

Précis

This submission is made by the HIA, BDA NSW, MBA, NSW Urban Taskforce, HMB and Solarch in response to concerns over the current development of the NSW variation to the Energy Efficiency Amendment 14 to the Building Code of Australia.

The NSW variation, scheduled for adoption in May 2004, has been developed through extensive consultation with industry and local government and had been finalised pending approval by the DIPNR executive.

It has, in effect, been vetoed by DIPNR, without forewarning or consultation. DIPNR's proposal is that the NSW variation to the BCA should abandon nearly all the national provisions and that a new state planning regulation, BASIX, should control issues related to energy performance. This is unacceptable. We support the concept and objectives of BASIX but are concerned about the process of its development and implementation and its impact on the BCA.

DIPNR has been unable or unwilling to provide any detail as to the actual control measures included in BASIX but intends to implement it in June next year. It has not engaged in appropriate consultation with industry or local government.

DIPNR's proposal is unnecessary and unworkable. The schedule proposed for the implementation of BASIX does not allow adequate time for its development and validation or the necessary training and adjustment required by industry and Councils. There are countless technical and administrative issues yet to be resolved.

Industry is concerned that BASIX will add further burden to the Development Application assessment process which is already struggling to cope.

The Sustainability Unit's proposal undermines existing policies rather than building on them. Nearly 500 building professionals have, over the last five years, invested thousands of dollars and much time and effort, in gaining accreditation required by the government's policy of the day. BASIX may make their qualifications irrelevant, destroying many established Energy Rating businesses. The recommended BCA provisions provide a smooth transition from current Energy Smart Homes DCP and, in the immediate future, would deliver simpler administration and a better state-wide performance outcome than is proposed for the introduction of BASIX.

We support the development of national sustainability regulations through the BCA and will assist in the incorporation of the BASIX model into the BCA. Dissatisfaction with the slowness of development of the BCA must not lead to abandoning the BCA. We will work with Government to improve the BCA to make it more responsive to new expectations.

There is no need to abandon the recommended BCA provisions – they are complementary to **BASIX** – providing standards for *minimum accepted performance* that could be evaluated by BASIX, which could then provide flexible paths for achieving *better* performance.

If necessary, the performance outcomes of the BCA could be readily improved in order to achieve a targeted 25% reduction in greenhouse gas emissions. Industry has achieved this target for several years, through regulation of building thermal performance and water heating by the current Energy Smart Homes DCP. Practical, proven strategies could be incorporated in the BCA provisions:

- increasing the building thermal performance benchmark from 3.5 to 4 stars
- establishing heating and cooling performance requirements as well as annual
- demonstration of improved peak load performance
- including requirements for low greenhouse water heaters and AAA shower roses.

We understand the role of regulation to eliminate worst practice in sustainability. We understand the need to incorporate sustainability measures in the design and construction of land estates and all dwellings and consider the BASIX tool as having the potential to perform both a regulatory role and to guide industry best practice.

BASIX should be tested and refined through a voluntary program on a manageable scale before its adoption as a national or state assessment tool.

We consider that adoption of the recommended BCA provisions would deliver the required performance outcomes across the state within an appropriate timeframe and without the risks associated with unresolved issues inherent in BASIX.

We request an *urgent* meeting of the BRAC, Energy Efficiency Sub-committee and senior DIPNR officers to resolve the BCA amendment and end the current instability and uncertainty.

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Introduction

This submission to the Department of Infrastructure, Planning and Natural Resources (DIPNR) is made jointly by:

- the Building Designers Association NSW
- the Housing Industry Association
- the Master Builders Association NSW & Newcastle
- the NSW Urban Taskforce
- the House Energy Rating Management Body
- Solarch

This submission outlines significant concerns with the current BCA/BASIX outcomes, and presents positive options for achieving improved energy efficiency in residential dwellings through policies that are proven to be effective and are able to be implemented within current constraints of time and resources.

Background

The Minister's Building Regulation Advisory Council (BRAC) and Energy Efficiency Subcommittee (EES) have, over the last 18 months, conducted an extensive review of proposed Energy Efficiency amendments to the BCA and has finalised proposed NSW variations. These variations were awaiting final endorsement of the BRAC before being put to the DIPNR executive for its consideration. The deadline for inclusion of the NSW variation in Amendment 14 of the BCA was this month, November 2003. Amendment 14 will be implemented in May 2004.

The DIPNR Sustainability Unit has been concurrently developing BASIX, an assessment tool intended to be accompanied by a SEPP regulating energy and water use in new residential construction. It is intended to be implemented in the Sydney metropolitan area in June 2004 and the remainder of the state in June 2005.

The objectives set for the BRAC and EES in developing the NSW BCA variation, by DIPNR, were:

- achieving effective, workable regulations
- harmonisation / substitution for current local government Energy Efficiency DCP
- maintaining consistency where possible with the national Building Code of Australia

Harmonisation with BASIX was included in these objectives, but no detailed information on BASIX was made available to participants.

The current recommended NSW BCA variation adopted the national provisions for building envelope thermal performance and insulation of hot water piping and air-conditioning ducts with the exception of:

- inclusion of a distinct NSW north coast climate zone
- simplified variations to the glazing requirements
- minor modifications to insulation requirements
- clarification of application to renovations, additions and relocated buildings
- the performance benchmark for determining compliance via the Verification Method was set at 3.5 stars, due to the delay in delivery of improved assessment software.

The BCA proposal would have achieved a consolidation of benefits currently delivered through the Energy Smart DCP with the extension of these requirements to the whole State. It would have been preferable to have not required this State variation – consistency with the national BCA should be maintained wherever possible. The BCA amendment was seen as

the consolidation of current DCPs and the creation of a valid, state-wide and national platform upon which to build improved regulation of environmental performance over the coming period. The Australian Building Code Board (ABCB) has just initiated its first review of the BCA Energy Efficiency measures as part of the established review and reform process.

It was assumed that BASIX would address a broader range of issues than the BCA would cover and that BASIX might seek higher performance benchmarks than the BCA. It was envisaged that the BCA would establish minimum standards of performance and that BASIX would provide flexible options for achieving better practice.

The last meeting of the EES (28 October 03) was presented, for the first time, with a proposal from officials developing BASIX , that the proposed NSW variation to Amendment 14 of the BCA be radically changed in order for it to be compatible with BASIX. Their proposal was that the **BCA Energy Efficiency regulations not be applicable to NSW, other than the requirements for insulation and sealing.**

All EES participants expressed their concerns. No decision on this proposal was requested and no path for its resolution was defined. An untenable situation has been created where the application of the Energy Efficiency provisions of the BCA in NSW is completely unresolved, with only a few weeks to meet the deadline for inclusion in the BCA Amendment 14.

Policy and indeed, development, outcomes are now uncertain – there is, as yet, no proposal as to the regulatory requirements that BASIX will include. The current uncertainty means it is now impossible for industry and councils to begin preparing for the changes to building regulation as had been planned.

Failure by the Sustainability Unit to communicate and co-ordinate with the BRAC displayed a disregard for the consultative process and for the considerable time and effort that has been applied by members of the BRAC and EES 18 months of hard work by the BRAC and EES may now be made irrelevant.

This situation could have been avoided by better communication and management. Harmonisation with BASIX was repeatedly placed on the agenda for consideration by the BRAC and EES, but the BASIX developers provided no information as to what the BASIX requirements would be.

Concerns

There are significant concerns with the proposal made by the BASIX developers, relating to:

- improvement in sustainability outcomes for new homes;
- simplification of compliance requirements and improvement in approval processing; and,
- delivery by July 2004.

Sustainability outcomes

The BASIX developers have provided **no detail as to the actual impact on building design and construction.** It is understood that the method for assessing building thermal performance by BASIX has only just been commenced and it is meant to be finalised by February.

A stated objective is that BASIX will deliver a 25% reduction in greenhouse gas emissions (GGE) from new homes, compared to existing housing stock. The current Energy Smart Homes DCP, which regulates approximately 78% of new residential building in NSW, already delivers this 25% reduction through the requirements for improved thermal performance of the building envelope (6%) and low GGE water heaters (20%). Many builders have already

adopted more stringent requirements as a point of market differentiation. It has not been articulated how BASIX will improve on this performance.

The BRAC and EES envisaged that the current 25% GGE reduction would be maintained and extended through:

- application of the requirement for improved building thermal performance throughout the whole State via the BCA and
- continuation of the requirement for low GGE water heaters through current DCP or by BASIX.

By 2006, BASIX proposes to require a 40% reduction in GGE. This will present a number of challenges and the mechanisms for achieving this target should be detailed and developed in consultation with industry.

We need to better understand how the savings projected for BASIX are to be achieved. A necessary prerequisite for accepting BASIX would be that the BRAC and EES be provided with this detail, as well as validated assessment of the cost impact, performance outcomes, and a commitment to monitor in-situ trials.

The differential approach that will result as a consequence of some Councils applying BASIX and others not will effectively deliver an "increase" in GGE.

BASIX will initially only apply to the Sydney metropolitan area. The BASIX developers' assumption is that Councils outside Sydney that currently implement the Energy Smart Homes DCP will continue to do so. The reality is, however, that many, if not all of these Councils **will be forced to abandon the Energy Smart Homes DCP** and would only enforce provisions of the BCA which, according to the BASIX scheme, would only be minimal requirements for insulation, sealing and services.

Without the participation of Sydney Councils the Energy Smart Homes DCP will become unworkable:

- it will be impossible to maintain the current support and accreditation of House Energy Rating assessors required by the Energy Smart Homes DCP;
- the flexible, performance-based pathway to compliance, provided for by the Energy Smart Homes DCP, will conflict with the inflexible Deemed to Satisfy insulation, sealing and services BCA provisions proposed by the BASIX developers.

Clearly it is not appropriate to introduce BASIX in some sections of the state and not others. BASIX should be tested and refined through a voluntary program on a manageable scale then adopted as state regulation or indeed on a national basis

Compliance requirements and approval processing

An objective of the BCA and BASIX, is to simplify compliance requirements and approvals processing. The current proposal promoted by the BASIX developers will add complexity and create some confusion.

Split regulation

The BASIX developers proposed that sections of the BCA Energy Efficiency regulation be maintained and that others be deleted as they would be covered by BASIX. It was suggested that the BCA maintain Deemed to Satisfy (DTS) requirements for building insulation and sealing as well as insulation of hot water pipes and AC ducts. The Verification Method would be deleted. BASIX would address all other aspects of services and building thermal performance.

It is inappropriate to split the regulations in this manner. The BCA DTS were proposed within the context of an alternate path to compliance being available via the Verification Method or Alternate Solutions. In many instances the DTS would be unacceptably restrictive. For

example, sub-floor insulation would be required in some climate zones. It is expensive and awkward – applicants would tend to adopt the Verification Method to develop a complying solution that avoided more expensive strategies in an effort to address affordability concerns. Adopting the BASIX developers proposal would lock applicants into complying with the DTS without consideration of whole-house performance or recourse to the Verification Method.

The major reason why New South Wales delayed adoption of the BCA amendments at the time of Amendment 12, was that it had been demonstrated to the BRAC EES that the proposed DTS requirements did not deliver equivalent energy or greenhouse gas performance to those achieved under the Energy Smart Homes Policy. The minimal DTS requirements being proposed by the BASIX developers, on their own, would have significantly less impact on energy efficiency.

Similarly, it would be unnecessarily complex for applicants and assessors to have to reference separate regulations in determining compliance with a single objective.

Uniform national policy

National industry organisations clearly identified the need to develop a national framework for addressing sustainability. This, in part, influenced the decision to develop Energy Efficiency and Sustainability provisions for the BCA.

The value of uniform national building code cannot be understated. The precedent that would be set by the BASIX developers' proposal is of extreme concern. It implies abandonment of the BCA process by the NSW Government and may encourage other States and Territories to follow suit, taking the industry backwards twenty years to the days of Ordinance 70, the Victorian Building Regulations, the Queensland Building Code etc. This would have major affordability implications at a time when affordability is at historically low levels, especially in NSW.

Developing individual state policies leads to duplication and the waste of scarce Federal and State resources. Significant departure from the national provisions of the BCA causes considerable difficulties for national operators and builders and designers.

The industry has committed to work with Government in the development and implementation of national sustainability regulation through the BCA. BASIX is currently the most advanced model for such possible regulation. With appropriate development it may become the basis for development of national sustainability regulations.

BASIX should be rigorously tested and refined, on a manageable scale, through a joint NSW Government and industry program. Industry organisations will assist in selecting volunteers to implement BASIX, testing its application and outcomes in real world examples. Once proven and refined, industry will promote its adoption as a national regulation or, as a transition strategy, a NSW state variation to the BCA.

In the past there has been considerable frustration with the slow and cumbersome nature of the BCA. This is currently under review. Concerted effort by industry and State and Federal Governments can improve the BCA process, making it more responsive to community expectations. Abandoning the BCA will not help and will have long-term detrimental impacts.

Uniform state policy

The objective of BASIX is to provide a uniform state policy. However, the proposed process for transition to BASIX would mean that, for a period, NSW would be regulated by three separate controls:

- Sydney metropolitan area would be regulated by BASIX as well as the minimum insulation, sealing and services provisions of the BCA;
- Some Local Government Areas outside Sydney may continue to implement existing Energy Smart Homes DCP as well as having to comply with BCA DTS provisions for insulation, sealing and services.

- Other LGA would be regulated only by the minimal insulation and sealing BCA requirements proposed by the BASIX developers.

Whilst this situation may only be for a limited period of a year or so, it would be totally untenable and will lead to an erosion of GGE outcomes for NSW at a time when improvement is needed. The current process of providing accredited House Energy Ratings, required by current DCP, would simply collapse without the participation of Sydney Metropolitan Councils. Regional councils, many with high growth, will either drop their Energy Smart Homes policies or fail to implement it effectively. This will lead to considerable confusion.

Builders and designers will have to contend with three sets of regulations, causing unnecessary complexity and market distortions.

The BASIX developers may have given some thought to the roll-out of training programs for implementing BASIX, but no consideration has been given to the communication strategy that would encompass the diversity of policy changes that may occur in regional areas.

As stated previously, the implementation of BASIX should be state-wide, once testing and refinement is completed.

Multiple regulations

The BASIX developers have, on numerous occasions, assured industry representatives that BASIX would not become an additional layer of planning regulations – it would encompass all existing and future planning controls related to sustainability. The BASIX developers stated, unequivocally, that legislation would be introduced that would *prevent* Councils from developing planning controls that addressed issues covered by BASIX. These commitments given to industry organisations by the BASIX developers have been misleading.

As a SEPP, BASIX would override existing relevant provisions of DCPs. However Councils would still be able to implement additional DCP requirements for other issues not covered by the SEPP. Applicants may therefore have to meet alternate or more stringent requirements. For example, if BASIX does not require mandatory water tanks, a Council that already has a DCP requiring water tanks can simply choose to maintain it in addition to compliance with BASIX.

There is no clear delineation between sustainability regulations and civil engineering controls. BASIX may require certain water management strategies for environmental reasons, but local Councils may maintain conflicting requirements for on-site detention to mitigate local flooding.

These conflicts and duplications might be resolved, but through a complex and time consuming process.

Significant effort has been made by the BRAC and EES, in conjunction with SEDA and Councils, to ensure that existing Energy Smart Homes DCPs are replaced by the BCA. Councils have been kept informed through updates by SEDA. A forum for Councils was convened months ago and a communication strategy targeting transition from DCP to BCA was under development.

The BCA guarantees removal of multiple layers of regulation. Under the EP&A Act Councils cannot impose requirements that are additional to regulations within the BCA.

Development Application

While BASIX is promoted as an easier path to DA approval, assessment of compliance with BASIX at DA stage would have significant impact on the assessment process, potentially increasing pressure on under-resourced Councils and causing extended delays in DA assessment. This problem could be exacerbated by launching BASIX without appropriate lead time to allow for training and re-organisation.

Regulation through the BCA takes advantage of the better resourced Construction Certificate assessment process.

Third party assessment

An important spinoff from the Energy Smart Homes policy was the provision of independent, accredited assessors. These assessors provided Councils with a Certified House Energy Rating, enabling the verification of compliance with the DCP to be completed in minutes rather than hours. It provided Certifying Authorities with a mechanism for ensuring that the House Energy Rating was conducted by a suitably qualified person.

The BASIX developers have stated that they do not see a need for specifically trained and accredited persons to undertake BASIX assessments. This will increase the liability placed on Council Assessment officers as they will have to check the competence and accuracy of each assessment.

There are currently 250 Accredited House Energy Rating Assessors. Over the last five years approximately 500 industry professionals have invested considerable time and thousands of dollars in gaining the accreditation required by Government policy of the day.

The proposal to remove the Verification Method from the BCA and not require accredited assessment for BASIX, will make this accreditation instantly irrelevant. At no stage has there been any consultation with Accredited Assessors or any forewarning of the intention to make their accreditation irrelevant.

Delivery Schedule

A core concern is timing. The intended schedule for BASIX is:

- completion of the tool in late February
- public exhibition in March
- implementation in June.

BASIX will address a range of issues that previously had no regulation developed. It is understood that the development of the tools for assessing thermal performance was only commenced a week or two ago – this is a concern given the proposed February completion date.

Validation

It is also vital for any new regulatory assessment tool that it be thoroughly validated and benchmarked (by a range of parties) to ensure accuracy in its assessment, and ranking of dwellings. This would require the assessment of a large number of dwellings of varying types and configurations.

BASIX must be trialled to prove its practicality and effectiveness. It is likely that a number of bugs and problems will have to be resolved. This should be done before it is made a mandatory regulation.

Training

Public exhibition of BASIX will not be completed until March 2004. Assuming there is no need to amend BASIX as a result of issues raised during its testing, validation and public exhibition, very little time is allocated for training required by industry and Councils prior to implementation in June.

Preparation

The final requirements of BASIX will not be determined until after March 2004. DAs submitted in June will have to comply. Preparation of DAs that must be finalised by June 2004 are likely to be well underway already, yet planners have no access to the requirements that will be imposed by BASIX.

Industry requires significant lead time for the implementation of new regulations so that plans can be adjusted and new building practices and products determined.

Deadlines

A decision on the NSW implementation of the BCA must be made within the coming weeks. Adopting the BASIX developers' proposal for the BCA would be giving de facto consent to the launch of BASIX in June 2004:

- without safeguards or fall-back positions in case this deadline can not be met; and,
- without prior assessment of the actual regulations that BASIX will implement so as to determine their environmental outcomes, cost and impact on the DA assessment process.

A Positive Alternative

BCA / BASIX compatibility

There is no barrier to proceeding with the current proposed NSW variation to the BCA as developed by the BRAC and EES. It has been developed through extensive consultation and has achieved broad support by industry bodies and local government.

The BCA provisions could simply be referenced by BASIX as the *minimum acceptable practice* for building thermal performance and services. BASIX could then offer various paths to achieving *improved* greenhouse gas outcomes, such as efficient appliances and lighting, energy source, etc. This was the original premise under which the BCA amendment was developed by the BRAC and EES.

If, for some reason, BASIX wanted to offer a pathway to compliance that did not involve compliance with the proposed BCA DTS or Verification Method, such compliance would be evidence that Alternate Solution that meets the BCA Performance Requirement. Therefore there would be no potential for the BCA to enforce requirements contradictory to compliance with BASIX.

Improved Performance Outcomes

It has been stated that the current NSW variation to the BCA Energy Efficiency provisions, as developed by the BRAC and EES, do not achieve required greenhouse gas reductions or reduction in peak energy demand. Such targets had not previously been requested by DIPNR – the Regulatory Reform Unit or the Sustainability Unit. If the performance outcomes of the proposed NSW variation to the BCA, as developed by the BRAC and EES, are a barrier to its adoption, some additional variations could be adopted to ensure the 25% reduced GGE and lower peak load targets are met.

There is a simple alternative option that would:

- achieve the 25% GGE reduction target;
- simplify the assessment process;
- set reasonable timeframes allowing appropriate consultation and training;
- rely upon proven, effective strategies, and
- support and complement the development and implementation of BASIX.

Services

• Water heaters

The requirement for low greenhouse emission water heaters (gas, solar, heat pump) could be included in the NSW variation to the BCA Energy Efficiency provisions. Such requirements are already applicable for over 60% of new dwellings through the current

Energy Smart Homes DCP. The performance is proven. Cost benefit analysis is already well documented and problems with supply and installation have been resolved over the last few years of implementation of the DCP. There is good acceptance by industry and consumers. Current exemptions offered by the DCP could be maintained: dwellings with two or less bedrooms, overshadowing and heritage constraints. The formulation of such regulation is already resolved. Definition of complying water heaters is already provided by the DCP and the Federal Government's Office of Renewable Energy Certificates.

This simple amendment to the Services provisions of the BCA would facilitate reductions in household greenhouse emissions of over 20%, throughout the state, from May 2004.

- **Shower roses**

The BCA Amendment 14 could include a requirement for AAA rated shower roses. The rating of these low-flow roses is well supported by the Australian Water Association. They are the most cost-effective simple energy and water saving strategy available, delivering approximately 5% reduction in household energy consumption.

- **Thermal performance**

The proposed NSW variation to the BCA Energy Efficiency provisions adopts the 3.5 star performance benchmark of the current Energy Smart Homes DCP which are applied to over 78% of new dwellings in NSW. This continuation of "business as usual" is not acceptable.

It should be noted that all participants in the BRAC consultation process would have supported the adoption of a higher performance benchmark if Federal agencies had honoured the commitment to deliver the improved assessment software "Accurate" in the timeframe required.

The adoption of the 3.5 star performance benchmark was recommended as part of an undertaking to raise the minimum standard in a manageable timeframe, and with adequate industry support. The proposed BCA Amendment developed by the BRAC and EES contains explanatory clauses to this effect.

The BCA will impact on areas within the state that have hitherto had no regulation of building thermal performance, so the requirements of the BCA would be a significant step forward.

Some simple improvements could be made to improve the performance outcomes of the BCA.

- **4 star**

The BRAC and EES might consider adopting the 4 star performance requirement, though it is noted that this is not a preferable position.

- **Floor area**

The Stated Values used to determine compliance via the Verification Method could be amended to require greater stringency for large houses. The formula for determining these values, known as the "Floor Area Curves" was developed several years ago and could be readily assessed and adopted.

The new software, Accurate, has been developed with this adjustment built in.

- **Heating / cooling split**

The current proposed Verification Method would assess the thermal performance of the building envelope according to combined annual heating, cooling and latent cooling load. It is possible for a house to achieve the required annual performance at the detriment of either summer or winter performance.

The Stated Values used to determine compliance via the Verification Method could be amended to require a maximum predicted heating and cooling energy load appropriate to each climate zone to ensure homes perform well in both summer and winter as well as annually. The assessment software already outputs this information. Adopting this proposal would purely require determining appropriate performance benchmarks.

- **Peak loads**

The proposed BCA Energy Efficiency provisions do not specifically address peak loads. Doing so was considered to require more time and resources than were available.

However, it can be proven that buildings that meet the proposed BCA requirements significantly reduce peak loads. A building with low annual energy loads has a commensurate reduction in peak loads. This would be reinforced if the heating / cooling performance benchmarks are adopted.

This requires no changes to the proposed NSW variation. The analysis could be conducted by DIPNR staff with tools and data already available.

Performance, safety and certainty

Adopting the above proposal would in no way impede or conflict with the development and implementation of BASIX. Indeed it would complement it. It would provide certainty of uniform State regulations being implemented without placing unreasonable time constraints on the resolution of outstanding matters related to BASIX.

The industry has been willing to assist with the development, promotion and implementation of BASIX. It is seen as a valuable regulatory tool. The current haste, inadequate attention to detail, lack of consultation, validation and education is eroding the support that BASIX could and should receive.

The current uncertainty is of extreme concern to industry and Councils. Alternative approaches should be urgently considered by DIPNR and presented to a combined meeting of the BRAC, EES and senior DIPNR officers at the earliest opportunity.