

Design and Place State Environmental Planning Policy (SEPP) Explanation of Intended Effect

Submission Kingspan Water and Energy 28 April 2021

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Introduction

Thank you for the opportunity to make a submission.

The proposed SEPP is misconstrued and the BASIX SEPP should not be repealed. The proposed SEPP does not sufficiently understand or apply sustainable thinking to buildings and appears arbitrary in its application of the Environment Planning and Assessment Act 1987.

We oppose the repeal of the BASIX SEPP and recommend the BASIX SEPP be reviewed to incorporate standards for stormwater management, including volume management, peak flow and contaminants; and green infrastructure outcomes at the building and lot scale. Importantly setting these standards provides developers, councils and the community a 'social contract' on the measurable and objective outcomes for land use development.

The strengths and benefits of BASIX in its current form are highlighted to ensure they are not lost. The Sydney Alternative Water Strategy report is presented as a case study of the significant benefits that have flowed from the current BASIX SEPP and the considerably greater benefits that could flow from a revised BASIX SEPP. The report also highlights the power of an integrated Systems Framework analysis and the need to expand not only our objectives of planning, but the modes of analysis required to do so.

The submission also provides some commentary on mandatory minimum standards in planning controls for consideration.

Sustainable Buildings

Sustainable buildings are fundamental to managing a series of urban challenges including energy efficiency, a circular economy approach to the building process, energy security, water security, water efficiency, stormwater management, urban cooling and green infrastructure.

These considerations have been identified as important to the future of NSW urban places however there is little assessment in the EIE about how BASIX or the Apartment Design Guide currently and potentially meets most of these challenges. This approach does not demonstrate that the SEPP has a commitment or understanding about meeting sustainability objectives and providing clear guidance to land use developers and councils and confidence to the community.

Using the sustainable use of water in buildings as an example, analysis in the SEPP appears to be absent. Current NSW issues include the focus on 'at source' stormwater controls and volume management in the Australian Rainfall and Runoff Guidelines 2019, the draft NSW Water Strategy, the Auditor General report on Water Conservation, the Sydney Alternative Water Strategy and Chris Walsh's work on urban waterways.

There are occasional references in the SEPP to stormwater, recycled water, rainwater and greywater harvesting but no context, identified standards or policy direction for implementation.

The impact statement purports to transfer BASIX as is and unchanged and at the same time foreshadows a series of alternative pathways, rating systems and even offsets which are not documented or evaluated. Changing the assessment process fundamentally changes the goals of the BASIX SEPP.

There is no evidence that has been presented that multiple assessment pathways are required for BASIX or that the performance standards are not fit for purpose simply because there are other rating systems in the building industry.

The SEPP should be unequivocal in setting non-discretionary standards and performance objectives for urban buildings in order to achieve sustainability and amenity outcomes. Current performance targets and process solutions that are already being delivered by BASIX include:

- BASIX has clear, science-based targets based on local data.
- Targets are mandatory and compliance can be achieved online without requiring professional assistance.
- Development cannot proceed without a BASIX certificate.
- Houses must demonstrate up to a 40% water saving and 40% reduction in greenhouse gas emissions based on 2004 average household water and energy use for that area.
- BASIX is non-prescriptive which allows applicants a choice of technologies and design measures to achieve targets, and there is more than one pathway to achieve the target. BASIX mandates a performance outcome rather than a solution but crucially applies a minimum quantifiable standard to ensure outcomes do not slip over time.

The SEPP or EIE does not identify how the public will benefit by transferring BASIX into the new SEPP.

Objectives of the EP&A Act

The EIE for the D&P SEPP states that it is giving effect to the objects in s.1.3 of the EP&A Act (b), (e), (f), (g), and (h)

Following are all the objectives of the Act with a short commentary on how they have been addressed by the SEPP. It is not clear why some aspects of some objectives have been addressed and not others which is not sustainable in a holistic design process.

- (a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources,

Natural resources, such as bushland and waterways are generally considered fundamentally important to our urban spaces. Why was this objective not addressed by the SEPP.

- (b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,

This is arguably the most important objective relating to an integrated planning assessment.

- How has the SEPP considered and integrated the economic considerations in decision making in environmental planning and assessment? What are the economic considerations of increased energy and water efficiency, more efficient appliances, improved thermal envelopes? All these considerations are included in the SEPP, why have the economic implications not been carefully considered in the public interest and to provide an economic rationale for development controls?
- How has the SEPP considered the social considerations in environmental planning and assessment? What are the social implications of buildings and houses that require large amounts of energy and water for their operation and the resultant impact on household welfare?
- How has the impact statement considered the environmental considerations in environmental planning and assessment? One of the major environmental and economic issues facing NSW cities in this decade is stormwater. Has the intended impact statement explained how the design SEPP will manage stormwater, what standards will be applied, what the targets are, what stormwater outcomes the SEPP will provide to the community?

- (c) to promote the orderly and economic use and development of land,

This is not an objective of the SEPP, despite the content of the SEPP being fundamental to the land use development process, one of the most important economic processes in NSW.

- (d) to promote the delivery and maintenance of affordable housing,

This is not an objective of the SEPP but appears to be at least partially addressed by the SEPP. In relation to buildings the discussion on affordability should include both the cost of buildings and the cost of using buildings to address inefficient energy, water, stormwater systems.

- (e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,

This was one of the objects of the SEPP which would be addressed only by considering green infrastructure. There are 13 references to habitat in the EIE, none of them provide a target or a standard to be applied. There is one reference to threatened species, when quoting this section of the Act. These are directly relevant considerations for all urban areas but particularly Western Sydney where there is likely to be a severe impact on platypus and other indicator species.

- (f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),

This objective has been addressed.

- (g) to promote good design and amenity of the built environment,

This objective has been addressed.

- (h) to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants,

The proposed relationship between this objective and the circular economy is not apparent to us.

- (i) to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State,

This is not an objective of the SEPP

- (j) to provide increased opportunity for community participation in environmental planning and assessment.

This is not an objective of the SEPP.

Commentary on Appendix C 'Sustainability in Residential Buildings'

The most important thing about BASIX is the concept of sustainable buildings meeting energy and water performance measures through distributed and decentralised processes in conjunction with centralised infrastructure; more efficiently than central infrastructure solutions alone.

BASIX has clearly established that changing building design can cost efficiently change the energy and water use for a whole city. The Australian Rainfall and Runoff Guidelines, which is the national standard for stormwater management in Australia produced by Engineers Australia identifies that 'at source' stormwater management is a critical tool in managing stormwater in our cities. This means that designing our buildings to manage stormwater better can cost effectively manage some insoluble stormwater infrastructure problems in our urban areas. The potential exists for sustainable building design to help manage the urban heat island effect through shaded spaces, more appropriate materials, surface water and increased green infrastructure.

This fairly simple concept is a novel idea for bureaucrats and technocrats who are used to thinking at a city-wide scale using centralised infrastructure and bound by corporate utility business models.

BASIX has a performance goal and non discretionary performance measures, to reduce green house gas emissions and water use by 40% from a 2004 average. The developer has a range of options to meet that performance objective allowing flexibility for site context and different technologies and costs.

However, there is a minimum numerical standard that is independently assessed and not discretionary, so the performance objective is always met rather than a series of precedents being established which allows the standard to be reduced over time. BASIX is a set of rules as well as very clearly defined performance goals and this has been a big part of its success. A BASIX certificate is either achieved, or it is not, and all the stakeholders are clear about what is required and how to meet it.

It is useful to consider the history and institutional role that BASIX has played in NSW:

- BASIX is designed to correct for the potential failure of the market to deliver socially optimal investment in energy and water efficiency, at the time that a residential dwelling is constructed. The market failure arises because¹:
 - often the party responsible for the design and construction of a dwelling differs from the ultimate dwelling resident and so sub-optimal trade-offs between upfront capital costs and ongoing operating costs are made – the so-called “split incentives” problem;
 - there is a lack of information about the opportunities for cost-effective investment in water and energy efficiency measures as part of the construction of a dwelling;

¹Nera Economic Consulting. (2010). BASIX Post-Implementation Cost-Benefit Analysis An Economic Evaluation of the State Environmental Planning Policy- Building Sustainability Index (BASIX) A Report for the Department of Planning. Nera Economic Consulting

- water and energy prices do not (currently) adequately include the cost of environmental (and other) external impacts; and
 - of a lack of access to finance to fund cost-effective energy or water efficiency investments.
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- BASIX is a planning policy, not a policy of the energy industry or the water industry, both of which promote building more infrastructure rather than less. This has created important institutional jealousies about BASIX and a desire to control BASIX in NSW and this should not be underestimated in proposals to modify BASIX.
 - Over time a policy that addresses new development and major renovations will renew the entire urban fabric without requiring retrofits
 - BASIX considers both energy and water in land use development, which is unique in Australia. While the focus has been mostly on energy in the last decade during the millennium drought it was quite the reverse and water efficiency will be crucial again in future, both issues need to be carefully managed not as power and water but as key considerations of sustainable buildings which make up sustainable cities.
 - BASIX was the product of a series of reports to the NSW Parliament in the early 2000s. These reports identified that the demand for water and electricity from new housing in NSW required major investment in government owned generators and dams. Rather than substantially increasing taxes the government of the day chose to impose very significant energy and water efficiency improvements and they did this in a unique way, they applied the requirement on each new building and renovation, rather than on the city as a whole. This is a very efficient mechanism because it costs less to build efficiency into new housing rather than retrofitting but it is also effective in terms of the timing of the housing boom and bust cycle.
 - Generally, with water and energy use it is hard to match supply and demand. A power station takes a decade to build and then provides much more power than is needed for a few decades and only just enough towards the end of its life. Similarly, the demand for more power and water increases a lot during a housing boom and only slowly when housing prices are low. Often after a housing boom there is a lag of a decade or two while power, water, education, transport, hospitals struggle to catch up.
 - Because BASIX is applied to each new building the demand intervention is applied at the same rate as the demand increases, some years 30,000 houses might be built, some years 5000 houses, but the demand management response matches the demand closely without lag.

The Sydney Alternative Water Strategy

The report is presented as a case study of the significant benefits that have flowed from the current BASIX SEPP and the considerably greater benefits that could flow from a revised BASIX SEPP.

Greater Sydney is the premier Australian city and it faces profound urban water challenges. Sydney must manage its infrastructure efficiently and sustainably to compete internationally as a Global city. Sydney has a strongly performing water services sector but has a traditional approach to water service management. Significant challenges include long transfer distances for water and sewage services and inadequate urban stormwater infrastructure management. These problems appear to be intractable using traditional water analysis approaches however a Systems Framework investigation can identify efficient solutions.

The Sydney Alternative Water Strategy² finds that Greater Sydney, despite significant challenges, currently has the most efficient and sustainable water services in Australia. This has been achieved through the strategic alignment of water demand management, rainwater harvesting and urban development. The BASIX state environmental planning policy has built-in demand management and stormwater management in most new buildings in the Greater Sydney region since 2004 and this 'bottom up' approach has a major legacy impact on the efficiency of water services. BASIX policies have already saved the Greater Sydney region about 79 billion litres of water annually by 2019, comparable to the 90 billion litre annual capacity of the Sydney desalination plant.

The Systems Framework is used to model and then compare four future scenarios based around the current BASIX policy. Business as Usual projects continuing the current Planning Policy compared to

- not having BASIX,
- an improved BASIX to include water sensitive urban design and
- a combined improved BASIX and variable price structure for water and sewage.

Up to 2050 an improved BASIX and variable price structure would deliver benefits of \$7B in community benefits compared to Business as Usual and \$11B compared to not having BASIX at all. The key insight is that a combination of supply and demand management is more efficient than relying entirely on supply solutions when considering whole of society benefits. These demand management solutions include behaviour change, water efficient appliances and rainwater harvesting. An example of these benefits is the 5 year deferral of the multi-billion dollar desalination augmentation provided by the BASIX policy. The inclusion of rainwater harvesting as a stormwater management solution has both infrastructure and demand management benefits and is an efficient decentralised infrastructure asset that improves the performance of the whole system.

The report identified water and sewage transfer distances of over 50 km across Greater Sydney. Transporting a heavy liquid over these distances and significant changes in ground elevations represents high capital and operational costs and potential economic inefficiencies. In some parts of Greater Sydney, the shadow cost (medium run marginal cost) of delivering water and sewage services is greater than \$16/kL, which is nearly 800% more than the household usage tariff. As a result of the analysis the report recommends continuing the BASIX program, considering an improved version of BASIX and considering a more efficient pricing structure for water and sewage services.

² Coombes, P., & Smit, M. (2020). Alternative Water Strategy for Sydney v1. Newcastle: Urban Water Cycle Solutions

Detailed Commentary on Appendix C

C1. Introduction.

One of the priorities of the proposed Design and Place SEPP is to minimise human impacts on natural systems, reduce emissions and (reduce emissions). pC3

This statement is not supported by an analysis of the impacts of urban development on natural systems. The SEPP skims over energy, water, stormwater, green infrastructure and CO2 emissions. The destruction of natural ecologies through land clearing isn't identified as a human impact on a natural system. The massive, irreversible impact of urbanisation on evaporation, groundwater and runoff permanently destroying waterway function is not discussed. There is no discussion about the value of natural capital or accounting systems for the impact of urban development on natural capital.

Logically if you want to minimise impacts on natural systems you don't urbanise them. If the Design and Place SEPP considered human impact on natural systems a priority it would be considering a process of restricting urban development and protecting and restoring natural systems in urban areas and on the urban periphery. The technology and conceptual frameworks now exist to apply a natural capital accounting system and measure net costs and benefits.

In the natural systems identified by the SEPP where is the analysis of the current system, what is the conceptual framework and what modes of analysis are being used? What are the scenarios for future development and what are the costs and benefits of different options for managing energy, water, stormwater, vegetation and CO2 not as separate systems but as part of an integrated system?

Why have natural systems been treated so dismissively?

C2 Objectives of the sustainability reforms and

The key question here is why is the current BASIX SEPP no longer in the best interests of the environment and the community, justifying it being repealed?

The reasons provided:

1. Providing more flexibility in assessment pathways

This issue does not require the BASIX SEPP to be repealed, these issues could easily be addressed within the existing BASIX SEPP.

2. Aligning sustainability performance requirements with the principles of the Design and Place SEPP

The sustainability principles of the SEPP are net zero emissions, integrate landscape and ecology and plan green infrastructure.

It is not clear why the current BASIX SEPP cannot be modified to align with these principles.

3. Measuring and reporting sustainability performance requirements in a consistent way with other jurisdictions.

The current BASIX requirements reflect the BASIX goals, changing how they are measured changes the goals.

This issue does not require the BASIX SEPP to be repealed.

4. Improving the customer experience and promoting innovation

This issue does not require the BASIX SEPP to be repealed.

5. Staged and incremental increases in sustainability targets

This issue does not require the BASIX SEPP to be repealed.

In summary there doesn't appear to be a plausible reason for the repeal of the BASIX SEPP.

C4 BASIX policy initiatives

6. The work done for national consistency is reflected in the BASIX tool.

As discussed, this does not require a new SEPP. However, changing measurements implies changing goals, there is no analysis on how 'national consistency' will change the impact of the BASIX policy.

7. Circular Economy

A circular economy is a systemic approach to economic development designed to benefit businesses, society, and the environment. In contrast to the 'take-make-waste' linear model, a circular economy is regenerative by design and aims to gradually decouple growth from the consumption of finite resources. – ellenmacarthurfoundation.org

This is supported, BASIX could be expanded to restructure the building process focussing on reducing, reusing and recycling existing materials, advanced waste management and policies determining which materials can be included in the building process, where they are sourced from and how materials are recycled or disposed of. This is a long overdue policy initiative.

8. Increasing tree canopy

This is a highly practical and effective response to many urban challenges including groundwater retention, evapotranspiration and urban cooling, and the mental and physical health of the community. There are clear performance measurement and indicators established for tree canopy with targets of 20% site coverage proposed by the Greener Spaces, Better Places program.

9. Stormwater Management

This is a major issue for the future of our cities. Some estimates are that stormwater infrastructure will require more investment than water infrastructure and the potential damage to our cities running into billions of dollars on an ongoing basis. There is a best practice standard for stormwater management known as The Australian Rainfall and Runoff Guidelines 2019 promoting a range of responses including at source volume management with a focus on solutions at the individual building level which is well suited to being implemented through BASIX. This policy initiative is also commended.

None of these policy initiatives appear to require the current BASIX SEPP to be repealed.

10. Energy efficiency targets through NCC or Nathers

The calculations and methodology for BASIX were designed to deliver the BASIX objectives. These have proved to be successful with very wide acceptance by the community and building industry. It should be recommended that NCC and Nathers consider the success of this community based assessment process rather than over riding the current BASIX . Any proposal for change should include a detailed assessment of the implications for BASIX energy and water targets and behaviours in new development.

11. Enable Alternative Pathways

Different assessment pathways have different goals. The assessment for BASIX was designed to achieve the BASIX goals. What is being proposed is to change the goals of the BASIX program. What are the implications of these changes, what are the costs and benefits for the natural systems which are the stated priority of the SEPP?

For example, one of the alternative assessments would allow the thermal performance of buildings (insulation) to be reduced by installing more solar panels. This appears to be a proposal to make our buildings less sustainable, not more. These are not innocuous administrative changes, they have the potential to fundamentally change how BASIX operates.

The importance of mandatory minimum standards

The proposed philosophy and practice of the Design and Place SEPP appears to be similar to a policy in the late 1990s in Victoria. It was called the Good Design Guide for Medium Density Housing. It was a development code based on good design principles and a clear design process for the developers, a sense of place and performance goals such as respecting local character.

Developers preparing applications would seek advice about how the land could be developed - how many units, how high, minimum setback. The GDG explained to developers that there were guidelines but the application should come from a 'design process' assessing local context and character. The developers used expert advice from design consultants to show that development well outside the guidelines was appropriate for their sites. Without minimum standards to rely on planners and councillors and higher courts found it difficult to argue that the performance goals were not being met. Eventually public backlash against what was considered inappropriate development convinced MPs to replace the GDG with much clearer minimum standards.

<https://en.wikipedia.org/wiki/ResCode>

The operation of the Good Design Guide contributed to the Save Our Suburbs community movement, here is what Save our Suburbs Inc had to say to the Victorian Minister for Planning in 2001³

We believe the GDG has failed because its standards are discretionary and inadequate and we support higher standards which are mandatory, not discretionary. Certainty can be achieved by mandatory standards. This can be done by allowing Councils to fix their benchmarks, or by the State setting them. There should be mandatory standards on height, site coverage, side and rear setbacks, height of walls on boundaries, length of walls on boundaries and the amount of private open space. At the very least, certainty would be better achieved if site coverage, height, length of walls on boundaries and setbacks were mandatory.

Continued reliance on discretionary controls which allow developers to achieve maximum site yield for minimal compliance with those standards, will continue to outrage the community and will not deliver the certainty that residents, developers, councils and the state government want.

The SOS submission quoted the government's own Review Advisory Committee as follows

'... that the Good Design Guide has become so tainted in the eyes of the community that it would not be a solution that would be accepted by the community at large.' (Part 1 p.84)

³ Save our Suburbs Inc. (5 March 2001). *Submission by Save our Suburbs inc to the Minister For Planning on the Rescode Advisory Committee's Report 20 December 2000*. Melbourne

Two simple hypothetical scenarios might assist this discussion.

- In the first scenario the planning code has an objective to respect local character and a mandatory requirement for a 6m setback of the building from the street frontage.
- In the second scenario the planning code has a performance objective to respect local character and a guideline that development should generally be setback 6m from the street frontage.

The developer makes an application for an apartment development in each scenario.

In the first scenario the development application includes a 6m frontage setback. If the application had included a 4m setback the planner would have explained they do not have discretion to vary the setback and the application would be refused. There would be no point in the developer appealing the decision because the development code is unambiguous.

In the second scenario the developer applies for an apartment development with a frontage setback of 4m in order to maximise yield and profit from the site. The developer provides an expert assessment from a qualified designer that the appropriate local character for this site is a 4m setback and there is at least one development in the area with a 4m setback which demonstrates the proposal is consistent with the local character. If the planner refuses the application the developer could choose to take the matter to a higher court to test the discretion.

Experienced planners know that over a year of decision making a proportion of decisions will favour the reduced 4m setback. These decisions set a precedent, increasing the number of subsequent decisions that allow a reduced setback. Over several years the local character changes and a reduced setback becomes the norm for new development.

However, returning to the first scenario where the 6m setback is mandatory. After 10 years the minimum frontage setback in the area is still 6m. The mandatory code has maintained a standard and the local character, in this sense, is unchanged. In contrast, and not intuitively, the discretionary code with the same objective and the same performance measure of 6m, has changed the character of the area.

Thomas Jefferson noted that a prerequisite of democracy is an informed electorate. The example given reframes the planning question for the electorate – do we want a discretionary development code where things can change over time or do we want a mandatory requirement which will lock future development into a particular form or standard?

The example given relates to local character but development controls also apply to science-based considerations such as energy efficiency, water efficiency, stormwater management, pollution. Discretionary development codes in these areas without clear assessment guidelines and minimum standards can erode planning requirements that should reflect best practice standards. Setting performance measures for stormwater management for example that can be reduced by discretion or traded off against other planning objectives could be actively dangerous for our communities and urban waterways. The argument for non-discretionary minimum standards should be considered in the light of the risks and the costs.

Policy practitioners could consider the following principles based on the well proven BASIX SEPP.

- Performance goals are important because we must be clear about what we are trying to achieve, what the objective is for all stakeholders.
- Minimum, quantifiable (not qualitative) measures reflecting best practice science and policy must be specified where the risks and costs of poor planning decisions justify protecting the public interest. Quantifiable measures also allow outcomes to be measured and assessed to see if the planning requirements are effective. These minimum standards are not flexible or discretionary.
- Provided minimum standards are met through an independent assessment tool there can be flexibility in the technology or materials or the building design in how the performance goal is met.
- If the standards do not permit some forms of innovation or alternative solutions; this should be addressed by the government changing the development code. New minimum standards should be proposed and tested.

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