

Submission

Department of Industry

Energy White Paper - Green Paper 2014

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Introduction

The NSW Irrigators' Council (NSWIC) represents more than 12,000 water access licence holders across NSW. These licence holders access regulated, unregulated and groundwater systems. Its Members include valley water user associations, food and fibre producers, irrigation infrastructure operators and commodity groups from the rice, cotton, dairy and horticultural industries.

This submission represents the views of the Members of NSWIC with respect to the Department of Industry's *Energy White Paper - Green Paper 2014*. However, each Member reserves its right to independent policy on issues that directly relate to their areas of operation, or expertise, or any other issues that they may deem relevant.

General Comments

The NSW Irrigators' Council (NSWIC) appreciates the opportunity to provide further input to the Department of Industry's Energy White Paper development. The Council will only comment on those sections of the Energy White Paper - Green Paper 2014 (Green Paper) that are of relevance to its Members.

Our submission will focus on energy, in the form of electricity, as a direct input in agricultural production.

Electricity has become a major input factor in irrigated agriculture as more irrigators have upgraded on-farm equipment to conserve water and remain competitive. These structural adjustments have led to productivity gains and water savings, however they have also caused irrigators' electricity use to rise. Greater use of electricity and a rise in associated charges have significantly impacted irrigators' profitability and have led to erosion of the viability of irrigated agriculture and financial hardship in some cases.

The trade-off between water efficiency and energy intensity is extremely difficult to reconcile in irrigation and as a consequence of the escalating electricity costs many irrigators have taken drastic measures (including locking off their pumps or converting back to diesel energy) and reverted back to low energy but water-intensive production methods. The impacts of this on irrigated enterprise efficiency and productivity are immense and continuously increasing - as irrigators continue to switch to low efficiency water use to avoid escalating electricity costs.

The Council calls for an urgent reform of the current electricity framework to ensure that future electricity prices are equitable and affordable for regional consumers. The Council is aware that there is no 'silver bullet' that is able to fix the regulatory framework, however coherent and constructive market reform and clear policy direction to constrain the impact of rising electricity costs on the irrigation sector would be a welcome first step. This policy directive must place the energy consumer at the centre of future energy reform and ensure that Australia's food and fibre continues to be competitive in world markets

Chapter 2 - Electricity Prices

Irrigators use electricity for food and fibre production, but there are minimal opportunities to modify the electricity consumption pattern, as it is dictated by crop water requirements and river management regulation (i.e. cease to pump regulations). Given the relative inflexible pattern of energy demand, electricity prices are generally an ineffective signal for irrigators to amend their electricity use. Therefore, the principal impact of rising electricity prices on irrigated agriculture is a reduction in profit margin and increased financial hardship. The Council believes there is a tipping point beyond which irrigators will not consider it financially viable to continue using their on-farm electricity pumping and pressurisation infrastructure. Those irrigators already switching off or limiting their use of electricity have reached that tipping point with detrimental consequences for their agricultural production and their rural communities.

In this context, NSWIC looks forward to the Federal Government's effort to improve the cost-effectiveness of electricity prices. Contrary to the Green Paper's suggestion that prices have increased by 50 per cent in the past four years as a result of network charges, irrigators in NSW have experienced total electricity cost increases of up to 300 per cent over the same time period. Such cost increases are unsustainable for food and fibre producers in NSW and urgent reform is needed.

The main driver of the escalating cost increases is the network charges. These charges make up between 55 and 65 per cent of an irrigator's electricity bill and are unavoidable in the use of electrical irrigation equipment on-farm or via irrigation scheme pumping costs passed on through scheme water supply charges. The Council believes there needs to be an urgent reform on the way distribution network service providers (DNSP) receive their regulated revenue and set their tariff structure.

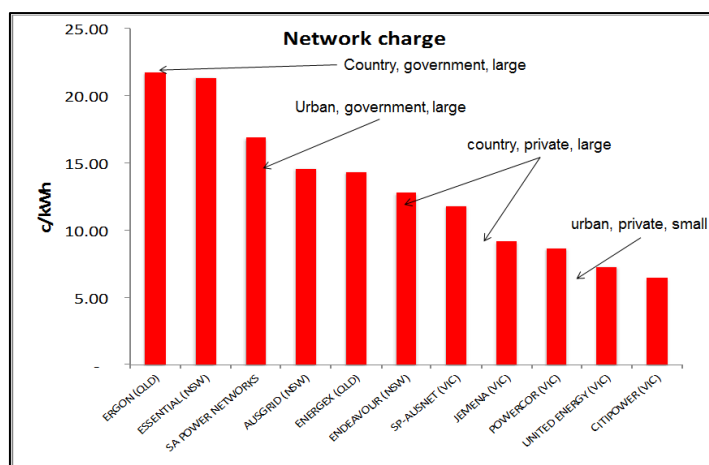
In addition, between 15 and 25 per cent of an irrigator's electricity costs arise from various State and Federal renewable energy charges. Through the abolition of the carbon tax, the Council would like to see tangible benefits passed through to customers in form of lower electricity bills. In addition, we would welcome a review and aggregation of the remaining renewable energy schemes to possibly take advantage of economies of scale and reduce administration costs.

Finally, the Council believes it will be important to provide more opportunities for irrigators to assess and improve their on-farm energy efficiency. NSWIC believes there is significant benefit in providing additional funding for energy efficiency training as it will assist irrigators to understand their own pattern of electricity use and assess management changes at enterprise level to potentially reduce their electricity consumption and costs.

We provide further comments to each of these points in the sections below.

Network Costs

There is a clear imbalance between network charges in regional and metropolitan areas in the National Electricity Market. The network charges for regional NSW and Queensland are around 30 per cent higher than those in urban areas in those states.



Carbon and Energy Markets 2013

The regional distribution network service provider for NSW - Essential Energy - maintains 1.4 million poles, 400 substations and 200,000 kilometres of power lines for 800,000 consumers. In comparison, Ausgrid, the principal urban network service provider, maintains 500,000 poles, 200 substations and 50,000 kilometers of power lines for 1.6 million consumers in the Sydney, Hunter and Central Coast area.

The difference in scale of the operation clearly shows that the cost pressure on Essential Energy's customers is significantly higher than on Ausgrid's customers. In addition, it also highlights the importance of maintaining an adequate customer base for Essential Energy to ensure that the business continues to receive a revenue to allow it to operate effectively. Should cost pressures from the network become too high, there is a possibility that customers will be unable to pay their electricity costs and therefore choose to 'switch off'. Such an outcome would be detrimental, not only by limiting NSW's irrigated food and fibre production but also for Essential Energy who will be left with a large number of stranded assets. The immediate consequence for irrigators of greater numbers of consumers switching off the network will be accelerating power costs as Essential Energy will continue to recover its regulated revenue through the revenue cap set by the AER.

NSWIC points to an inherent conflict between the escalation in network charges and the objectives of the National Electricity Rule:

"The National Electricity Objective is to promote efficient investment in, and efficient operation and use of, electricity services for the long-term interest of consumers of electricity with respect to price, quality, reliability, and security of supply of electricity, and the reliability, safety and security of the national electricity system."¹

NSWIC does not believe that the previous price increases (and potential for future price increases) have promoted efficient investment in electricity services or benefited consumers in the long term. To the contrary, the continuous upward price pressure

¹ <http://www.aemc.gov.au/Energy-Rules/National-electricity-rules>

resulting from network charges have caused financial hardship and inequitable outcomes for regional electricity users.

We also strongly disagree with the Green Paper's assertion that 'the recent determinations have pointed towards network costs being less of a cause for price increases²'. It is clearly apparent that network costs are the single most important driver of electricity costs for irrigators in NSW and constitute a severe financial obstacle to irrigated food and fibre production in the state.

As we have outlined in our submission to the Australian Energy Regulator on Essential Energy's pricing proposal, the Council is concerned about Essential Energy's proposed revenue requirement for the next regulatory control period (2014-19). It appears that, despite a reduction in overall electricity demand and an increase in efficiency (both operational and in their corporate overheads), Essential Energy is asking for an increase in its overall revenue requirement by \$0.7 billion over the regulatory control period.

NSWIC considers such a request to be unacceptable, especially since policy makers and customers have continuously asked for a relief from escalating electricity prices. NSWIC stresses that current levels of network charges are already too high and have already had a significant impact on food and fibre production in the state. Further increases in network charges can only exacerbate this problem.

The Council requested that the Australian Energy Regulator (AER) closely scrutinizes Essential Energy's revenue proposal, including the amounts of operating and capital expenditure and rate of return. NSWIC holds deep concerns about the scale of Essential Energy's revenue proposal and questions the very high rate of return that Essential Energy has requested in its proposal. The rate of return is of particular concern as it not only represents a return for the NSW Government (as the owner of the NSW DNSPs) but it also crucially impacts on the level of future network prices. Network charges will not only depend on Essential Energy's future capital and operating expenditure but also on the rate of return that the AER allows Essential Energy to recover from its regulated asset base, which is not only extensive but given the recent reduction in electricity consumption, is also not necessarily efficient.

The Council would also like to highlight that the revenue requirement for Essential Energy is set for a five year period and even with consumers now modifying their pattern of energy consumption in regional NSW, the networks will continue to recover the same revenue over the period.

With a refocus of the Green Paper on electricity consumers, the Council believes that the Federal Government must take a stake in more effectively managing network charges and equip the Australian Energy Regulator (AER) with the responsibilities, resources and expertise to enable it to fully scrutinize the networks' pricing proposal.

This step is necessary to enable the AER to adequately undertake the following importance regulatory functions:

- **Thoroughly scrutinize Essential Energy's overall revenue requirement, OPEX, CAPEX and rate of return to ensure that customers are only paying network charges that reflect the true and efficient cost of Essential Energy's operation.**

² Energy Green Paper, p.32

- **Thoroughly assess Essential Energy business cases on OPEX and CAPEX proposals in order to only approve projects that are cost effective and efficient.**
- **Drive further efficiency savings and demand management savings from the networks.**
- **Evaluate and veto any reassignment of customers to different tariff classes without adequate customer consultation.**

To reiterate, NSWIC continues to be deeply concerned about Essential Energy's revenue proposal and believes that it should not be accepted by the Australian Energy Regulator in its current form.

Increase the range of tariff choices

NSWIC acknowledges that through the 2012 *Power of Choice* review, the Australian Energy Market Commission (AEMC) is working on a number of reforms and rule changes relevant to the NSW electricity framework.

While we have supported the AEMC's work on improving customer access to information on their electricity use, we have raised concerns about the draft rule change on distribution network tariff arrangements. In particular, we are concerned that the proposed move towards *cost reflective tariffs* could lead to significant increases in network costs for regional customers.

As the AEMC draft rule proposal states:

*"Each network tariff should reflect the efficient cost of providing services to consumers assigned to the tariff."*³

It is the Council's understanding that this recommendation is a direct consequence of the Power of Choice review which found that 'consumers are often not faced with electricity network tariffs that accurately reflect the variability of the cost of supplying and delivering electricity'⁴. As such, the AEMC has suggested that the distribution network service providers (DNSP) should charge according to the 'service' that they provide to customers.

It must be noted that the 'services' which the DNSPs provide to irrigators in regional NSW usually carry a significant cost due to the remoteness and the low customer density. Due to these conditions, NSWIC is concerned that the proposed AEMC rule change could lead to significant increases in the network charges for irrigators who are already struggling with rising network costs.

³ AEMC, Draft Rule Determination on Distribution Network Pricing Arrangements, p.v

⁴ Green Paper, p.28

This vulnerability of irrigators was also acknowledged in the Green Paper:

"Some consumers are not in a position to change their electricity consumption patterns in response to price signals. Other examples reflect personal or business needs (...) agricultural businesses such as irrigators where the time of electricity use is not flexible. Both the pattern of daily use and overall use will affect the cost implications of cost-reflective tariffs on such consumers⁵.

As detailed earlier in this submission irrigators electricity use is driven by crop water requirements and pumping regulation (such as cease to pump rules). Such 'external' constraints are of importance as electricity use can often not be altered in irrigation (despite of the price signals).

Given the inflexibility of irrigators' energy use, the Council questions the follow statement in the Energy Green Paper:

"If retail prices reflected the cost of wholesale electricity and network costs at the time of use, consumers would likely change their pattern of use in response to these price signals. Providing price signals to transfer energy use from high cost peak demand periods to lower cost off-peak periods also minimises the need for investment in extra network capacity."⁶

The Council is not convinced that 'adequate' price signals will be sufficient to change all classes of consumer electricity use behaviour, particularly as irrigators often have no option but to use electricity at times of high water requirement. The Council believes that an important component will be to change the incentive structure for the DNSPs to ensure that there is more effort put into alternative demand management strategies that would mitigate the need for further physical infrastructure investment and hence constrain costs.

If the AEMC rule change proposal passes in its current form, the Council believes that the cost implications could be detrimental for irrigated agricultural producers who will find it increasingly difficult to service these electricity costs. As the recently released Ernst and Young study⁷ outlined, 78 per cent of those customers who are late in paying their electricity bills are located in regional areas. As such, any further price increases could be devastating for these communities.

There is a severe risk that many irrigators will find that the increasing cost of electricity renders their operation financial unviable with the effect that they will be forced to 'switch off' or go 'off grid'. Both results would be detrimental for both irrigators and the distribution network service providers (DNSP) as both would be left with a shrinking revenue and an increasing number of stranded assets.

The Council does not see how the AEMC rule change proposal would lead to a sustainable outcome for NSW DNSPs or regional NSW customers. To ensure a sustainable outcome, the rule change should incorporate incentives for DNSPs to design future tariffs and charges in ways that won't discourage irrigators from adopting new

⁵ Energy White Paper (Green Paper) p.30

⁶ Australian Energy Market Commission, Draft Rule Determination on Distribution Network Pricing Arrangements, p.27

⁷ <http://www.ey.com/AU/en/Newsroom/News-releases/EY-a-third-of-australians-have-missed-electricity-bill-payments>

technologies or striving for greater efficiencies and that won't render their businesses unsustainable⁸.

It must be remembered that irrigators are utilising electricity for food and fibre production. Through their activities they are a major contributor to Australia's GDP and a major source of employment for regional Australia. As such, their electricity use should be evaluated in a broader context of irrigators' contribution to the Australian economy.

NSWIC urges the Federal Government to take action to modify this rule change proposal to ensure that the Federal Government's commitment to 'a fair share of the costs of the poles and wires' does not lead to unsustainable outcomes for regional NSW.

In the view of the Council such a 'fair outcome' could be achieved through a Regional Australian Community Service Obligation (CSO) that addresses the inequitable cost burden of providing electricity to regional Australia compared to urban and semi-urban Australia. A CSO would provide the benefit of providing support for regional Australian communities, prevent the crippling of irrigated food and fibre production and mitigate the 'death spiral' electricity cost impacts in regional Australia. Such an approach would shift what is currently an opaque subsidisation between regions and consumer classes to a transparent budget expense that could be reviewed annually by Parliament.

In addition, the Council supports the Green Paper's suggestions on innovative tariffs and better consumer engagement⁹. However we stress that such innovation will only be possible if the mentality in the DNSPs change from just building and refurbishing existing network assets towards better demand management solutions that have the ability to adjust adequately to consumers' behavioural changes.

However, NSWIC points out that the current regulatory framework for setting network tariff is inadequate and inflexible as the Australian Energy Regulator currently has insufficient jurisdiction to scrutinize DNSPs network tariffs. This is a serious shortcoming in regulatory oversight of the cost drivers of electricity prices, and should be resolved by the Government.

The Council maintains that future network tariffs must be efficient, however based on a cost consideration for regional Australia, and be flexible enough to recognise that some consumers are constraint by factors outside their control. Current network tariffs available to irrigators do not encourage an efficient use of the system. By incorporating flexibility and greater equity in future tariff setting we expect that the new framework would provide some real incentives for irrigators to amend their usage patterns (across peak, shoulder and off-peak pricing) where flexibility in tailoring power demand exists and recognise and reward users for accessing the network in off-peak periods.

Therefore, NSWIC requests that the Federal Government ensures that future network tariffs adhere to the following design principles:

- **There should be a positive correlation between network tariff charges and the electricity usage pattern of irrigators.**
- **Tariff structure should not discourage irrigators from participating in national and state water use efficiency and land care programs.**

⁸ http://www.nswic.org.au/pdf/policy_documents/130308%20-%20Energy%20Policy.pdf

⁹ Green Paper, p.26

- **Tariffs should not discourage irrigators from utilising technologies and infrastructure that contribute to the national goal of increased food and fibre production.**
 - **Tariffs must allow for an efficient use of electricity related equipment on farms.**
 - **Tariffs must allow for optimal water application that best achieves optimum plant growth.**
- **The tariffs must avoid perverse pricing outcomes, where irrigators are penalised for using the network to irrigate based on the need of the crop, the weather or irrigation licence conditions.**

Reliability standards should reflect consumer expectations

NSWIC agrees with the Green Paper that unnecessary high reliability standards may encourage inefficient investment in networks¹⁰. However, it must be noted that reliability continues to be an important issue for some regional customers, including irrigators. Irrigators often require electricity for their production process at specific times (for pumping or cooling) and therefore have a highly inelastic demand. Due to this inelastic demand and the lack of electricity supply reliability in some regions, irrigators have often installed addition backup generation (in the form of diesel) to ensure their energy supply is secured.

The lack of reliability in some regional areas is also identified in the Green Paper:

"Customers in regional and remote areas have different issues to those located in major cities and towns. Despite recent network upgrades to replace ageing infrastructure and improve reliability, many regional areas still have limitations on the reliable supply of electricity. (...) Limited supply and low reliability can restrict the economic potential of some regional and remote areas located on the fringe of the grid."¹¹

Despite the limited reliability in regional and remote areas, it must be emphasised that customers in those regions are already paying a significantly cost for their electricity supply. However, despite this significant cost burden, many irrigators are forced to install backup generation in case of power outages, effectively incurring even greater costs. This example shows clearly that regional network customers are significantly disadvantaged to their metropolitan counterparts. As such, the NSWIC reiterates its request for a regional community service obligation to assist with the significant cost burden.

However as not every irrigator has the same reliability requirements, the Council does support greater consultation with customers on their reliability needs to ensure that adequate reliability is established and there is no wastage or investment in overcapacity.

The suggested establishment of a COAG Energy Council to provide for effective consumer advocacy would also be supported by Council. NSWIC would like to register its interest in being part of the Council.

¹⁰ Green Paper, p.27

¹¹ Green Paper, p.31

Rationalise emissions reduction schemes

NSWIC concurs with the Green Paper's comment that the *"emission reduction actions have been poorly targeted and added to the cost of electricity"*. The Council has outlined its views in its previous submission to the Emission Reduction Fund¹².

In summary, agriculture (including irrigation) is a significant contributor to overall emission output, and hence future emission abatement projects are of direct interest to NSWIC's Members.

Irrigated agriculture contributes to Australia's overall emission in a direct and indirect way. A direct form of emission outputs arise from nitrogen use, tillage and soil conservation as well as methane management. An indirect form of emission output comes from the use of energy (electricity and diesel) for on-farm irrigation equipment. Whilst opportunities for emission abatement exist for both outputs of emissions, NSWIC is particularly concerned about irrigated agriculture's indirect emission through the use of electricity and diesel as part of food and fibre production.

While NSWIC believes that there are many possible abatement opportunities in irrigated agriculture¹³, we do not believe that food and fibre producers will be able to compete for funding under the Emission Reduction Fund (ERF). Emission abatement projects in irrigated agriculture can be expensive and hence not likely to pass the Emission Reduction Fund's primary principle of 'lowest cost emission'. In particular, based on the emission reduction target of 431 MT/CO₂e by 2020 and the funding of \$2 billion until 2020, NSWIC is doubtful that irrigators will have the opportunity to participate in the ERF.

Even though many emission abatement projects are possible in irrigated agriculture, it is unlikely that they will be implemented without additional external funding. The costs of implementing most emission abatement projects are often too high for individual irrigators, in particular given the costs of recent structural adjustment on farm and escalating input costs which are severely constraining irrigators' investment capacity in NSW.

Given the importance of irrigated agriculture to the Australian economy and the multiple opportunities for emission abatement projects, we believe that further work must be done to provide opportunities for irrigated agricultural producers to successfully bid for funding for emission abatement programs.

The current eligibility criteria under the ERF are too restrictive and will not allow irrigated agriculture to contribute to the Federal Government's emission reduction target. In addition, it will also prevent irrigators from undertaking vital energy efficiency measures and productivity improvements which will be crucial for the sector to remain competitive and viable. We urge the Federal Government to support measures for on-farm energy efficiency and encourage irrigators to take direct action to reduce their emissions.

¹² NSWIC full submission to the Emission Reduction Fund is available on our website.

¹³ Please refer to the section on energy efficiency opportunities

NSWIC has therefore made the following recommendations to the Emission Reduction Fund (Green Paper):

- 1. The Emission Reduction Fund must be designed to enable irrigators to competitively bid for funding under the scheme in order to undertake emission abatement and energy efficiency projects.**
- 2. The Emission Reduction Fund must provide funding for energy efficiency education campaigns that will assist irrigators in identifying opportunities to improve on-farm energy efficiency and productivity. As such, rebates must be provided for on-farm energy efficiency audits and further upgrades to irrigation equipment.**
- 3. The Emission Reduction Fund must support active demand-side management from both irrigators and electricity providers (i.e. network service providers). This will have the dual benefit of increasing farm profitability and competitiveness by offsetting rising electricity costs and reducing emissions.**
- 4. The Emission Reduction Fund must develop a whole-of-farm activity emissions reduction methodology which includes energy efficiency, nitrogen use, tillage, soil conservation and methane management.**
- 5. The Emission Reduction Fund must provide funding for research, development and deployment to continue outreach and extension programs.**

As the Council has outlined earlier in this submission, there could be merit in streamlining and consolidating various energy efficiency regimes to enable benefits from scale economies and also reduce administrative burdens.

Remove unnecessary regulation and encourage privatisation

In line with NSWIC's Energy Policy, the Council strongly supports a simpler and more transparent electricity regulatory framework. The Council believes that future electricity regulation must have a clearly defined objective, address all aspects of the current electricity supply sector and allow one regulator to assess the efficiency and effectiveness of any proposed charges and tariffs that are levied on customers.

The Council believes that the current regulatory framework is too complex and hence prevents customers from engaging and responding to the reviews and determinations. Most customers are not aware who is responsible for which part of the electricity network and are therefore unable to effectively respond to Government over the impacts of rising costs. We would welcome it if the Green Paper, and ultimately the Energy White Paper, assist in creating a framework that is more transparent, competitive and clearly delineates the functions and responsibilities of electricity supply in NSW.

Should this require amendments to the Competition and Consumer Act 2002 (as is suggested in the Green Paper), the Council would be supportive of this development. However, we reiterate that the regulations that require urgent reform are those governing the setting of DNSPs revenue and tariffs. The Council believes that the current regulatory framework is inadequate and provides too many avenues for DNSPs to unreasonably inflate costs and hide inefficiencies.

The current 20,000 page proposal that the NSW DNSPs have submitted to the Australian Energy Regulator (AER) asserts that the DNSPs require a further \$0.7 billion dollar over the next regulatory period to provide 'safe and reliable' network services. The Council cannot see how such a significant revenue increase (despite falling electricity demand) is justified. While NSWIC has voiced its concern in this regard, it is not clear to the Council whether the AER has sufficient resources to adequately assess and scrutinize Essential Energy's proposal. We believe it is of importance that the AER is provided with adequate resources and time to fully analyse the proposal so that the regulator is not forced into accepting a revenue proposal due to insufficient staff numbers or time limits.

Asset Recycling Initiative

The revenue proposal by the NSW DNSPs is also of relevance for the Asset Recycling Initiative that is mentioned in the Green Paper. As far as NSWIC understands, the NSW Government is currently not considering the sale of NSW regional network service provider (Essential Energy) but the principle underlying the incentive payment still remains a concern to Council.

While NSWIC does not object to the goal of redirecting funds to productive infrastructure, we are concerned about the incentive payments as they could create perverse outcomes and result in conflict of interest issues with State Governments. If the incentive payment, as is suggested in the Green Paper, is a proportion of the value of the asset, then it could be an incentive for the State government to 'inflate' the asset value of the DNSP in order to increase the amount of incentive payments. Such an inflated asset base (and the return that the DNSPs currently receive on this asset base) will be passed onto consumers in the form of higher charges. However, the asset base could be (and likely is) already higher than necessary. To 'divest' such an inflated asset base will be time consuming and expensive. It will be far better to ensure that the asset base is not overvalued in the first instance.

In addition, as the due date for the incentive payments is in 2019 (the year where the next determination of the DNSPs overall revenue will take place), NSWIC suspects that the NSW State Government may consider postponing the privatisation until the end of the current regulatory period to ensure that the asset base is at its highest value (during the determination). This is supported by the current proposal by the DNSPs which suggests a continuous growth in the asset base over the current regulatory period. The Council believes that this could lead to perverse outcomes for customers and a significant and unnecessary cost burden for the taxpayers.

NSWIC strongly urges the Federal Government to consider the terms of sale for the privatisation of the DNSPs to ensure that customers are not significantly disadvantaged and forced to pay the bill for an asset value inflated network.

For that reason, NSWIC strongly recommends that:

the 'incentive payments' for the Asset Recycling Initiative are amended to fixed the amount that State Governments can receive under the Scheme.

Chapter 4 - Security, innovation and energy productivity

According to the Green Paper, the Federal Government is committed to a broad range of energy sources and technologies. While the Council understands that such a policy goal is often encouraged by financial incentive payments, it will be important that these incentives do not lead to unintended consequences.

As the uptake of solar PV units has shown, the Federal Government's demand estimates were too low and the feed-in tariffs too high which created an excess demand for solar PV units. In addition to the unexpected demand and the generous incentive payments, the AEMC has shown that the cross-subsidies from consumers without solar PV to consumers with solar PV is substantial¹⁴. Furthermore, the cost of feeding solar generated energy back into the system is also only partially paid by those who have installed solar PV units. These arguments show that a well intended policy initiative has created significant distortions in the market and led to unintended cost implications for third parties.

The Council therefore urges caution to 'champion' any particular energy source (including renewable) unless it is fully aware of the consequences. NSWIC emphasises this point due to the Green Paper's comment on the importance of 'renewable energy sources' in regional and remote areas. While the Council understands that such renewable energy sources could be beneficial for some, it is important to consider the impact on other customers who remain 'on the grid'. As we have outlined previously in this submission, the low density in Essential Energy's network provides a challenge for the future renewable and non-renewable energy mix in regional NSW.

An approach to renewable energy sources must therefore be holistic and take into account the possible impacts on third parties.

Improve the efficiency of electricity use

NSWIC agrees that the management of peak demand is a critical issue for future electricity supply in NSW, in particular since the decline in average electricity consumption. It appears that many households have investigated opportunities to increase their energy efficiency and have amended their electricity use.

In contrast, irrigators have not yet embarked on wide scale energy efficiency investigation as their main focus has been on water efficiency. The modification to on-farm irrigation equipment have resulted in substantial water savings, however not all of the installations and systems are necessarily 'fit-for-purpose' in terms of optimum electricity use. For example, some of the irrigation pumps are too large for their intended use and hence draw electricity inefficiently.

To investigate the energy efficiency of irrigators in NSW, NSWIC and its Member, Cotton Australia, have paired with the NSW Office of Environment and Heritage (OEH) to conduct a energy efficiency pilot project with irrigators in NSW. The main funding partner for the audits is OEH and a capped financial contribution is made by pilot project participants.

The pilot project consists of 11 energy investigation (level 2 energy audits) on irrigation farms in NSW. The investigations will assess the energy efficiency of irrigation equipment

¹⁴ AEMC Draft Determination, Distribution Network Pricing Arrangements, page iii

and analyse the design specifications of the installed piping/pump systems to ensure that it is efficient.

The Council is hoping to complete the pilot by early 2015, however initial estimates already point to significant possible savings. Preliminary estimates suggest that savings in the magnitude of \$1 million per year could be achievable across all pilot participants.

In addition, the Council will use the learnings from the pilot project to conduct three training workshops with irrigators in regional NSW in 2015 to assist them in identifying their own energy efficiency on farm and provide recommendations on how to improve their systems and operations.

The Council believes there is value in expanding the energy efficiency education campaign, including the on-farm audits. We would welcome the further financial support for such a program and would be delighted to discuss any opportunities further.

Technology collaboration

NSWIC welcomes the Australian Government's commitment to further research on cost effective energy technology that could assist irrigators in aligning water and energy efficiency. While the Council is yet to be convinced that cost effective alternative energy opportunities are available at this point, we would welcome further research and development in this regard.

However, the Council would like to see more targeted research that ultimately assists the irrigation industry to increase its productivity and contributes to Australian GDP and regional employment. In order to target such research and achieve tangible results, NSWIC strongly recommends that the research project is led through direct industry participation (in collaboration with both government departments and research institutions). NSWIC's collaborative agreement with Cotton Australia and the Office of Environment and Heritage is an excellent example where research funding, industry knowledge and networking can achieve excellent and tangible results.

Conclusion

While the Energy Green Paper outlines a range of positive policy initiatives and programs, the Council would like to see greater focus on the consumers of energy and a strategy that will ensure that future energy will be affordable and reliable in regional Australia. In this context, the Council stresses that the timing of the current policy and rule change proposal must be considered to achieve a sustainable, efficient and cost effective outcome for electricity supply for irrigators and other electricity consumers.

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