



Office of the National Wind Farm Commissioner

Annual Report

to the Parliament of Australia

ANNUAL REPORT

Year Ending: 31 December 2017

Date of Report: 31 March 2018



Office of the National Wind Farm Commissioner

31 March 2018

The Hon Josh Frydenberg MP
Minister for the Environment and Energy
Parliament House
CANBERRA ACT 2600

Dear Minister

Re: 2017 Annual Report by the Office of the National Wind Farm Commissioner

Pursuant to the National Wind Farm Commissioner's Terms of Reference, I am pleased to provide the 2017 Annual Report to the Australian Parliament on the activities of the Office of the National Wind Farm Commissioner.

The Report covers the Office's activities for the period of 1 January 2017 through to 31 December 2017. The Report also includes a number of observations about the governance, development and operation of wind farm projects along with preliminary recommendations for consideration.

I look forward to discussing the Report with stakeholders in due course.

Sincerely

A handwritten signature in black ink, appearing to read 'Andrew Dyer'.

Andrew Dyer
National Wind Farm Commissioner

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COMMISSIONER'S REVIEW

Introduction

The Office of the National Wind Farm Commissioner is pleased to deliver the Commissioner's second annual report to the Federal Parliament, which covers the Office's activities for the period of 1 January 2017 through to 31 December 2017.

The Commissioner's appointment was announced on 9 October 2015 by the then Minister for the Environment, the Hon Greg Hunt MP. The Commissioner commenced the role in November 2015.

The Commissioner's key roles are to:

- facilitate the referral of complaints from concerned residents to respondents about operating or proposed wind farms by providing a voluntary process for complaint resolution
- identify and promote best practices relating to the planning, development and operation of wind farms, including practices related to wind farm compliance and standards, complaint handling and community engagement, and
- provide and encourage improved transparency regarding wind farm activities in Australia.

There are no formal powers associated with the Commissioner's role. The Commissioner relies on effective relationships and the goodwill of a wide array of stakeholders to facilitate the complaints handling process as well as assist in the identification and adoption of best practices recommendations.

The Commissioner is independent and reports directly to the Minister for the Environment and Energy.

The Commissioner's Terms of Reference is included in [Appendix A](#).

The Year in Review

2017 has been an active year for the Office of the National Wind Farm Commissioner, with a number of major wind farm announcements, development approvals, acquisitions and construction works underway across Australia. According to the latest figures released by Clean Energy Council, there are now at least 52 renewable energy projects that are under construction, committed or have been completed since the beginning of 2017, delivering 5206 MW of energy capacity and more than \$10 billion in investment. Of this, large-scale wind energy projects have contributed to a capacity of 2949 MW and more than \$6 billion in investment.

By the end of 2017, there were 13 wind farms under construction and at least another four wind farm projects with financial commitment that are expected to commence construction in 2018. Further, a large number of proposed wind farm projects that have been in the pipeline for a number of years are now starting to progress, with many projects that were in the 'feasibility stage' being re-investigated and revised. There have also been a large number of projects requesting and receiving permit modification approvals to allow the deployment of newer and larger turbines – often resulting in community members raising new concerns with the Commissioner.

During the year, the Office has continued to progress the resolution and closure of complaints. These activities included the provision and clarification of information to concerned residents in relation to wind farm projects – through to facilitation of meetings between residents and wind farm proponents to progress resolution to more complex issues. While the Office's complaint handling process is a voluntary process – the Office does not have the power to compel parties to respond to a complaint – both industry and government continue to embrace the Commissioner's role and have been cooperative in engaging with both the Office and complainants.

The Office has received a total of 73 new complaints about wind farms during 2017, with a total of 163 complaints received for the period from the Office's inception up to 31 December 2017. For the period of 1 January 2017 to 31 December 2017, 78 complaints were closed. Of those 78 complaints that were closed in 2017, 20 of those complaints were lodged prior to 1 January 2017. As at 31 December 2017, there were 18 open complaints.

Another key priority for the Commissioner during 2017 was to continue engaging with an increasing number and diversity of stakeholders. Since commencing the role, the Commissioner has met with over 900 stakeholders, including representatives from community groups, industry, experts along with local, state and federal government departments and agencies. Specific details and further information on the Office's stakeholder engagement activities are discussed on pages 17-21 of this report.

On 31 March 2017, the 2016 Annual Report was submitted to the Minister for the Environment and Energy and subsequently tabled with the Australian Parliament. The report included a number of key observations and preliminary recommendations for consideration by various stakeholders. Following publication of the report, the Office has consulted widely and received considerable positive and constructive feedback from stakeholders. Much of this feedback has been considered in preparing and revising the observations and recommendations, detailed later in this 2017 report.

Throughout 2017, the Office has commenced a range of initiatives in-line with the 2016 Annual Report recommendations. In promoting the adoption of these improvements and reforms, the Office has continued to build effective working relationships with key stakeholders, allowing the Commissioner to provide valuable insights for their consideration.

Finally, the Office also continues to maintain and update the Commissioner's website to fulfil its role as an easily accessible, independent and transparent source of information about wind farms. The website provides links to a variety of information about wind farms and the wind energy industry, including information on wind energy generation, health, emergency management, planning authorities and compliance contact details. The website also provides a wide range of information about the Office's activities and includes links to the Commissioner's presentations, bulletins and other publications including the 2016 Annual Report. The website can be found at www.nwfc.gov.au.

The Year Ahead

Wind farm activity in Australia has increased significantly in recent times and there has been a surge in permit approvals and wind farm construction in the last twelve months across Australia – after a period of relative inactivity in the industry. Further, with the announcement of programs such as the Victorian Renewable Energy Target scheme and the maturing of the Federal Renewable Energy Target scheme, the Commissioner anticipates an intensive period of new wind farm permitting, construction, commissioning, testing and operational activity in the 2018-2020 period.

In 2018, the Office will continue to focus on promoting the adoption of a range of improvements and reforms within the industry and governing bodies. The Office will also continue to play an important role in complaint referral and facilitation for community members – both for existing complaints that are in progress as well as new complaints received.

In 2018, the Office will also focus on:

- assisting industry to further improve its effectiveness in complaint handling and proactive community engagement
- working with a variety of stakeholders to consult on the Commissioner's updated



recommendations contained in this report and seeking adoption of these recommendations where practical

- championing a range of broader reforms, as detailed later in this report, and
- updating the Commissioner's website with further information to improve transparency of the wind farm industry and its governance.

The initial term of the Office concludes on 31 October 2018. Consistent with the Commissioner's Terms of Reference, the Australian Government will undertake a review of the Commissioner's role during the first half of 2018. The Commissioner looks forward to participating in the review and to its recommendations. The Office understand the review will include opportunities for stakeholders to contribute their views on the effectiveness of the Commissioner's role.



Andrew Dyer
National Wind Farm Commissioner

OVERVIEW

What We Do

Established for an initial period of three years, the National Wind Farm Commissioner is an independent role. The role's creation was initiated by Recommendation 5 of the 2015 Senate Committee on Wind Turbines Interim Report, which stated:

*'The Committee recommends that the Commonwealth Government establish a **National Wind Farm Ombudsman** to handle complaints from concerned community residents about the operations of wind turbine facilities accredited to receive renewable energy certificates. The Ombudsman will be a one-stop-shop to refer complaints to relevant state authorities and help ensure that complaints are satisfactorily addressed.'*

The Commissioner is guided by the Terms of Reference issued by the then Minister for the Environment in October 2015, and revised in May 2016 (see [Appendix A](#)).

A primary function of the Commissioner's Office is to receive and refer complaints from concerned community members about operating and proposed wind farms and, via a voluntary process, help facilitate resolutions where practical. Information relating to our complaint handling activities are detailed in this report.

The Office also identifies opportunities for improvement in the wind energy sector and actively promotes the adoption of best practices through engagement with relevant stakeholders, external presentations and information provided on our website.

The Office also continues to improve information transparency and accessibility in relation to the wind industry by providing independent information and resources on our website as well as encouraging improved transparency of relevant information by industry and government.

Who We Are

The Commissioner is supported by a small team provided by the Department of the Environment and Energy which comprises an Executive Officer, a part-time Complaints Manager and an Administrative Assistant.

Office Location

The Office of the National Wind Farm Commissioner is located in the Melbourne central business district. The Office can be contacted by toll-free telephone on 1800 656 395, email nwfc@environment.gov.au or by post at PO Box 24434 Melbourne Victoria 3001. The Office regularly conducts meetings with community members and other stakeholders at these premises. Appointments can be made by contacting the Office.

COMPLAINT MANAGEMENT

Complaint Management Process

A primary function of the Commissioner's role is to receive and refer complaints to the relevant respondent. As many of the complaints received are complex and can take time to research and resolve, our Office's complaint management process has been designed to help ensure that the Office continues to function effectively and each complaint received is recorded and managed appropriately.

It should also be noted that our system and procedures treat a complaint from a residence as **one** complaint. The complaint may contain a number of issues and may involve a large volume of correspondence with our Office over long periods of time. Our Office will record ongoing correspondence in the complainant's file as further information about that complaint. If the complainant lodges a complaint about a substantive new issue or a different wind farm facility, a new complaint may be established and recorded by our Office.

Complaints Handling Policy

The Office's Complaints Handling Policy and associated Information Handling Policy are available on our website and provided in Appendix B and Appendix C of this report. The core principles that guide the handling of complaints, as outlined in these policies, state that:

- the Office is independent
- the Office will use best efforts to assist the parties to find acceptable outcomes and reach agreement on a way forward
- the Office will assist parties to share fact and evidence based information relevant to a complaint so that they can work towards an outcome
- the Office will always act impartially and ethically
- the Office expect that the parties involved in a matter brought to the Commissioner will act with integrity and respect, and be genuinely seeking an outcome to the issues raised
- the Commissioner's complaint handling procedure is a voluntary process.

The Complaints Handling Policy outlines the Office procedure for receiving and handling complaints. Complaints initially received by the Office are classified as an 'enquiry' and may be formally 'accepted' and progressed by the Office once sufficient information, including written consent to share information, has been provided by the complainant.

In accordance with the policy, the Commissioner may conclude that the complaint would be best responded to directly by another party such as the wind farm developer, wind farm operator or a state or local government department or agency. The Commissioner refers complaints to the relevant party and may assist in facilitating meetings to identify resolutions where appropriate. The Commissioner may also seek to conciliate the complaint between a complainant and the other party through a meeting or series of meetings. The Commissioner has the discretion to close a complaint at any time and common reasons for closure of a complaint are detailed in Sections 26, 27 and 28 of the Policy.

The Office is also guided by the Information Handling Policy when handling complaints received by the Office. This policy outlines what information the Office collects, how this information may be disclosed as well as information on confidentiality and privacy. This policy is available on the Office's website at www.nwfc.gov.au.

Complaint Activity

From the period of 1 January 2017 to 31 December 2017, the Office received a total of 73 complaints. The breakdown of the complaints received are as follows:

- 11 complaints were received relating to five operating wind farms
- 54 complaints were received relating to 19 proposed wind farms
- Eight complaints were received that did not specify a particular wind farm.

From the Office's inception through to 31 December 2017 (a period of 26 months), the Office received a total of 163 complaints. In summary, for the period 1 November 2015 through 31 December 2017, the Office had received:

- 57 complaints relating to nine operating wind farms
- 96 complaints relating to 29 proposed wind farms
- 10 complaints that did not specify a wind farm.

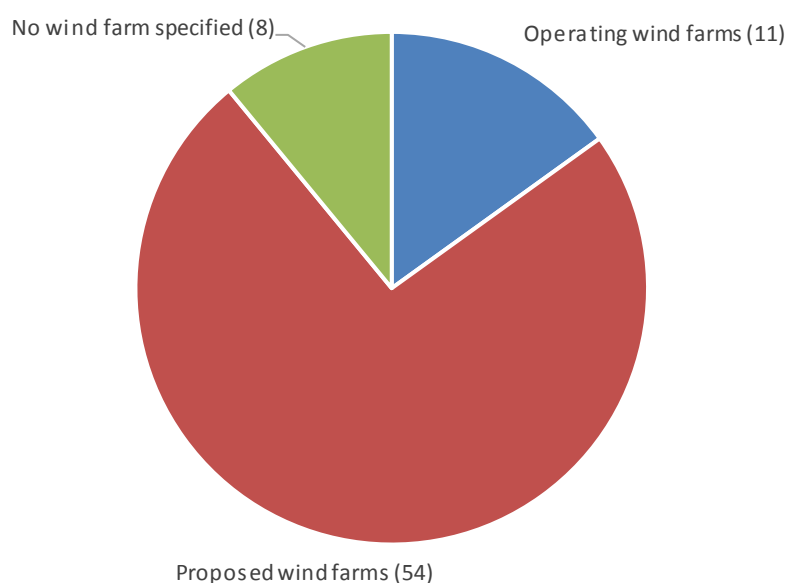
As at 31 December 2017, of the total of 163 complaints received since inception, 145 of those complaints had been closed by the Office. The remaining 18 matters are at various stages of the complaint handling process.

Further information on these complaints is outlined below.

Proposed Wind Farms versus Operating Wind Farms

Figure 1 below provides information on the number of complaints the Office has received in relation to proposed and operating wind farms for the period of 1 January 2017 to 31 December 2017. Proposed wind farms are those which are at either the planning stage, have been approved by a state planning authority or are under construction – but not yet operating.

Figure 1: Wind Farm Complaints by Development Stage in 2017
(by number of complaints)



Operating Wind Farms – Complaints in 2017

From the period of 1 January 2017 to 31 December 2017, the Office received 11 complaints in relation to five operating wind farms. As at 31 December 2017, eight of these complaints were recorded as closed. Figures 2 and 3 below provides information on the location of all complaints relating to operating wind farms from the period of 1 January 2017 to 31 December 2017 – note that complaints were also received about these five wind farms in 2016. Figures 4 and 5 provide data on location of all complaints relating to operating wind farms from the period of the Office's inception up until 31 December 2017.

Figure 2: Operating Wind Farm Complaints in 2017 - Wind Farm Locations (by number of complaints)

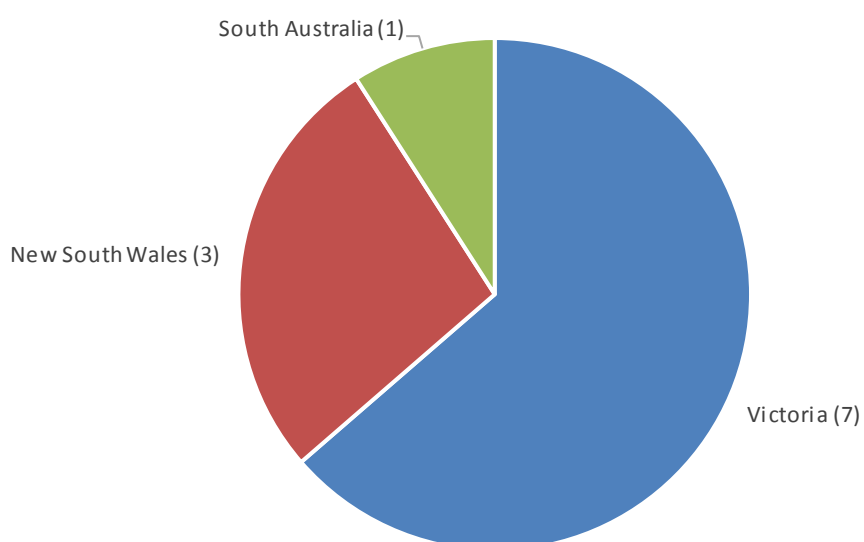


Figure 3: Operating Wind Farm Complaints in 2017 - Wind Farm Locations (by number of wind farms)

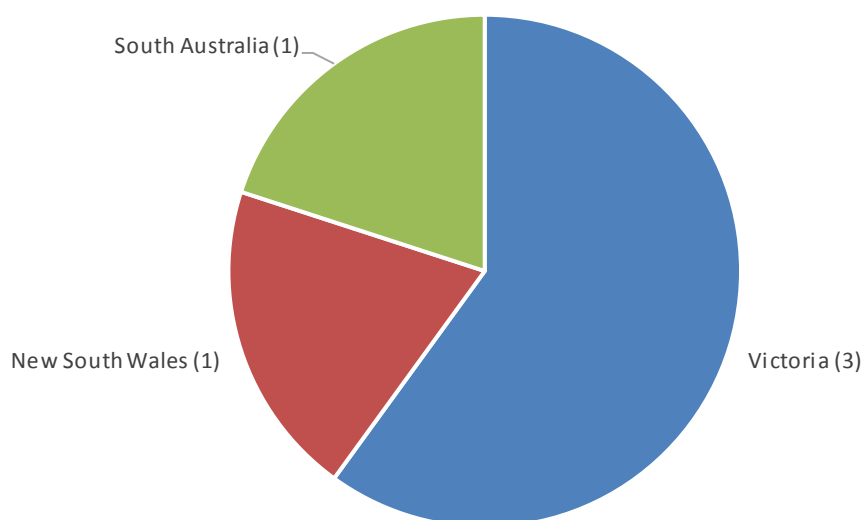


Figure 4: Operating Wind Farm Complaints Nov 2015 - Dec 2017
Wind Farm Locations (by number of complaints)

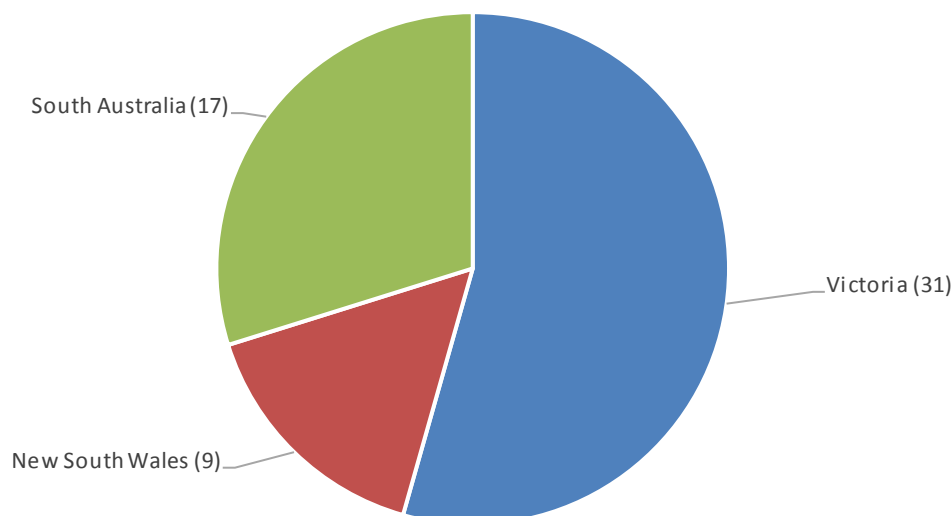
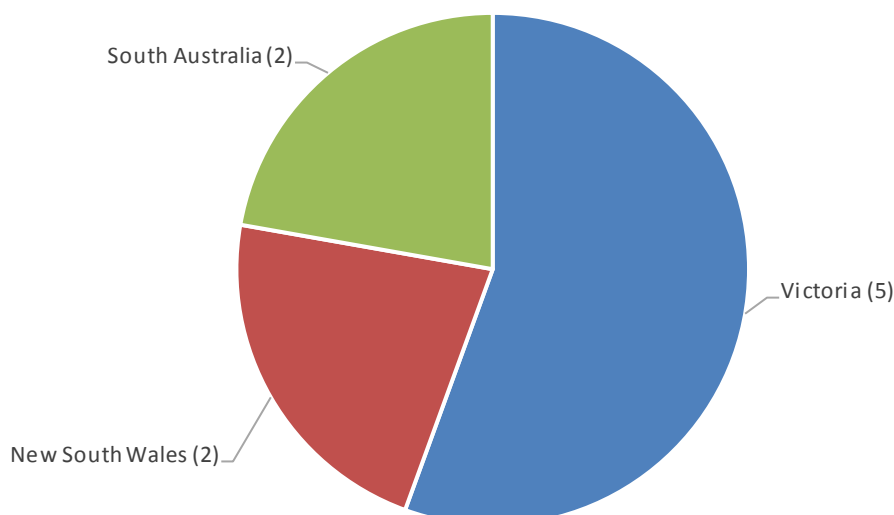


Figure 5: Operating Wind Farm Complaints Nov 2015 - Dec 2017
Wind Farm Locations (by number of wind farms)



Proposed Wind Farms – Complaints in 2017

From the period of 1 January 2017 to 31 December 2017, the Office received 54 complaints in relation to 20 proposed wind farms. As at 31 December 2017, 42 of these complaints were recorded as closed. Figures 6 and 7 below provides information on the location of all complaints relating to proposed wind farms from the period 1 January 2017 to 31 December 2017. Figures 8 and 9 provide data on location of all complaints relating to proposed wind farms from the period of the Office's inception up until 31 December 2017.

Figure 6: Proposed Wind Farm Complaints in 2017 - Wind Farm Locations (by number of complaints)

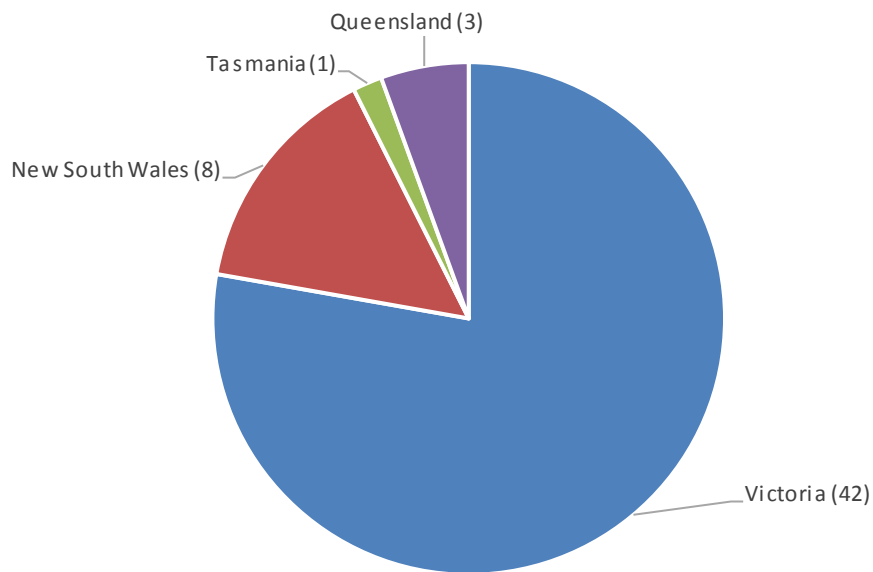


Figure 7: Proposed Wind Farm Complaints in 2017 - Wind Farm Locations (by number of wind farms)

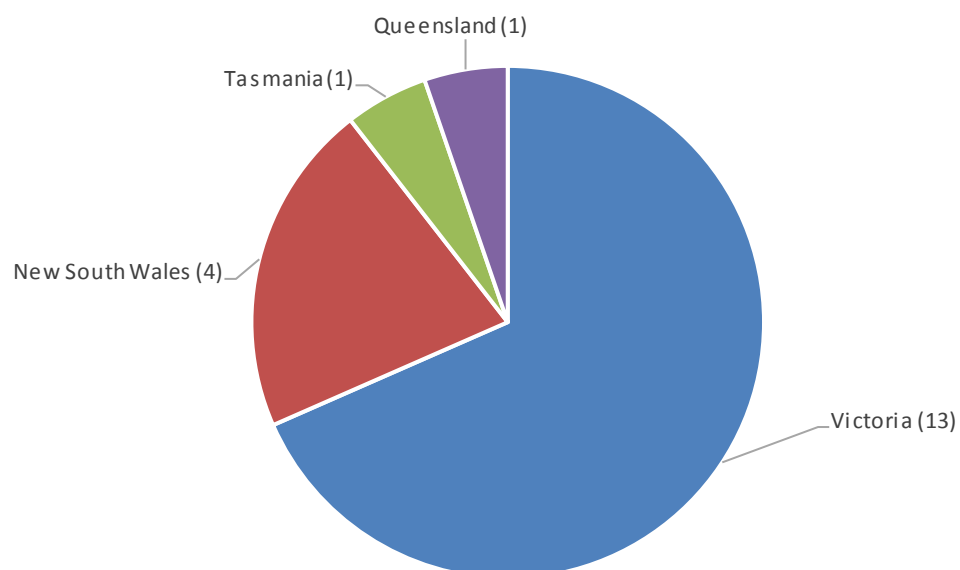


Figure 8: Proposed Wind Farm Complaints Nov 2015 -Dec 2017
Wind Farm Locations (by number of complaints)

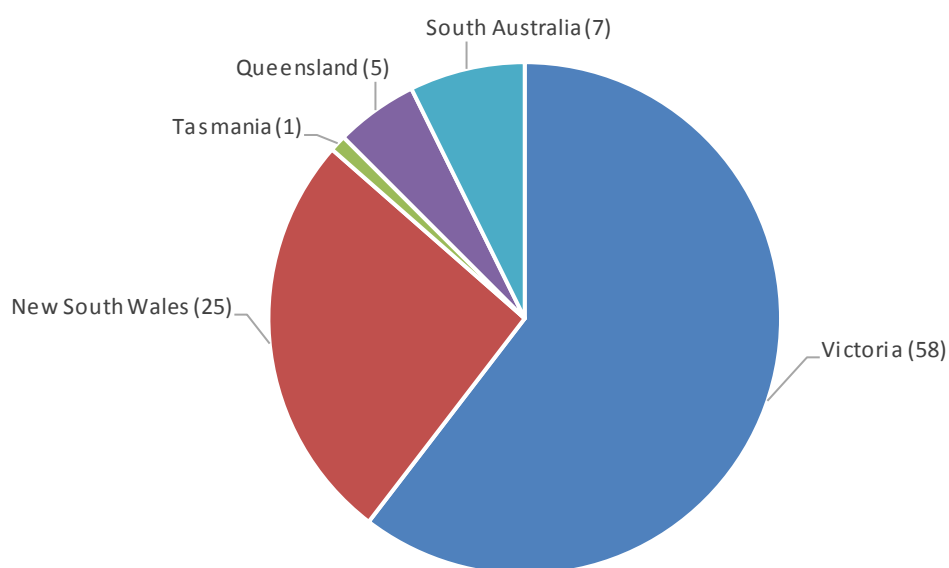
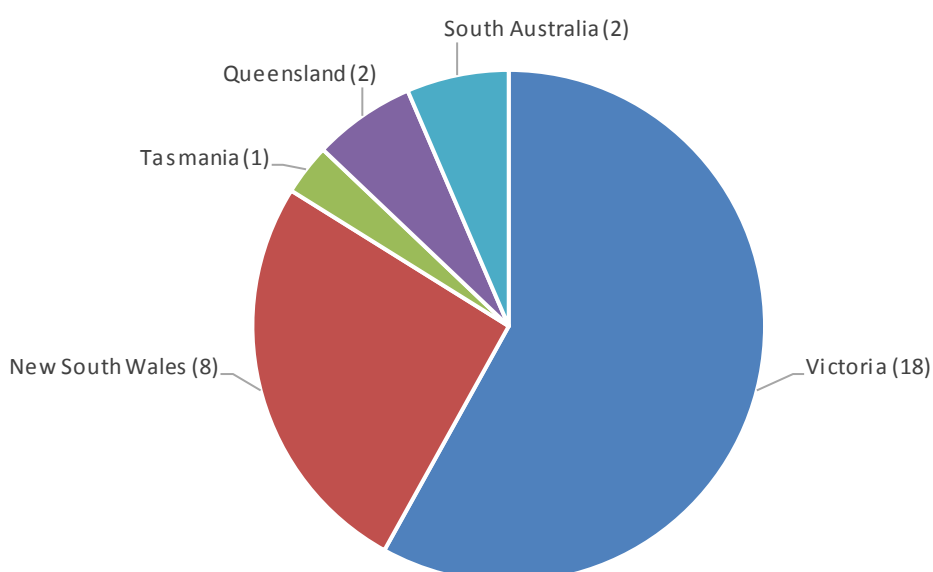


Figure 9: Proposed Wind Farm Complaints Nov 2015 - Dec 2017
Wind Farm Locations (by number of wind farms)

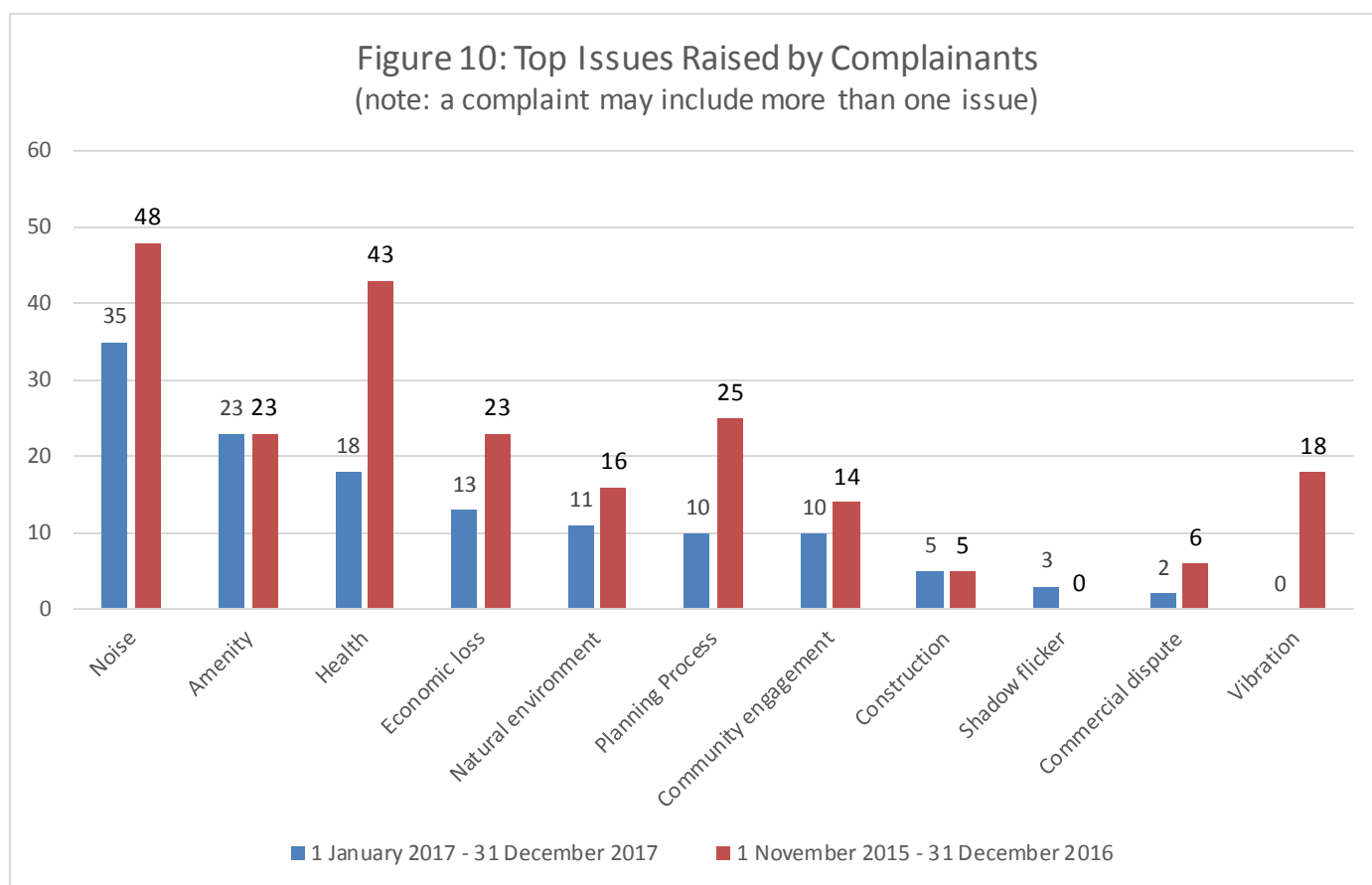


Issues Raised in 2017

Complaints made to the Office may be for a number of issues including noise, economic loss and visual impact. The most common complaint issues raised in relation to wind farms are related to noise from turbines and health impacts.

The Office records complaint issues raised by the complainant when contacting our Office. Figure 10, below, indicates the type of complaint issue and the number of times the issue has been raised by complainants for the 73 complaints received up during the period from 1 January 2017 to 31 December

2017. Note that complainants may raise more than one issue in their complaint. For comparison, Figure 10 below also provides data on the issues raised by complainants for the 90 complaints received during the period from 1 November 2015 to 31 December 2016.



In comparing the issues raised in complaints during 2017 to issues raised in complaints received from November 2015 to December 2016 (as reported in the 2016 Annual Report), the Office notes there has been a reduction in all categories of complaint issues except amenity, construction and shadow flicker issues.

Resolutions and Closure

For the period of 1 January 2017 to 31 December 2017, 78 complaints were closed. Of these 78 closed complaints, 20 of those complaints were lodged with our Office prior to 1 January 2017.

There are a range of reasons that the Office may consider in closing a matter, as detailed in our Complaints Handling Policy. Since the period of the Office's inception to 31 December 2017, 145 of the 163 complaints received by the Office have been closed. There were 18 open complaints as at 31 December 2017.

Most matters are resolved by the provision of factual information to the complainant, addressing the concerns raised and/or connecting the complainant to the appropriate contacts at the respondent organisation.

Matters where the complainant did not progress the complaint include the complainant withdrawing the complaint, not providing consent to share information with other parties, not providing sufficient information for the Commissioner to assess the merits of the complaint or refusing to meet, as reasonably requested, with the Commissioner and/or respondent to progress a resolution outcome.

Matters recorded as 'other' were situations in which further efforts would be unlikely to result in a resolution.

Figure 11 below provides a summary of high level closure reasons for matters closed in 2017. Figure 12 also provides a summary of high level closure reasons for all matters closed from the period of the Office's inception up until 31 December 2017.

Figure 11: Complaint Closure Reasons in 2017 (by number of matters)

Total matters closed = 78

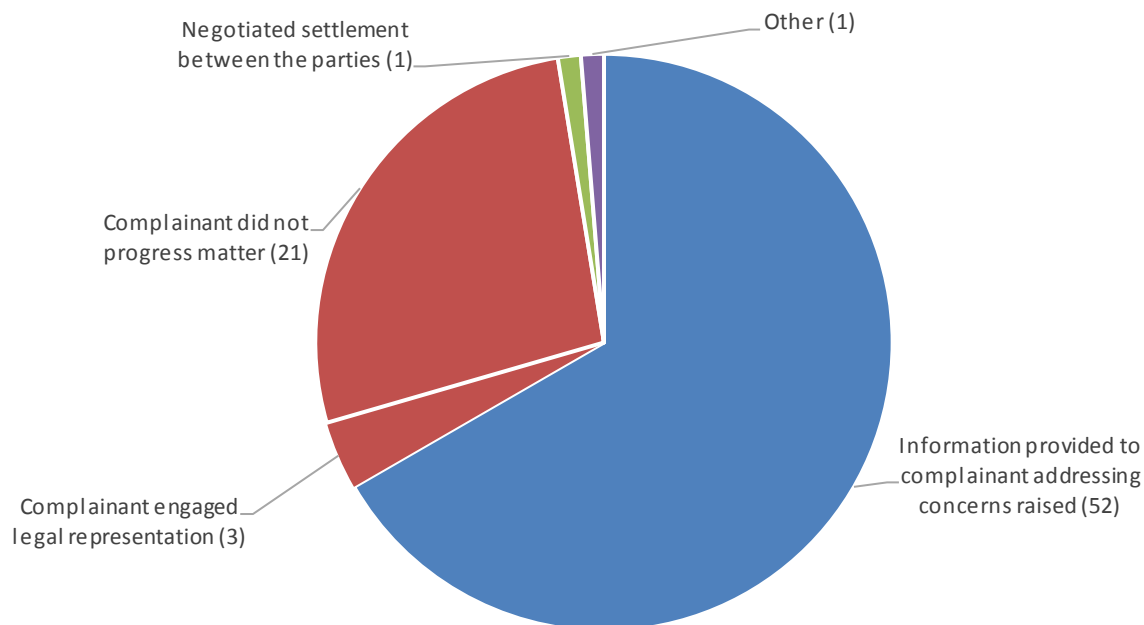
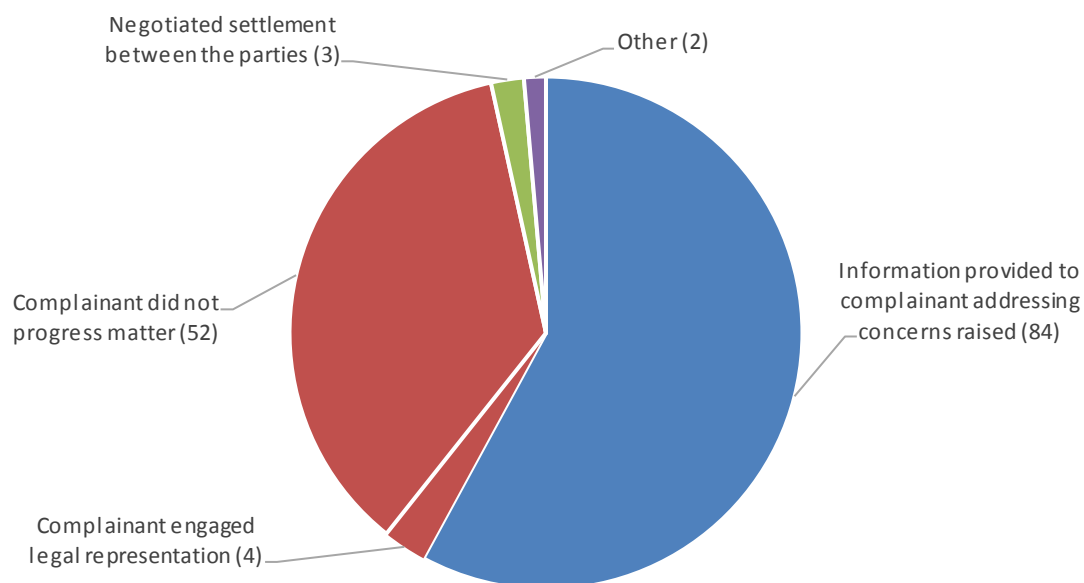


Figure 12: Complaint Closure Reasons 2015-2017
(by number of matters)

Total matters closed = 145



STAKEHOLDER ENGAGEMENT

Stakeholder engagement continues to be a key priority for the Commissioner. As at 31 December 2017, the Commissioner has engaged with over 900 stakeholders, including concerned and supportive community members, industry representatives, federal, state and local governments as well as experts engaged by the industry. The Commissioner meets regularly with many of these stakeholders to work through issues, resolve complaints, provide briefings and maintain effective working relationships.

Stakeholder engagement has assisted the Commissioner significantly in understanding the contemporary issues affecting communities as well as gaining insight into the role and perspectives of government, industry and other entities in the broader context. This engagement has also assisted the Commissioner to identify a wide range of improvement opportunities and access to promote best practices.

Engagement with stakeholders will continue as the Commissioner seeks to consult and encourage adoption of best practices as well as work with stakeholders to facilitate the handling of complaints. The Commissioner considers that the ongoing consultation with stakeholders, particularly sharing perspectives gained from direct observations of current practices within the wind energy sector, will further contribute to the development of a more robust wind energy governance framework.

How Have We Engaged With Stakeholders

Community Associations and Residents

During 2017, the Commissioner continued to meet with community stakeholders to gain a further understanding of 'on-the-ground' issues. The Commissioner visited numerous wind farm sites and met with concerned residents, supportive residents and representatives of community associations. The Commissioner has also continued to meet with and present to community groups, such as Community Consultative Committees (CCC's) and other liaison groups.

During 2017, the Commissioner delivered presentations to:

- Mid-North Wind Farm Community Liaison Group, South Australia – May 2017
- Hawkesdale Community Meeting, Hawkesdale, Victoria – September 2017
- Landowners Community Meeting, Kentucky, NSW – November 2017
- Community 'Town Hall' Meeting, Glen Innes, NSW – November 2017
- Gullen Range Community Consultative Committee, NSW – December 2017
- Crookwell II Community Consultative Committee, NSW – December 2017.

Participation in these meetings and presentations have been integral to help address general concerns in relation to wind farm projects in local communities. Such consultations have also assisted the Commissioner in identifying a range of impacts that wind farms can have on communities. By listening to specific community and individual concerns, the Commissioner has developed a thorough understanding of the issues pertinent to proposed and operating wind farms.

Issues raised during these forums also help form the basis of discussions with industry and government in considering the development of future policy and guidelines as discussed later in this report, together with the Commissioner's updated recommendations for consideration.

Industry

Throughout 2017, the Commissioner has maintained a strong focus on proactively engaging with the wind energy industry on a wide range of matters, including approaches to community engagement, complaint handling and transparency of information. Ongoing consultation meetings with various industry stakeholders have been invaluable to gaining an understanding of the current trends, practices and developments in the wind energy sector – as well as identifying areas where further improvements could be made by the industry.

Industry consultation has also been vital in receiving updates on specific projects, industry perspectives on community engagement processes and how current planning and governance processes have impacted particular projects and communities.

Given the number of proposed wind farms that have been approved in 2017 and have already commenced construction works across Australia, an important priority for the Office is to ensure that all wind farm proponents are aware of best practices in relation to community engagement and compliance with planning requirements.

As a result, the Office has met with most of the industry's proponents to obtain detailed project and company briefings as well as review approaches and practices that may minimise potential issues emerging in relation to projects. For example, the Commissioner has met with wind farm proponents to provide guidance in developing:

- approaches to resolve specific complaints within communities
- innovative solutions to provide benefits to local communities affected by wind farm developments
- complaint handling policies and procedures
- transparent noise assessment regimes
- best practice approaches to managing set-back distances
- effective and fair commercial agreements with wind farm hosts and neighbours, including negotiations that are fair and reasonable for affected community members, and
- emergency management procedures for wind farms in the case of incidents such as bushfires, including practical measures to minimise the risk of disturbance to firefighting operations.

The Office has also encouraged industry to improve the availability of information on their own respective websites. The positive response from industry stakeholders so far has helped enable community members to have greater access to information about wind farm projects.

Encouragingly, industry has also proactively reached out to the Office, seeking input on a wide range of issues. The Commissioner has welcomed such discussions and provided ongoing suggestions and guidance for consideration in response.

Industry members have welcomed such discussions and assistance, with many developers remaining in regular contact with the Office to provide progress updates and report the resolution of issues. The response from many of these proponents would indicate that industry values the work of the Office, evidenced by the time taken to meet with the Office and their adoption of many of the Commissioner's suggestions.

The Office has also engaged with and regularly presented to industry associations such as the Clean Energy Council's Wind Directorate. These forums enable the Commissioner to keep the leadership of the

wind industry across the activities and findings of the Office and engage the industry on systemic and emerging issues.

Government

Throughout 2017, the Commissioner has continued to engage with all levels of government to identify opportunities for improved governance arrangements and ensure that appropriate processes are being considered for the planning, assessment and monitoring of wind farms. The Commissioner has also briefed numerous members of state and federal parliaments, along with the relevant Ministers, on current issues as well as proposed initiatives and reforms.

Throughout 2017, the Commissioner met frequently with various federal agencies to discuss issues and initiatives related to the industry. In particular, the Office has built strong relationships with the Clean Energy Finance Corporation (CEFC), the Clean Energy Regulator (CER), the Australian Renewable Energy Agency (ARENA) and the Department of the Environment and Energy, enabling collaborative approaches to resolve common issues and implement reforms.

The Commissioner also travelled to all states in Australia in 2017 to meet with government representatives, providing briefings on the 2016 Annual Report and its preliminary recommendations.

Further, from identifying systemic issues arising from complaints, the Office has also made recommendations to government agencies on a range of topics, including wind farm permit conditions, planning processes, peer reviews and audits of expert reports, procedures for handling compliance allegations, overall governance arrangements and clarity of the responsible authority for wind farm compliance matters.

As a result of these efforts, a number of government departments and agencies have implemented and continue to consider recommendations made by the Office. During 2017, the Commissioner has also provided guidance and direction on wind farm planning frameworks and reforms in New South Wales, Victoria and Western Australia.

Universities and Experts

The Commissioner has continued to liaise with experts and university researchers to understand their respective roles in providing advice and research regarding wind farm design, compliance testing and health effects. Throughout 2017, the Commissioner met with the Independent Scientific Committee on Wind Turbines (ISCOWT) to convey findings and observations from complaint experiences and stakeholder discussions. The Commissioner has also engaged with a number of acousticians and university experts to clarify information which has been integral to resolving some complaints received by the Office.

Finally, the Commissioner maintains a watching brief on developments arising from two National Health and Medical Research Council (NHMRC) funded studies regarding wind farms and health and continues to brief the NHMRC on the Commissioner's activities. The NHMRC funded studies are focused on the audible and inaudible noise impacts that wind farms may have on sleep and health.

2016 Annual Report

On 12 April 2017, the Commissioner's 2016 Annual Report was tabled in the Australian Parliament. This report provided information on the Office's complaint data and activities and set out a number of observations and preliminary recommendations that were designed to promote best practice within the industry and improve the governance and regulation of the industry.

Following the release of the report, the Commissioner distributed the publication to a wide range of stakeholders. Throughout the year, the Commissioner undertook extensive consultation with stakeholders on the preliminary recommendations in the report and participated in a large number of presentations and meetings with proponents, government agencies and community groups across Australia.

Overall, feedback on the preliminary recommendations has been very positive and constructive, indicating that the role of the Commissioner has been well received and continues to provide value to the growing wind energy industry in Australia. A number of positive changes in industry and governance practices have already been implemented as a result of the Commissioner's advocacy and recommendations. This report is available on the Commissioner's website (available at: <https://www.nwfc.gov.au/publications/annual-report-2016>).

The Commissioner has made a number of updates and additions to the recommendations outlined in the 2016 Annual Report that are detailed in this 2017 report.

Presentations and Events

In addition to the community group events that the Commissioner has presented to (see page 17), the Commissioner has also formally presented to a variety of other stakeholder groups and forums. Some of these presentations are available on the Commissioner's website at www.nwfc.gov.au. Events and meetings that the Commissioner presented to in 2017 include:

- Clean Energy Council Wind Directorate – April 2017
- Department of Planning and Environment (NSW) – April 2017
- Department of Environment, Land, Water and Planning (Victoria) – May 2017
- Australian Clean Energy Summit – July 2017
- Guest lectures to the Masters and Undergraduate Programs on Wind Energy and Resources Engineering (Monash University) – August 2017
- Guest lectures to the Masters and Undergraduate Programs on Wind Energy (Monash University) – August 2017
- Department of Infrastructure, Local Government and Planning (Queensland) – September 2017
- Fire and Emergency Management Conference (Australasian Fire and Emergency Service Authorities Council) – September 2017
- ARENA Board Meeting presentation – October 2017
- All-Energy Australia Exhibition and Conference – October 2017
- Clean Energy Regulator Board Meeting presentation – December 2017
- Climate Change Authority Board Meeting Presentation – December 2017
- Clean Energy Council Wind Directorate – December 2017.

Wind Farms and Communities Visited

As at 31 December 2017, the Office had received complaints in relation to 38 proposed and operating wind farms. While the Commissioner has not been able to visit all of the locations related to complaints lodged, the Commissioner has visited 34 wind farm locations to meet with community members and other stakeholders. Visits have included meetings with concerned residents to discuss specific complaint matters as well as directly experience the operation of the wind farm and the affected area. Table 1 shows the wind farm locations that have been visited. In a number of cases, largely due to complainant handling activities, some wind farm locations have been visited multiple times.

Table 1: List of Wind Farm Locations visited by the Commissioner

State	Wind Farm Projects/Locations	
Victoria	<ul style="list-style-type: none"> • Ararat • Bald Hills • Cape Bridgewater • Hawkesdale* • Hepburn • Lal Lal* • Macarthur 	<ul style="list-style-type: none"> • Moorabool* • Mt Gellibrand • Naroghid* • Oaklands Hill • Waubra • Wonthaggi • Willatook*
New South Wales	<ul style="list-style-type: none"> • Bango* • Collector* • Coppabella* • Crookwell I • Crookwell II • Crudine Ridge* • Cullerin Range • Glen Innes* 	<ul style="list-style-type: none"> • Gullen Range • Gunning • Jupiter* • NSW Energy Cluster* • Sapphire* • White Rock • Walcha*
South Australia	<ul style="list-style-type: none"> • Hallet • Palmer* 	<ul style="list-style-type: none"> • Snowtown • Waterloo
Tasmania	<ul style="list-style-type: none"> • Musselroe 	

* Proposed wind farm or wind farm under construction

UPDATED OBSERVATIONS AND RECOMMENDATIONS

In the Commissioner's 2016 Annual Report, the Commissioner made a number of observations and recommendations based on experience from handling complaints received and engagement with a large number of stakeholders. These observations and recommendations covered a broad range of topics, including areas for potential improvement in the planning, governance and operation of the wind energy industry.

The report received significant feedback from stakeholders. Much of the feedback was very supportive and aligned with the recommendations, along with constructive feedback that was received that suggested further refinements and clarifications.

The following sections are based on the 2016 report and have been updated to include further observations made during 2017 in handling complaints and undertaking various stakeholder meetings, as well as incorporating feedback received on the 2016 report. For consistency, the 2017 report has utilised the same topic areas and numbering system employed in the 2016 report.

A number of the Commissioner's 2016 report recommendations have either been implemented during 2017 or are in the process of being implemented. As always, there may also be other approaches to achieve the same or similar outcomes that are intended by the recommendations.

This report section also includes an additional subsection, subsection 10, which summarises a number of broader reforms that the Commissioner is progressing.

The recommendations below are for consideration by the relevant stakeholders. There are no formal powers to mandate the implementation of these recommendations. That said, the Commissioner looks forward to the ongoing adoption of the recommendations tabled in a manner that will enable continuous improvement within the industry.

Finally, as noted in the 2016 report, the large-scale wind energy industry is still relatively new in Australia, with the first major wind farm developments commencing in just the last decade. Therefore, it is not surprising that a diverse number of opportunities still exist for improvement in the governance and operation of the industry.

1. Host Landowner Negotiations

1.1. Observations

Wind turbines are typically located on cleared land owned by a landowner, known as the 'host' landowner. The land's existing use is typically for agricultural production (for example, livestock or cropping) and, in general, a relatively small portion of the land is utilised for the wind farm, including turbine siting, access roads and other related assets such as transmission line easements, electrical substations, transformers and meteorological masts. The landowner continues to operate the agricultural production activities on the remaining land, noting that there will be significant disruption during the turbine construction phase and ongoing access to the wind farm assets will be required by the operator.

Host landowners are generally compensated on a fixed amount per turbine per year under a long-term agreement that mirrors the life of the wind farm. The fee may be a flat fee per turbine, regardless of size or capacity, or a fee based on the generating capacity of the turbine. The latter arrangement reflects the reality that modern day turbines have much greater capacity (in the order of 3-4MW) compared with turbines available previously and, therefore, can result in less turbines being hosted by the landowner than originally envisaged with smaller capacity turbines.

Potential host landowners are approached very early in the development phase of a wind farm project to obtain their agreement to host turbines in the event that the project goes ahead. Landowners will typically enter into an initial agreement that documents their willingness to host turbines and the commercial arrangements that would occur in the event that the development proceeds. Generally, these initial agreements provide the developer with exclusive rights over the landowner's property for a period of time.

It is not uncommon for a developer to propose more turbines than will be finally approved or installed. As a result, the developer often seeks and enters into preliminary agreements with landowners who may ultimately 'miss out' on hosting turbines or be asked to host a reduced number of turbines. Further, even once the final number of turbines is confirmed, the planned locations of turbines may be adjusted which can also result in landowners hosting less turbines than expected.

There are many reasons why a proposed wind farm may reduce the number of turbines during the development phase. These may include increase in turbine capacity, transmission constraints, environmental and planning considerations and requirements, financial constraints along with changes to policy, legislation or planning guidelines.

These various scenarios, observed in the Australian industry to date, can create a 'winners and losers' situation for landowners that may have had expectations of hosting wind turbines. For instance, a landowner expecting to host 10 turbines (and expecting to receive the compensation associated with such hosting) may become aggrieved if the final approved wind farm has significantly reduced or eliminated the number of turbines to be hosted, thereby significantly reducing or eliminating the potential income stream to that landowner.

The landowner not only may miss out on a significant income stream, but may also experience many of the potential impacts of turbines located on neighbouring properties, including changes in amenity, audible noise, construction disruption and other effects of the wind farm. The fact that the landowner's neighbours were still successful in hosting turbines and receiving compensation can further aggravate the situation for the landowner that missed out.

This situation can also be exacerbated by developers conducting confidential, individual discussions and negotiations with specific landowners, creating a level of distrust amongst neighbouring landowners and the developer from the outset.

The consequences of these scenarios can be severe, both in terms of fracturing support for the wind farm within the community as well as dividing the community in economic and social terms. Developers need to be mindful of the consequences arising from their conduct in landowner negotiations and the magnitude of impact on landowners with regard to changes in the number of turbines and turbine layouts.

There is also a high risk that wind farm prospectors, who may not have fully considered such scenarios and/or may not be invested in the long-term benefits of community engagement, could undertake activities that result in long-term resentment within local and wider communities where these projects are proposed. While these actions may lead to difficulties in relation to the success of the specific project, they also have the potential impact of creating difficulties for other wind farm developers who may be undertaking development of neighbouring projects in the region. Ultimately, these scenarios have brought and still have the potential to bring the wind farm industry into disrepute.

In cases where landowners have 'missed out' on turbines after a lengthy period of time of being involved with the project, the Commissioner has observed some successful methods of working with such landowners, including a level of compensation that may be based on a range of parameters, such as taking into account the number of turbines that the landowner had been expecting to host.

A host landowner agreement is essentially a commercial lease. Significant time and money is spent by developers in creating draft landowner agreements, which in turn need to be reviewed by the landowner and their solicitor before executing. Both industry and landowners may benefit from a standard agreement document being produced and available for use that is fair and reasonable, complete and consistent with the relevant laws – similar to in concept, as an example, the Victorian Law Institute Commercial Lease.

Some landowner agreements observed could be clearer in a number of aspects. Agreements should provide clarity on a wide range of day to day matters, including which party is responsible for paying rates, land taxes, emergency services levies and the like. The landowner agreement also needs to be clear on termination provisions and the responsibilities regarding decommissioning of the wind farm.

Landowner agreements are not limited to hosting turbines – they may also be required to allow easements for high voltage transmission corridors, substations, construction facilities, meteorological masts as well as construction and operational access roads for the wind farm. Careful consideration of the approach and fairness to negotiating these additional agreements should also be required of the developer.

There may also be innovative opportunities for landowners and other community members to have an ownership stake in the project, which could be in the form of a community-owned wind farm through to equity or debt participation in the commercial ownership structure. It is understood that there are some examples of these approaches in Australia as well as in other overseas jurisdictions such as Europe.

The construction period can be a time of significant disruption for the landowner, with potential long-term effects. Typical issues can range from management of gates – gates being left open during construction activities can quickly lead to unplanned migration of livestock, often with significant consequences – through to the impact of new roads being built throughout the landowner's property. In particular, road construction in hill and ridge terrain may lead to large roadway cuttings and embankments that make it difficult to move livestock around the remaining paddock areas. Best practice gate management is to design the road access and fencing in such a way to minimise or eliminate the need for gates.

Approaches to calculate and levy items such as council rates, land taxes and other levies appears to be ad hoc across various state jurisdictions. This may result in a number of consequences, including revenue leakage and surprises in unforeseen levy charges. Some actions are being taken on these matters, such as the recently released NSW Valuer-General policy *Valuation of Land Used as a Wind Farm* (NSW Government, May 2017) but there may well be opportunities for tighter and repeatable processes to correctly calculate, levy and collect these payments as a result of the deployment of wind turbines on the land.

1.2. Recommendations

- 1.2.1. The developer should ensure that landowner expectations are properly managed from the outset and that potential host landowners are made fully aware of the risks of potential reduction in turbines and relocation of turbines during the long development process life-cycle. Agreements that enable the developer to have the exclusive rights to the landowner's property should have fair and reasonable provisions for the landowner to terminate the agreement after a reasonable period of time.
- 1.2.2. Where practical, developers should consider discussing the proposed project and negotiating with all potential host landowners together as a group in an inclusive and holistic manner, rather than individual discussions with landowners. A standard agreement with consistent commercial terms should be considered by developers and supported by industry.

- 1.2.3. Further to Recommendation 1.2.2, developers should consider offering some level of compensation to all engaged potential host landowners if the project proceeds, regardless of final allocation of turbines on individual properties.
- 1.2.4. Host landowner agreements should be fair and reasonable, be written in plain English and the landowner should have access to and obtain appropriate legal and financial advice before entering into any agreement. The New South Wales Government's recently issued *Wind Energy Guideline for State Significant Wind Energy Development* (NSW Department of Planning, December 2016) provides some discussion on this topic, particularly within Attachment B of the publication. NSW Farmers' Federation have also produced a *Wind Farm Guide for Host Landowners* (GHD Pty Ltd, 2012) covering a range of relevant topics related to host landowner agreements. Specific areas of agreements requiring clarity in landowner agreements include:
 - fees payable to the landowner during the project development stage (pre-permit), financial close stage (post-permit), construction and operational stages
 - considerations if the project is cancelled or materially delayed
 - changes to turbine layout, turbine specifications and number of turbines
 - changes to and effects of project infrastructure on or to landowners property (e.g. roads) and maintenance of infrastructure
 - responsibility for payment of additional council rates levied on the landowner as a result of the wind farm
 - responsibility for payment of additional land taxes levied on the landowner as a result of the wind farm
 - responsibility for additional emergency services levies as a result of the wind farm
 - required insurances to be taken out by the wind farm operator in respect of the landowner
 - required insurances to be taken out by the landowner in respect of the wind farm
 - responsibility for payment of the various insurances
 - landowners responsibilities in regard to renting out the property and/or residence(s) to a tenant
 - sale or transfer of the land
 - development on the property
 - subdivision of the property
 - termination provisions
 - assurance provisions in the event the wind farm defaults (such as deposit or bank guarantee), and
 - decommissioning provisions and responsibilities.

The above items could well form the basis of a standard template of a commercial agreement that is managed and maintained by an appropriate legal, industry or government body.

- 1.2.5. Councils and state jurisdictions should examine and audit current processes in place for the re-rating of properties that host wind farm turbines and related infrastructure and how those properties are valued for the purpose of calculating land taxes and council rates. A similar activity should be undertaken for the calculation of emergency services levies where applicable. The process and calculations should be transparent to relevant stakeholders and be subject to audit and be auditable.
- 1.2.6. Other landowner agreements (such as for transmission line easements or road access) should also be negotiated and finalised with the landowners in a fair and reasonable manner, with appropriate consultations engaging affected landowners and neighbours in determining the final approach and routes to be taken.
- 1.2.7. In certain situations, developers may wish to consider other forms of engagement with landowners (as well as neighbours and community members) that may allow for equity and/or debt participation in the ownership of the project.
- 1.2.8. The project's construction plan and wind farm design should be developed in close consultation with the landowners and designed so to respect the landowner's need to be able to continue primary production operations by during and following construction. Particular attention should be given to paddock/gate management and the impact of access roads on the ongoing farming activities.
- 1.2.9. To ensure that professional conduct and standards are consistently adhered to by wind farm developers, state governments should consider licensing or accrediting developers that intend to prospect and develop wind farms. Further, as is the practice in the mining and exploration industries, state governments should consider the requirement for a developer to obtain a prospecting permit prior to commencing a wind farm prospecting activity in a given location. The prospecting permit could be time-limited and cancellable if certain milestones are not achieved.

2. Neighbour Consultation and Agreements

2.1. Observations

Most wind energy projects will have neighbours. Neighbours are residents of the neighbouring properties to the landowner's properties that host, or will host turbines – either in adjoining properties or properties within proximity to turbines of the wind farm. There may also be neighbours not in direct proximity to the wind farm that could be affected by other related wind farm infrastructure, such as high voltage power lines and road access to the wind farm.

Neighbours can be impacted by the development, construction and operation phases of a wind farm. Impacts can include visual amenity, noise, shadow flicker and economic loss – both the fear in anticipation of these impacts as well as actual impacts once the wind farm is operating. Also, during construction, neighbours may experience dust, noise, road damage, road blockages and other forms of disruption.

While developers have generally engaged and consulted with potential host landowners, developers have not always understood the importance of consulting and working with neighbours to a wind farm project. Consultation may include a wide range of topics, such as:

- consulting with neighbours on the wind farm's design and layout, especially during the early scoping and design stages and landscape/amenity impacts
- consulting with neighbours on the process and oversight of activities such as predictive noise assessments, post construction noise testing, shadow flicker and visual amenity assessments
- advising and consulting on subsequent proposed changes to the wind farm's design, layout and turbine selection
- ensuring background and operating noise testing is properly undertaken and results are provided in a timely fashion to neighbours
- providing factual information to address questions and concerns raised by neighbours, and
- facilitating site visits for neighbours to other operating wind farms to allow the neighbour to experience a wind farm first-hand. Alternately, wind farm simulators are available to enable neighbours and other stakeholders the opportunity to experience noise outputs of a wind farm in a wide range of scenarios.

Lack of effective consultation with neighbours can lead to a range of material issues for a wind farm project, including conspicuous opposition to the project, formal objections that may lead to planning/approval delays and appeals, the project (or elements of the project) not being approved as well as widespread negative media coverage about the project and the industry more broadly.

In addition to more effective consultation with neighbours throughout the life-cycle of a wind farm's development, some developers have introduced the concept of 'neighbour agreements' to provide a commercial arrangement between the wind farm and neighbour that recognises the possible impacts of the wind farm on the neighbour and to gain the neighbour's support. Agreements may also be required in the event the neighbour is at a risk of experiencing impacts from the wind farm in excess of permit/standards limits.

The content of a neighbour agreement is typically confidential to the parties, but may include one or more of the following:

- annual compensation payments to the neighbour (including payments during the development, construction and operating phases of the wind farm)
- a one-time payment at the commencement of the agreement
- reimbursement of reasonable legal fees incurred by the neighbour for the review of the agreement
- reimbursement for, or provision of, items such as visual screening, insulation, double-glazing, air-conditioning, energy efficiency programs, solar panels, electricity consumption
- an option for the neighbour to request that the developer acquire their (i.e. the neighbour's) property
- ability for a neighbour to terminate an agreement without penalty.

There may be a requirement for neighbour agreements to be offered and established as a result of planning permit conditions (generally due to proximity within prescribed default setback distances), which may prescribe mandatory components to the agreement. However, many neighbour agreements are voluntary and it is up to the developer to propose and negotiate such an agreement with the neighbour. Some wind farm developers have voluntarily developed neighbour agreement payments

based a formula of distance from a residence to the turbine(s) and the number of turbines located within that distance.

Screening of the visual impact of the wind farm by planting trees is often proposed by developers to wind farm neighbours and may be a mandatory requirement of the permit. A common issue is the length of time for a newly planted tree to grow to provide sufficient screening, bringing into question the effectiveness of such mitigation. It should be noted that Appendix 2 of the New South Wales Government's *Visual Assessment Bulletin* (NSW Department of Planning, 2016) outlines a range of potential mitigation measures that may be applied.

The Office has observed some proposed neighbour agreements containing clauses that may not be fair and reasonable to the neighbour. Such clauses observed include the right for the wind farm not to conform to the permit conditions that would normally apply to the neighbour (including noise levels and shadow flicker), the ability for the wind farm to terminate the agreement while the wind farm is still operating without cause and/or with questionable cause as well as clauses that could be construed to restrict the neighbour's right to make a complaint.

Further, some neighbour agreements seek to impose stringent planning restrictions on the neighbour for any further development or construction on the neighbour's property. Our view is that these clauses are unnecessary and the neighbour should simply be required to comply with the planning rules and laws of the jurisdiction.

Inclusion of perceived unfair clauses by the developer can significantly impair the ability to negotiate a fair and reasonable agreement and create distrust and anxiety amongst neighbours towards the wind farm's proponent.

Similar to landowner agreements, all parties may benefit from a standard template agreement for 'neighbour agreements' that is established and maintained by an appropriate body and available for use by industry.

2.2. Recommendations

- 2.2.1. Developers of wind energy projects should, where practical, proactively identify all potential neighbours at the commencement of the development activity and implement an effective, ongoing consultation program with all contactable neighbours throughout the project's development. While it may vary by project and geography, neighbours affected may include residents that live in a proximity range of 0.0 km to 5.0 km from potential turbine locations as well as residents in close proximity to other wind farm related infrastructure, such as power transmission or supply infrastructure. This indicative distance range for consultation may need be greater in situations where, for instance, turbines are proposed to be erected on a ridge.
- 2.2.2. Key stakeholders to a developing wind energy project (for example, project buyers, planning authorities, investors, debt providers, regulators) should seek and consider evidence of neighbour identification and effective neighbour consultations as part of any due diligence and approval criteria.
- 2.2.3. Developers should consider the merits and use of appropriate neighbour agreements as a potential component of its overall neighbour and community consultations and project strategy. If utilised, neighbour agreements should be negotiable, fair and reasonable, written in plain English and the neighbour should have access to and obtain appropriate legal and financial advice before entering into any agreement. Agreements should not restrict the neighbour from being able to raise issues and concerns about the wind farm, including subsequent proposed changes to the wind farm's design, make complaints about the wind

farm nor should they subject the neighbour to conditions that exceed normal permit requirements. There may be existing, operating wind farms where a retrospective neighbour agreement should be considered. Developers may of course opt for a broader community support model that benefits a wider group of community members, including neighbours, that excludes specific neighbour agreements.

- 2.2.4. Screening solutions proposed by developers should be realistic and effective. If trees are proposed, trees should be planted in a timely fashion and well maintained so to provide effective visual screening within a reasonable timeframe. Other screening solutions, such as structures, should also be considered when proposing and negotiating a visual screening agreement.
- 2.2.5. The developer should recognise that some neighbours may have been potential host landowners for the initial project design and should take the time to understand the neighbour's history of involvement with the project, especially if the developer has purchased the project from the initial developer.
- 2.2.6. Neighbours should be appropriately represented in project-related committees, such as Community Consultative Committees and Community Engagement Committees, to help ensure that neighbours have the opportunity to be engaged with many of the various aspects of the project across the community.

3. Community Engagement

3.1. Observations

Effective community consultation and engagement is essential for wind farm projects to gain widespread support and earn the 'social license' to operate within the community. To be effective in community engagement, it is vital to actually 'engage the community' and involve the community wherever possible in the design and execution of programs related to the wind farm.

The level of community engagement varies widely across the wind farm projects observed to date. A key observation is that initial project developers that intend to 'on-sell' the project to a long-term developer or operator may not invest sufficient time and resources in community engagement or neighbour relations to be effective. These limited efforts can result in lower levels of community support and more divided communities, compared with projects where the project developers appropriately focus on effective community engagement from the very start of the development activity.

In some jurisdictions, such as New South Wales, the planning guideline framework has provided for an early and continuing focus community engagement, including the establishment of a Community Consultative Committee (CCC) that is maintained throughout the life of the project. Further, recent feed-in tariff arrangements established by the ACT and Victorian Governments, place a significant weighting on selecting developers/projects that have proposed and demonstrated effective community engagement programs and subscribe to community engagement as a high priority.

Many projects also establish Community Engagement Funds, funded by the developer, to fund a wide range of initiatives that benefit the local community. In some cases, such funds are a condition of the permit approval, but largely these are voluntary arrangements proposed by the developer.

The quality of and information provided by wind farm websites vary from project and/or developer. In general, there is more work to be done by developers to provide up-to-date websites with clear transparency of information about the developer, the project, how and who to contact at the developer, how to make a complaint and the complaint process along with access to all relevant project documents.

Some regions of Australia are experiencing increased clustering of proposed and approved wind farms which may result in multiple wind farms infiltrating and ‘surrounding’ communities. As a result, there is both the need and opportunities for individual project developers to communicate more effectively with each other and better coordinate engagement with the affected community. This could range from combined initiatives by wind farm developers through to coordination of construction programs to minimise cumulative impacts on residents and townships. Developers should also be aware of other key infrastructure projects that may be taking place in a region and ensure that project schedules are planned and coordinated to minimise impacts to communities.

Overall, there continues to be a wide range of opportunities for developers to further broaden and improve community engagement with respect to wind energy developments. A number of suggestions gained from observations of various practices across the industry are listed below.

3.2. Recommendations

- 3.2.1. The developer should ideally commence and invest early in community engagement – well before the commencement of the permit approval phase. An acquirer of a project still in development should conduct detailed due diligence on the extent and effectiveness of community engagement activities undertaken by the original developer – prior to finalising purchase of the project – and be prepared to make the necessary investments in community engagement going forward.
- 3.2.2. The developer should proactively identify and establish effective relationships with key community stakeholders, including stakeholders that may be opposed to the project.
- 3.2.3. The developer should, in consultation with the responsible authority and the community, consider establishing a CCC (or equivalent) with an appropriate charter and membership (noting that in some jurisdictions, a CCC may be mandated). The CCC Chair should, where practical, be a respected and representative member of the community at large as well as independent of any direct impact or beneficiary of the proposed wind farm. Ideally, the CCC should meet monthly during critical stages of the project’s development, approval, construction, post-construction testing and initial operations.
- 3.2.4. Many developers provide a range of information and education opportunities for community members to better understand the benefits and impacts of wind farms as well as address any questions and concerns raised. Initiatives to consider include:
 - establishing a ‘shop front’ in the community town centre that provides project/permit information, a map and model of the project, information about wind farms and an ability to address questions or concerns raised by community members
 - providing an informal channel for community members to ask questions and provide feedback about the project, and be able to do so anonymously if required
 - providing opportunities for community members to visit operating wind farms
 - providing access to a wind farm noise simulator to demonstrate wind farm noise to community members and enable them to experience simulated noise scenarios
 - maintaining an up-to-date project website with full transparency on contacts, complaint process, project details and status along with planning permit details and documentation

- providing information sessions about the project and wind farms more generally, at convenient locations within the community, including presentations from key stakeholders, along with regular project newsletters and updates, and
 - publishing the minutes, where applicable, of CCC (or equivalent) meetings and allowing observers to attend CCC meetings.
- 3.2.5. The developer should establish a formal complaints/enquiry process, including a system to record and manage complaints, as well as provide a transparent register of complaints/enquiries information (note: actual complainant details can be masked for privacy). The complaints process should ideally commence at the initial stage of the development activity to allow community members to formally raise concerns and have these concerns addressed in a timely, consistent and transparent manner.
- 3.2.6. The developer (and CCC if it exists) should consult widely and communicate effectively and extensively on the proposed construction and related transport plan. The developer should also ensure appropriate restoration and ‘make-good’ activities and seek, where practical, to leave local infrastructure in the same or better condition than prior to the construction. The developer should also proactively provide communications during construction using all forms of relevant channels, including text messaging. Where more than one construction project is occurring in the same area, collaboration should occur between projects to proactively identify and resolve issues, such as constrained supply of gravel, tradespeople, accommodation and road access.
- 3.2.7. Further to Recommendation 3.2.6, the developer may wish to seek out opportunities to help facilitate improvements to other related community/local infrastructure. Initiatives could include improving mobile phone coverage, utilising the project workforce to help upgrade local facilities (such as parks, playgrounds) and other practical activities which could benefit the overall community for years to come.
- 3.2.8. Local council(s) should proactively engage with the project and community and be clear in communicating the council’s support for the project as well as its role in facilitating and promoting effective community consultation.
- 3.2.9. Where possible, the developer should engage staff locally to lead community engagement activities and respond to community concerns and complaints.
- 3.2.10. Once a wind farm is in operation, the developer should continue to proactively provide information and updates about the wind farm and provide opportunities for the community to visit the wind farm (such as an ‘open day’).
- 3.2.11. The developer should consider establishing and maintaining a community engagement fund and ensure there is appropriate community involvement in the governance and management of the fund. In some jurisdictions, such a fund is mandated. The fund should allow for appropriate opportunities for community originated submissions to obtain funding for project proposals. Prioritisation of funded projects that may be of benefit to those community members more directly affected by the presence of the wind farm should be encouraged. The ‘community’ should clearly include and benefit community members that live in proximity to the wind farm rather than only supporting projects related to a regional centre.
- 3.2.12. Stakeholders to the project, including the responsible authority, council, bankers, investors and regulators, should seek relevant evidence of both the project’s community engagement plan and outcomes of the plan’s execution as part of any decisions or conditions the stakeholder may wish to place on the project and developer.

- 3.2.13. Industry bodies, such as the Clean Energy Council (CEC) and the Australian Wind Alliance (AWA), should continue to promote effective community consultation engagement and recognise those industry members that are achieving excellence in positive community engagement outcomes. Appropriate priority should be given to this topic when designing industry forum agendas.
- 3.2.14. State governments can continue to play a key role by prioritisation of promoting effective community engagement in wind energy projects. Examples include initiatives such as demonstrable community engagement plans as key criteria for eligibility to be awarded State government 'feed in tariff' arrangements through to utilising formal permit conditions.
- 3.2.15. Wind farm developers should ensure that all contractors and other project stakeholders are aware of their responsibility to be involved in community engagement and minimise community impacts. If there are multiple infrastructure development projects occurring in a region, wind farm developers should also be aware of potential cumulative impacts to a community and should liaise with local councils and other developers to proactively plan ahead so to avoid or minimise unnecessary impact on the community.

4. Planning Permits – Time Limits and Scope Changes

4.1. Observations

Once approved, a wind farm planning permit is typically granted for a period of around five years. The developer then has that period of time to at least commence and ideally complete construction of the wind farm – consistent within the permit requirements and conditions. However, there have been numerous cases of wind farm projects where the permit has been extended or renewed for further periods, often with changes to the wind farm's design along the way.

As a hypothetical example, design and development activities for a proposed wind farm may have commenced in the 2001-2002 timeframe. In 2005, an approval or planning permit with a five year expiry may have then been issued to the wind farm. If construction of the wind farm had not been completed by the time the approved permit expired in 2010, upon request by the developer, the planning authority may approve the permit to be renewed for a further five years until 2015, with the renewal approval usually based on some level of commencement of the project. If the wind farm construction was then completed in 2015, the results of post-construction compliance testing (such as noise-testing) may not be known until the 2016-2017 timeframe.

Therefore, it is feasible that a period spanning 15 years or more can occur between the original prospecting for the wind farm site and the wind farm being fully operational with post-construction testing complete.

Delays between the time of obtaining a permit approval for a wind farm and then the actual commencement of construction works can occur for a variety of reasons – typical reasons include changes in turbine selection and turbine layout, delays in obtaining financial close and changes in government policy.

These lengthy timeframes for a wind farm project are significant and can raise a number of issues for consideration, including:

- Standards, such as noise standards, may change over the course of the development process. For example, at the time of initial project development, the project and permit conditions may have been based on the NZS 6808:1998 noise standard. Although the standards may have been revised in the ensuing period, the project and permit will still be based on the 1998

standard, rather than the updated NZS 6808:2010 noise standard – even though the wind farm may have been built more than 15 years after the initial project’s development.

- Setback distances policies (the minimum distance between a turbine and a residence) can also vary over time. As an example, a number of Victorian wind farms with current, renewed permits have no default setback distance provisions as the original permit was approved in the previous decade. Prior to 2011, there were no default setback distance requirements in Victoria. In 2011, a 2.0 km setback distance was introduced. The current default setback distance on Victoria is 1.0 km.
- Changes in standards and planning guidelines could therefore conceivably take many years before they are introduced and reflected into planning permits for proposed wind farms.
- Technology, such as wind turbines, may also change over the project timeframe. The original project design and permit conditions may have been based on turbines of a certain energy capacity (for example, the original turbine may have been 1.5MW, whereas the developer now wishes to deploy 3.5MW turbines) and physical size dimensions (for example, higher turbine hub heights and longer blade diameters). As a result, the developer may decide to take advantage of the new technology and propose to change turbine selection over time, potentially altering a number of material characteristics and impacts of the wind farm – including turbine layout, visual amenity, noise and shadow flicker. These changes will likely result in the need for a formal modification (or endorsement) to the planning permit, re-opening the wind farm to potential objections and community concerns about the proposed changes. The process may well re-ignite original debates and issues with the project.
- The requirements on the developer to qualify for renewal of the permit for a further period may be minor relative to the total project scope (for example, the building of a simple shed or road access to the site – so to demonstrate some level of commitment to construct the project). These relatively minor works, when compared to the total proposed project, may not be considered substantial enough to declare that the project has materially commenced within the permitted timeframe nor obligate the project in a way that it has no choice but to proceed.
- The community affected by the wind farm (including host landowners and neighbours) can be subjected to very long periods of uncertainty as to whether or not the project will proceed. This uncertainty can affect a range of individual landowner and stakeholder decisions as well as discourage or prevent other potential development within the wind farm’s planning envelope.
- Community engagement may also not be sustained by the developer over long periods of uncertainty and may deteriorate during the elongated period.
- During an elongated development cycle, other wind farms may have been subsequently planned and/or constructed in the area, which may result in possible unforeseen cumulative impacts for nearby residents.

Finally, in some jurisdictions, planning permits are not required for transmission and other associated infrastructure to connect the wind farm to the grid. This lack of oversight can lead to a wide range of community issues related to the design, routing and installation of the transmission line and related assets. The prospect also exists for duplicative assets connecting each wind farm to the grid with no mandatory requirement to seek consolidation of such assets to minimise community impact and promote a more efficient use of capital.

4.2. Recommendations

- 4.2.1. A wind farm planning permit should only be renewed for one further term as a maximum. Approval of permit renewals should require the developer to demonstrate the likelihood of the project being commenced and completed prior to the end of the requested/approved renewal period.
- 4.2.2. Requests for material changes to the wind farm's proposed design and technology need to be scrutinised through an appropriate and rigorous process by the responsible authority. The process should be transparent to all stakeholders and include re-assessments of key impacts such as noise, visual amenity, environmental considerations, shadow flicker and construction impacts.
- 4.2.3. The responsible authority should be able to introduce and apply current planning guidelines, standards and updated standard permit conditions when assessing a request to renew and approve a wind farm planning permit or modifications to the permit. For example, a developer seeking to renew a permit expiring 31 December 2018 may be required to comply with the contemporary guidelines and standards currently in force and prepare the renewal submissions in accordance with those guidelines and standards.
- 4.2.4. Evidence of ongoing community engagement for the project should be submitted to the responsible authority when seeking a renewal approval or permit modification request. Submissions should include evidence of community consultation with regard to any proposed changes in the wind farm's design and layout subsequent to the original permit approval.
- 4.2.5. In considering a renewal or modification application, the responsible authority should assess any compounding effects of other proposed or constructed wind farms in the vicinity, in particular with respect to residents who may experience cumulative effects that may be exacerbated by the proposed wind farm that is seeking permit renewal approval.
- 4.2.6. Further to Recommendation 4.2.5, the responsible authority should assess and take into account any other planning approval requests/approvals in the vicinity that have arisen subsequent to the original permit approval when considering the wind farm's permit renewal application.
- 4.2.7. In the event that the wind farm is seeking a renewal/extension of the permit period to allow a commenced project time for construction completion, the responsible authority needs to be fully satisfied that material construction has already commenced and provide extensions only for the period where it would be reasonably expected for the remaining construction to be completed.
- 4.2.8. Vendors selling properties within 5 km of a proposed and approved wind farm should be required, where practical, to disclose any such proposed wind farms to purchasers in contract of sale documents, based on information provided by the local planning authority. State governments should also include questions for rural property purchasers to ask about potential wind farms in any due diligence checklist that may accompany contract of sale documents.
- 4.2.9. Where a wind farm permit renewal is to primarily provide an extension period for construction to be completed, the maximum period between approval of the original planning permit application and completion of construction of the wind farm should be no greater than seven and a half years, including any renewals or extensions of the original planning permit.

4.2.10. Neighbours to wind farm projects, where the project is in either development or in operation, should be allowed to submit development plans to the responsible planning authority for new development on their property, such as a dwelling or a shed. Development proposals within at least 1.5 km of a proposed or operating wind turbine, should be referred to the wind farm developer by the responsible authority for consultation and to verify impact levels of the wind farm at the proposed neighbour's development site. Development proposals in locations where the wind farm is likely to exceed prescribed standards and limits may require written agreements to be reached between the neighbour and the wind farm before the neighbour's development can be approved.

4.2.11. Transmission lines, substations and other related electrical infrastructure should all be subject to and require an appropriate and detailed planning permit, ideally as part of the overall permit for the project.

5. Governance and Compliance of Standards and Permit Conditions

5.1. Observations

The design and governance of wind energy projects relies on a range of standards and various compliance mechanisms to monitor and enforce those standards.

Standards are often set and maintained by the responsible authority (for example, a state planning department) and there are a variety of arrangements in place for enforcing compliance with the standards. Standards may be 'borrowed' from other jurisdictions (for example, Victoria uses the New Zealand Noise Standard, the NSW noise standard is based on the South Australian standard), set by the planning function or set by the state agency responsible for environmental management and regulation.

Enforcement of standards and permit conditions also varies by jurisdiction and the type of standards. Generally, there are no proactive audit regimes in place – rather, compliance relies on receiving complaints or alleged breaches of permit conditions. The pathway to make a compliance complaint or allegation again varies by jurisdiction and type of complaint – in some cases the state environmental regulator can receive and investigate noise or environmental complaints about wind farms, in other cases it may be a local council, state planning department or the relevant Australian Government Department.

It is often unclear to community members where or who they should lodge a complaint to regarding wind farm construction or operating compliance. Planning permits may not clearly state the accountability and responsibilities with regard to compliance oversight, nor may they prescribe a process for handling potential or actual non-compliance. Further, local councils and state planning functions may not have the necessary skills and expertise to handle and investigate a compliance complaint. Federal agencies, such as the Clean Energy Regulator, rely on a clear understanding of the responsible compliance authority and the authority's advice if the Regulator is to consider acting on an allegation of non-compliance.

Borrowed standards can also become difficult to administer or enforce if a protocol has not been developed for the local jurisdiction. For instance, the NZ standard has a concept of low and high amenity areas for determining the appropriate noise limits for a wind farm. Victoria's planning scheme does not define such areas, making it difficult to interpret and apply the NZ standard 'as is' in the Victorian context (see *Cherry Tree Wind Farm Pty Ltd vs Mitchell Shire Council – VCAT – P2910/2012*).

Issues have also arisen regarding the application of tonal noise penalties provided for in the NZ standard. The application of the standard is open to interpretation in that regard, and Victoria must rely on interpretations from New Zealand to attempt to clarify the standard. This can be a difficult matter to

resolve, particularly in the event the interpretation has also been a topic of debate in the home country (see *Decision of Hearing Commissioners re Palmerston North City Council v New Zealand Windfarms Ltd* – November 2017).

Typical standards and permit requirements relevant to a wind farm's development and operation can include matters such as audible noise, shadow flicker, visual amenity, setback distances, environmental matters related to flora and fauna, and noise and dust levels during construction.

Standards relating to wind farms currently vary by state. For example, the wind farm noise limit standard in Victoria is 40 dB(A)* measured outside the residence. South Australia varies between 35 dB(A)* and 40 dB(A)* based on the location of the wind farm, Western Australia is 35 dB(A)*, New South Wales is 35 dB(A)* and Queensland's standard is 37 dB(A)* during the day and 35 dB(A)* during the night. The approach to measuring the noise emitted from a wind farm can also vary by project and jurisdiction which can lead to debate over the veracity of the noise assessment results.

World Health Organisation Guidelines for Community Noise recommends a 30 dB(A) limit, measured inside the residence, to prevent negative effects on sleep. However, it can be difficult and intrusive to carry out wind farm noise testing inside a residence, particularly over a long period of time.

Current noise standards therefore rely on the effects of attenuation of the noise by the residence structure and would assume that a noise level of, say, 40 dB(A) measured outside the residence should be less than 30 dB(A) measured inside, based on an expected attenuation in the order of 10-15 dB(A). This attenuation may be greater if the windows are closed and the residence is of solid construction and well insulated, however the effective attenuation may be less if windows are open and/or construction and insulation of the residence is less robust.

Issues can also arise where a wind farm is tested for noise and the result exceeds the limit by a marginal amount – for example 40.2 dB(A) against a limit of 40 dB(A). Our understanding is that the 0.2 dB(A) difference would be undiscernible by the human ear and is the result of the mathematical calculations that assess multiple noise data points. There may be some merit in allowing for a small tolerance level to avoid wind farm's unnecessarily being in technical breach of compliance.

Debate continues as to whether or not a low frequency standard should also be introduced, such as a dB(C) and/or dB(G) weighting. The prevailing argument to date is that the 'A-weighted scale' accommodates a sufficient proxy for low frequency noise and that low frequency noise can be difficult to detect at levels that would breach threshold targets. However, based on some complaints received, the possibility remains for annoyance for some people living in proximity to a wind farm and experiencing low frequency noises while inside their residence. More work is still required to determine whether or not the noise source in question is the wind farm or some other source.

Setback distances from the turbine to a residence also vary. Victoria originally had no setback distance, then introduced a 2.0 km setback distance in 2011 and, subsequently, changed it to 1.0 km in 2015. Queensland has introduced a setback distance of 1.5 km, while New South Wales framework is based on a merit assessment of each project against the criteria and performance standards in the framework. Western Australia is considering our recommendation of a 1.5 km setback. Note, turbines can be closer to a residence than the default setback distance, however typically require an agreement to be reached between the resident property owner and the developer.

While setback distances are typically based on the distance from the wind turbine to the residence, there may also be circumstances where the distance of the turbine from the neighbour's property

* or background noise plus five dB(A), whichever is the greater amount. Measurements of A-weighted sound pressure level are generally taken on the basis of LA90, 10min.

boundary should also be a consideration. Such circumstances could include the potential effect of wind turbines on animals such as horses, or other situations where turbines may impact neighbouring properties due to their proximity to land use activities on a property. The British Horse Society recommends a setback distance of 200m from wind turbines to horses on the basis that horses can react to noise, blade rotation and shadow flicker impacts from wind turbines, as outlined in their publication *Wind Turbines and Horses – Guidance for Planners and Developers* (2015).

There may be other sources of noise as a result of the wind farm's operation, in particular noise that would emanate from the wind farm's electrical infrastructure, including power substations, transformers and back-up generators. The impact of such noise sources should be assessed during the design phase and tested for compliance during any post-construction noise testing.

Electrical infrastructure required for the wind farm, such as transmission lines, may also cause a change in visual amenity for community members. Consideration should be given for those impacts and setback distances may also be appropriate to mitigate visual amenity loss and noise issues arising from the infrastructure.

The opportunity exists for a clearer framework of standard setting and enforcement of standards, whereby there is independence in the setting and enforcement of standards from the planning function. Such independence allows for increased community confidence in the objectivity of setting standards and assessing compliance. It also allows the relevant independent agency to acquire and maintain the appropriate skills and expertise to fulfil its standards and compliance responsibilities.

The opportunity also exists for increased harmonisation of key standards across state jurisdictions, such as noise and setback distances, providing a consistent approach and expectations for governments, industry and the community. Consistency across the states will not only provide a more equitable outcome for residents potentially affected by wind farms, but may also result in the additional benefit of driving improvements in the technology across the entire market based on the more stringent standard.

While there may be a number of ways to address these issues, best practice appears to be vesting the setting and compliance oversight of environmental-related wind farm standards with the state environmental regulator, while the application of the standards to specific projects rests with the state or local government planning body. The current arrangements in place in New South Wales and South Australia generally reflect practices along these lines.

Finally, once a wind farm commences operations, it has not achieved compliance until all of the post-construction compliance testing has been completed and accepted. A wind farm may be 'deemed' to be compliant in some jurisdictions even though post-construction assessments have not commenced or been completed. There may be an opportunity to introduce more formal processes to properly confirm that a wind farm is actually compliant once all of the required testing is complete – and the timeframe for which that must occur. This 'grey area' of uncertainty of compliance can cause a range of community concerns and also be costly for governing bodies.

Anecdotally, some wind farms have been described as being 'not non-compliant' when unable to confirm compliance with required permit conditions, highlighting the difficulty of declaring a wind farm to be 'non-compliant' when its default status is compliant. In addition, it may be appropriate to consider that a wind farm is deemed to be compliant during the commissioning and testing periods, but ongoing compliance is subject to final confirmation by the responsible or regulatory authority.

From our observations, a solution to this issue is for a wind farm to be licensed by the appropriate environmental regulator. Under this scenario, the wind farm would need to confirm and maintain its

compliance with the applicable license and permit conditions or risk losing its license to operate in the event of unrectified material breaches of the license and/or permit conditions.

Measurement approaches for measuring compliance with the standards can also vary between projects and jurisdictions. Given the extraordinary number of variables to be measured, consideration needs to be given to the consistency of measurement, calculations and reporting for assessing environmental measures such as noise and flora and fauna impacts when setting permit or license conditions. For example, there is much scope for variability when determining the 'line of best fit' for a set of noise data points – such variances could mean the difference between compliance or otherwise when assessing the results of a noise testing program.

5.2. Recommendations

- 5.2.1. State governments should review and clarify their current arrangements for the setting of wind farm environmental standards and oversight and confirmation of compliance with those standards. It is strongly preferred that the department or agency setting and maintaining the various wind farm standards is independent of the department or agency responsible for planning and applying those standards. In addition, the compliance authorities for a wind farm should be clearly defined, transparent, accessible to the community and able to receive and investigate allegations of compliance breaches. Where compliance oversight currently rests with local government, appropriate support and resources should be made available to the council/shire to enable them to effectively perform their compliance and investigative responsibilities, including being equipped with the appropriate policies and procedures to handle alleged breaches of permit/license compliance and/or laws.
- 5.2.2. Based on the outcome of the review outlined in Recommendation 5.2.1, state governments should consider whether or not the current arrangements are appropriate, effective and consistent with best practices for the independent development, maintenance, compliance management and governance of wind farm environmental standards. If planning functions or local councils are designated as the responsible authority, they should be provided with appropriate support and resources to assist them in carrying out the responsibilities.
- 5.2.3. In considering the above recommendations and possible reforms, the potential roles of an appropriate independent, state based, compliance agency (such as a state environmental protection or regulatory authority) could include responsibility to:
 - Set and maintain the environmental standards applied to wind farms, including noise, shadow flicker, visual amenity, environment and heritage (noting the role of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* with regard to Matters of National Environmental Significance including protected flora and fauna), along with specifying the methods and procedures for measurement of the prescribed standards.
 - Review planning applications for wind energy projects and recommend/require permit conditions related to the environmental standards. Environmental standard conditions in wind farm permits should clearly state the process for how the measurements are to be undertaken and reported as well as provide the opportunity for peer review of the process, calculations and results.
 - Provide or facilitate peer review and audit of expert reports, including review of testing and modelling programs, submitted by the developer related to permit requirements.
 - Where appropriate, license the wind farm once it is constructed and issue and monitor license conditions for the operation of the wind farm that may be subject to review and

renewal. State Governments should also receive and review regular reporting against those licence conditions from the wind farm operator and may withdraw licences in the event of unrectified material breaches of applicable license and permit conditions.

- Receive and investigate complaints related to environmental standards, including alleged breaches of non-compliance.
- Confirm as required the compliance or non-compliance of a wind farm with regard to environmental standards, related permit conditions and relevant laws.
- Report material wind farm compliance breaches and investigations to the Clean Energy Regulator and other relevant agencies.

5.2.4. Planning permits (and/or applicable licenses) for wind farms should clearly state:

- The oversight organisation(s) or person(s) accountable for determining compliance of a wind farm with its permit (and license) conditions, both at post-construction and ongoing operational stages.
- The process and contact details for lodging a complaint or alleged breach of permit (and/or license) compliance.
- The process to be followed in the event that a wind farm is found to be non-compliant with one or more of the permit (and/or license) conditions.
- A requirement for the developer or operator to publish transparently, on the wind farm's website, the process and contact details to make a complaint or alleged compliance breach to the designated oversight organisation.

5.2.5. During the period between the commencement of a wind farm's commissioning/operation and the completion of any required post-construction assessments, the wind farm could be designated to be in 'provisional compliance', pending the results of the assessments. In that scenario, a wind farm can only move from 'provisional compliance' to being 'compliant' once the responsible authority (or regulatory authority) has confirmed it is satisfied that the wind farm is compliant as a result of any post-construction assessments. If compliant status is not achieved within a prescribed period, the wind farm may be declared to be non-compliant by the responsible authority or regulator until compliance is reached. Once a wind farm has completed post-construction assessments and confirmed to be in compliance, ongoing compliance is overseen by the designated agency or responsible authority.

5.2.6. If a wind farm's facilities are deemed by a relevant authority to be in an un-rectified material breach of compliance, such facilities of the wind farm should be subject to a possible suspension of accreditation and/or the withholding or cancellation of renewable energy certificates ('LGCs', as issued by the Australian Government) for the energy generated by those facilities during the period of confirmed and unrectified non-compliance. The wind farm could also be required by the responsible compliance authority to cease operating or curtail the non-compliant facilities until compliance can be achieved.

5.2.7. Governments should consider reviewing the primary standards across all jurisdictions for noise limits and setback distances. Based on observations to date, it would appear that an appropriate level for a consistent noise limit would be 35 dB(A)*, measured outside of the residence (with the result rounded up or down to the nearest whole number), and a minimum

* or background noise plus 5 dB(A), whichever is the greater amount

setback distance of 1.5 km between a residence and the nearest turbine. Applied penalties for specific noise conditions such as tonality and special audible characteristics be set at 5 dB(A), however such noise events should also be assessed on a subjective and reasonableness test by an approved, independent expert. Protocols should be in place to clarify interpretation of borrowed noise standards. In addition to a setback distance between a turbine and a residence, a setback distance of 200m between a wind turbine's tower (or 100m from the extended horizontal blade tip, whichever is the greater) and a neighbour's boundary should also be considered. Finally, consideration should be given to setback distances between a wind farm and a township or city boundary. A distance of 5 km may be appropriate to preserve amenity and provide some flexibility for planning growth of the township (note – consideration of amending certain setback provisions may be appropriate in the case of a small-scale, community-supported and owned wind energy facility).

- 5.2.8. The noise assessment design and compliance testing conditions should include assessment and testing of the wind farm's electrical infrastructure (transformers, substations, back-up generators etc.) and noise levels from these sources need to be compliant with the applicable standards.
- 5.2.9. A setback distance between a residence and infrastructure associated with the wind farm, such as transmission lines, should also be considered to help alleviate visual amenity impacts and noise considerations. This includes a 1.0 km minimum setback distance between a residence and major transformer and generation infrastructure, such as a terminal substation. Where possible, transmission infrastructure should be placed underground and/or well away from residences and road reserves. If this is not possible, a setback distance of 100m should be considered in planning guidelines for power lines of 66kV or greater.
- 5.2.10. Consideration should also be given to the current standards for shadow flicker. A typical standard is no more than 30 hours of shadow flicker per year at a resident's external window. This standard, used across Australia, has been sourced from shadow flicker standards developed and used in Europe, where set-back distances to residences are typically less restrictive. At say a 1.0 km distance from a turbine, it would be very unlikely to receive 30 hours of actual shadow flicker at a residence. A more appropriate standard in the Australian context may be no more than a total 15 hours of shadow flicker per year at a residence and no more than 30 minutes of shadow flicker should be received on a given day. Neighbours experiencing (or likely to experience) shadow flicker that is annoying should also be provided with the opportunity for having visual screening installed.
- 5.2.11. Final siting of turbines during construction ('micro-siting') should be limited to a distance of 100 metres from the approved site location, be no closer to a residence (or property boundary per Recommendation 5.2.7) and be properly documented, including the reasons for the change. Micro-siting of a distance greater than 100m should require written approval from the responsible authority.

6. Use and selection of Experts

6.1. Observations

The design and approval of a proposed wind farm relies heavily on third-party consultants (or 'experts') to prepare a range of reports related to noise assessments, visual amenity, shadow flicker, aviation impact and various environmental assessments.

Experts are selected and paid for by the developer. The expert reports are typically included with the developer's submission to the responsible authority when seeking approval for the wind farm project.

Much of the report information is based on results from predictive computer modelling and therefore the accuracy of the reports and recommendations is dependent on the quality and precision of the computer model, the accuracy of the data used and the skills of the expert in interpreting the output of the modelling analysis.

Once the wind farm is built, experts are often re-engaged to carry out post-construction assessments. These assessment reports utilise actual data from the wind farm, however still rely on assumptions and modelling to analyse the collected data and present in a format to enable conclusions.

It is very common that the experts engaged to perform the design assessments and reports during the planning phase are the same experts engaged by the developer to perform the post-construction assessments. Developers also often use the same experts on multiple projects.

The selection and use of the same expert in both the design and then post-construction phases of a wind farm may give rise to perceived or real conflicts of interest between the developer and the expert and the desired expectations of the expert confirming a compliant wind farm. As a hypothetical example, an acoustician engaged to assess the proposed wind farm's design for compliance with the noise standard and is then engaged to assess the operating wind farm for actual compliance, may be placed in a difficult situation if the acoustician discovers some aspects of the operating wind farm is in fact non-compliant, particularly if areas of non-compliance may be a result of errors made in the original acoustician's design assessment.

There is certainly scope for a better separation between the experts used for the predictive assessments used in the design versus the experts used for the post-construction assessments of a wind farm, along with the addition of audits of the expert's work so as to minimise errors, maximise transparency and better manage perceived or real conflicts of interest.

In summary, best practice that has been observed is as follows:

- expert is appointed by developer to carry out relevant assessment as part of planning and design activity
- independent auditor is appointed to scrutinise and review expert's assessment/design report and makes findings/recommendations known to developer, the responsible authority and other relevant agencies (e.g. Civil Aviation Safety Authority, Country Fire Authority, Environment Protection Authority etc.)
- once the wind farm is constructed, a different expert (to the design expert) is appointed to carry out the required post-construction compliance assessments, and
- the post-construction report is then reviewed by a different independent auditor for accuracy and integrity. The auditor makes findings/recommendations known to developer and responsible authority.

These additional steps and separation of experts and auditors will go a long way to enable strengthened confidence in the significant decisions being made on the basis of expert reports. The process will also better protect industry from errors and risks of being non-compliant. Already, jurisdictions such as Victoria have adopted this framework for all new and modified wind farm planning permits, and some other states have implemented variations on the above.

Finally, it is expected that these reforms will increase the opportunities for additional experts and auditors as well as help facilitate growth of skills and firms in the relevant disciplines.

6.2. Recommendations

- 6.2.1. Given the reliance on information provided by experts in wind farm planning and compliance decision-making, experts used for wind farm compliance assessment engagements should be selected from an approved panel or list. The panel or list is to be maintained by the responsible authority (or environmental regulator) and expert selection for a given project is to be approved by the responsible authority.
- 6.2.2. The expert organisation (or expert) selected to perform post-construction assessments at a wind farm should be a different expert organisation (or expert) to the one that was engaged for the design/planning phase of that wind farm.
- 6.2.3. Expert reports, assessments and techniques used for planning submissions, such as the predictive noise assessment and the post-construction noise testing plan, should be reviewed and assessed by an independent auditor, appointed or accredited by the responsible authority and/or relevant regulator. Further, expert reports prepared with respect to post-construction compliance should also be reviewed and assessed by a different, independent auditor that has been appointed or accredited by the responsible authority and/or relevant regulator.
- 6.2.4. The appointed independent auditors (refer to Recommendation 6.2.3) should be suitably qualified, experienced and accredited, have the ability to assess the integrity and accuracy of the expert's report and be able to identify and confirm compliance or non-compliance with the relevant permit conditions.
- 6.2.5. Planning approval processes should carefully take into account the advice of auditors and referral agencies, such as the Civil Aviation Safety Authority (CASA), before deciding on whether to approve a project.

7. Wind Farm Complaint Handling and Emergency Procedures

7.1. Observations

Wind farms are typically required to establish a complaint handling procedure and supporting systems and processes to comply with planning permit conditions. It is also common sense that the wind farm be able to properly receive, investigate and resolve complaints as part of normal facility operations and effective community engagement.

Complaint handling procedures are generally required to be submitted and endorsed by the responsible authority. However, currently, requirements for complaint procedures are often limited to noise and construction complaints only. Limited guidance is provided in permit conditions as to the process, scope, requirements and standards that the complaint handling procedure should adhere to.

While wind farms are likely to be compliant with the requirement to submit and have an endorsed complaint handling procedure, our observations have been that a number of wind farms (or proponents) have not published the procedure or communicated the procedure to the community. This lack of transparency can make it difficult for community members to know how to make a complaint and the process by which they should expect their complaint to be handled.

It is pleasing to see that many wind farms have adopted our suggestions and solid progress has been made in both the transparency of process and compliance with processes for complaint handling. However, there are still further opportunities for some wind farm proponents to ensure they are following their own documented procedures when handling complaints, and avoid situations including:

- multiple complaints from a resident about the same issue – with no visible action being taken by the wind farm operator to investigate or resolve
- a lack of rigour in investigations and clarity of correspondence, and
- a lack of clarity regarding next steps in the process leading to numerous complaints that remain unresolved and/or not closed.

Even if the endorsed complaint handling procedures were being followed, there is also a wide range of wind farm complaint handling procedures in place that vary by developer and project, resulting often in a lack of consistency in the quality and effectiveness of the procedures. Although wind farm operators possess a wide range of complaint handling skills, there continue to be further opportunities to improve the capability of staff and effectiveness of the wind farm industry's complaint handling procedures.

We have encouraged a number of wind farm developers and operators to voluntarily publish their complaint handling procedures on the wind farm's website. Many wind farms have now complied with this request. Some wind farm proponents have also revised their complaint handling procedures as a result of discussions with our Office. The Office continues to make suggestions to improve existing complaint handling procedures to the many industry members who have sought our assistance.

While objective measures and standards are used to determine compliance with noise restrictions, it is also evident that there is further scope to investigate complaints relating to noise emissions from turbines and other infrastructure. In assessing noise-related complaints, the objective 'tests' currently in place do not necessarily capture the tonal character of noise emissions that a complainant may be experiencing. For instance, insufficient maintenance of infrastructure (for instance, a turbine or a substation transformer) may lead to harmonic frequencies that produce a harsher tone to the human ear. While this is not typically represented in noise assessment data, contemporary noise measurement or recording devices can be used to indicate that the tonal character of a particular noise emission may reasonably be considered to be disturbing or offensive to a complainant.

Other events can cause abnormal noise annoyance from wind turbines. These include loose bolts, lack of greasing of the rotating nacelle during the yaw process and lightning strike of a blade (piercing a hole in the turbine blade that causes a high-pitched whistling sound). These situations require a rapid response to a complaint and it is in everyone's interest that the turbine be repaired and the noise emission rectified.

Following our discussions with the relevant Minister and Department, the Victorian Government moved quickly to introduce additional permit conditions related to complaint handling procedures and transparency based on our initial observations and recommendations. We understand these additional conditions have been applied to both new, renewed and modified planning permits issued for wind farms in Victoria.

Finally, industry bodies such as the CEC may have a key role to play in leading the development and promotion of a consistent, best practice complaint handling models and procedures for the wind energy industry that can be adopted by industry members – configured for their specific operations.

We have also observed opportunities for clearer protocols to be put in place between wind farm operators and emergency response agencies, in particular as it relates to aerial firefighting and the ability to direct a rapid shutdown of wind turbines and the positioning of turbine blades during a shut-down to minimise the obstacle. Other potential obstacles to aerial firefighting, such as meteorological masts, radio towers and powerlines may also exist around the wind farm site and pilots need to be well aware of this infrastructure. A consistent standard to the visible identification of meteorological masts should be considered.

7.2. Recommendations

- 7.2.1. Planning permit conditions should stipulate that wind farm complaint handling procedures support all types of complaints raised about the wind farm and also meet minimum standards for complaint handling procedures. The developer should implement appropriate systems and processes to support the procedures and maintain an appropriately detailed complaint register.
- 7.2.2. Planning permits should include a condition requiring the endorsed complaint handling procedure and the complaints register to be published on the wind farm's website. The website should include a toll-free number and an email address for making contact with the wind farm operator to make an enquiry or complaint. Developers should also implement these provisions from the commencement of development as part of best practice transparency and community engagement.
- 7.2.3. Planning permits should include a condition requiring the endorsed complaint handling procedure to be followed and be complied with by the developer. Failure to comply could be deemed as a material breach of permit compliance.
- 7.2.4. The responsible authority should have the powers and capability to audit a wind farm's complaint handling activities and complaints register so to monitor compliance with the procedures and the planning permit conditions.
- 7.2.5. The complaint handling procedure and the wind farm operator should have the capacity to accommodate handling of urgent or emergency complaints. These complaints may be related to safety issues as well as unacceptable noise conditions due to damage to the turbine caused by external events such as lightning strike or mechanical failure. The wind farm operator should respond immediately, on-site, to address and rectify such issues. While objective measures and standards may be in place for assessing noise emissions, a subjective, reasonableness test should also be applied when assessing noise emissions such as abnormal noise emissions, tonality, special audible characteristics and low frequency noise.
- 7.2.6. For extreme emergency conditions, such as a bushfire, the wind farm operator should have appropriate controls, protocols and procedures in place, consistent with the emergency response requirements, to ensure the wind farm can be rapidly shut down. Power network operators should be aware the wind farm capacity may need to be shut down quickly in the event of a bushfire.
- 7.2.7. Wind farms should also work with the relevant firefighting agency to review procedures related to turbine blade positioning during a fire that minimises restrictions to aerial firefighting. The wind farm should also use appropriate marking devices to ensure transparency of other aerial obstacles such as meteorological masts, radio towers and powerlines to the firefighting agency. Such obstacles should require planning permits, a referral to CASA and be assessed as part of the aviation impact statement.
- 7.2.8. The industry peak body (CEC) could provide further leadership to the industry by developing and promoting best practice standards for complaint handling along with community engagement, landowner/neighbour agreements and quality assurance of member companies. The CEC could also encourage or mandate that its industry members voluntarily publish their wind farm's complaint handling procedure and that members are properly trained and skilled in complaint handling.

- 7.2.9. Policies and procedures for handling wind farm noise complaints lodged with local councils need to be in place where the possibility exists for noise complaints to be made under other governing legislation, such as the Victorian *Public Health and Wellbeing Act 2008*.

8. Site Selection

8.1. Observations

The selection of a potential site for a proposed wind farm may take into account a range of factors including the available wind resource, proximity to existing transmission infrastructure, landowner arrangements and other approved development in the area.

Current transmission infrastructure was originally designed and built many years ago based on existing energy resources (such as coal) and did not envisage the significant shift to renewable resources such as wind and solar, which are often optimally located in areas away from existing grid infrastructure.

Prospecting developers are not generally restricted in initiating a new project on a particular site and will often commence by holding discussions with landowners to seek their agreement to host turbines. As such, prospective and developed wind farms can be located in a wide variety of site scenarios, from sparsely populated areas to locations inhabited by lifestyle property owners on small acreages.

Our experience to date indicates that there is a much higher likelihood of community issues and concerns to contend with when a proposed or operating wind farm is located near or amongst more populated areas. Often, more populated areas correlate with the proximity and availability of transmission infrastructure, but they can also result in a very large number of neighbours who will reside in close proximity to multiple turbines.

Further, there may be multiple proposed (and/or existing) wind farms in a given area, with the potential for residents to be 'surrounded' by wind turbines if such projects proceed. These scenarios could lead to a range of compounding issues for residents including noise, visual amenity and potential economic loss.

Also, we have found that locating turbines on the top of hills or ridges, while optimum for capturing the wind resource, can have greater impacts on visual amenity, may lead to specific noise and shadow flicker scenarios for residents in the valley beneath and may have other impacts on the community. Access roads for hill ridge wind farms can also be obtrusive and significantly constrain the available farming land in the area.

Conversely, there appear to be minimal issues raised to date about wind farms that are located on large land holdings, or on flat or slight to moderate undulating land and sites that are well away from neighbours (noting comments made earlier regarding landowner and neighbour agreements in subsections 1 and 2).

There may be opportunities to select and prioritise wind farm projects, from the current pipeline of wind energy generation projects, which better balance the likelihood of acceptance of the project by the surrounding community. Meeting the 2020 goals of the Australian Renewable Energy Target scheme would require approximately only one in three of prospective wind farm projects (on a capacity basis), based on data provided from the CEC and the Clean Energy Finance Corporation, to go ahead. There is therefore an ability to select wind farm projects that meet other key parameters, including economic and regional development goals, while also optimal from a community impact site-selection criteria.

There can be great variances in the final design and turbine layout from the wind farm's original design and approved permit conditions. As these changes occur, there are not necessarily sufficient processes in place to re-assess other nearby wind farm projects for potential compounding impacts on residents

and whether or not projects with such compounding impacts should proceed. There can also be cumulative effects during construction of more than one wind farm in a locality, placing enormous pressures on roads, resources (such as gravel), accommodation and skilled tradespersons.

Given that existing wind farms have most likely already selected optimal sites for their location, management and selection of appropriate new sites from remaining site options may become more difficult. A more 'top-down' approach to selecting optimally located wind farm projects that should proceed may assist greatly in this challenge going forward.

8.2. Recommendations

- 8.2.1. State and local governments should consider assessing proposed wind energy projects on a wider range of criteria (including the suitability of a location from a community impact perspective and the degree of community support) and then prioritising projects for approval or progression accordingly. 'Reverse auction' feed-in tariff schemes such as the schemes recently deployed by the ACT and Victorian governments, could be an example of how to prioritise and incentivise projects to be developed in preferred locations – as well as promote best practice community engagement. New visual amenity guidelines introduced in New South Wales could also restrict development in more populated areas, including reduction of the possibility of multiple wind farms in a given location.
- 8.2.2. State and local governments may also consider other criteria in assessing and prioritising wind energy projects, including economic development and the ability to both support regional and industry development through improved local electricity supply and infrastructure in regional communities. Appropriate zoning overlays for clarifying where it would be appropriate or not appropriate to build and operate wind farm developments should also be considered.
- 8.2.3. Prospecting for new wind farm development sites could be subject to an 'approval to prospect' requirement issued by the responsible authority before prospecting commences. The approval to prospect would be granted on a range of criteria, including the suitability of the proposed site as well as the credentials of the developer and key personnel. See also Recommendation 1.2.9.
- 8.2.4. As part of the assessment suggested in Recommendation 8.2.1, the responsible authority should have processes in place to obtain and verify clear evidence of the developer's consultations with affected landowners and residents and be able to assess the likelihood of strong community support for the project.
- 8.2.5. Once an approved wind farm has commenced construction, the responsible authority should review other proposed wind farm projects in the area for any compounding effects on residents, including noise, shadow flicker and visual amenity. The responsible authority should also have the ability to require a modification to the planning permit and turbine layout of those projects that have not already materially commenced turbine construction. Background noise levels should exclude any noise contribution from a neighbouring operating wind farm for the purposes of applying the noise standard.
- 8.2.6. State governments should publish and maintain a map of all operating and proposed wind farms, including the location of the wind farm, location of turbines, the status of the project (proposed, permitted, in construction or operating) as well as information about the wind farm's design, including number and size/rating of turbines and information about the proponent.

- 8.2.7. State governments, in conjunction with appropriate Australian Government departments/agencies and the Australian Energy Market Operator (AEMO), should review current and planned transmission infrastructure to ensure it is being developed in such a way that will optimally allow new large scale renewable generation facilities to be connected in the most optimal locations for renewable resources, ideally in locations further away from more populated areas. There may be scope for considering this during the development of the Australian Government's Integrated System Plan.

9. Health Matters

9.1. Observations

Much has been and continues to be written and researched on the topic of wind farms and health effects. Debate continues around the world as to whether a wind farm causes physiological harm to residents living in its vicinity.

In 2016, the NHMRC announced the funding of two research studies into wind farms and health. One study is focused on the effects of wind farm noise on sleep and is led by Professor Peter Catchside at Flinders University. The other study is focused on measuring the effects of infrasound and is led by Professor Guy Marks at the University of New South Wales.

In addition, in late 2015, the Australian Government established the Independent Scientific Committee on Wind Turbines (ISCOWT) to provide advice on a range of matters including wind farm noise levels and the relationship to health effects.

A number of complaints about wind farms received by the Office include references to health impacts as a result of wind farm operations. Health conditions cited in complaints include sleep disturbance, headaches, ear-aches, 'pounding' in the ears, tinnitus, tachycardia, high blood pressure, sight impairment, diabetes, chest-tightening, nausea and general fatigue. The complaints generally state that such conditions are caused by audible noise and low frequency noise, including infrasound, along with vibration sensations attributable to the operation of nearby turbines. In some cases, complaints have stated that some health conditions are persisting even when the turbines are not operating.

Despite numerous invitations to complainants to provide evidence of their medical conditions, complaints regarding health concerns received by our Office have provided only anecdotal evidence regarding stated health issues and perceived causality. It has therefore been difficult to confirm whether or not the stated health conditions reported by complainants are valid and, if they were valid, whether or not the health conditions are possibly a result of the wind farm's operations or from some other cause.

It is possible that stated health conditions may be caused by other known causes not related to the wind farm's operations. Of concern is the potential situation whereby a resident may fail to seek and obtain appropriate medical advice and treatment for a treatable health condition due to the possibly incorrect assumption that an operating wind farm is perceived as the cause of the health condition. For example, if a resident is experiencing sleep difficulties, they may be advised by their General Practitioner to attend to a sleep specialist for a proper diagnosis of the root cause and advice on treatment to remedy the condition.

Health conditions may also arise as a result of stress, annoyance or anxiety related to the presence of an operating wind farm or concerns about the effects of a proposed wind farm. Further, uncertainties in relation to whether a proposed wind farm will actually proceed (a period which may extend for several years) may also contribute to stress and anxiety. Again, affected residents may need to seek appropriate medical treatment for these ancillary health conditions as well as seek ways to resolve their concerns.

The Office will continue to monitor relevant decisions that explore evidence about wind farms and health, such as the recent Administrative Appeals Tribunal decision *Waubra Foundation v Australian Charities and Not-for-profits Commission* and the appeal decision regarding the proposed Palmer wind farm in the South Australian Environment, Resources and Development Court. The Office will also monitor and continue engagement regarding any results of the NHMRC funded studies and the work of the ISCOWT, as well as assessing any further evidence gathered through complaint handling activities.

9.2. Recommendations

- 9.2.1. Federal and state governments should continue to assess the outcomes of research into wind farms and health, including outcomes of the two NHMRC funded wind farm health studies and recommendations of the ISCOWT. Environmental standards, such as noise standards, should be monitored and reviewed in line with any recommendations arising from these programs.
- 9.2.2. Residents living in the vicinity of an operating or proposed wind farm that are experiencing health conditions should be encouraged to seek appropriate medical advice to properly diagnose and treat any health-related conditions accordingly. General practitioners receiving patients from wind farm locations should maintain an awareness of wind farm and health matters through bodies such as the Australian Medical Association and assist patients in understanding the need for appropriate testing, diagnosis and remedies for the presented health conditions or concerns.
- 9.2.3. Medical practitioners who identify potential causal links between a patient's health condition and their proximity to the operation of a wind farm should report such incidences in an appropriate way to the relevant professional body, association and/or government agency.
- 9.2.4. Residents who are experiencing unacceptable noise levels from a wind farm should be encouraged to report such incidents to the wind farm operator, the compliance authority and/or the appropriate regulator to initiate the appropriate investigation and resolution of the noise incidents.

10. Reforms and Initiatives

With regard to promoting and adopting best practices, the Office has continued to focus on a range of improvements and reforms within the industry. As discussed in the report, we have built effective relationships with community and industry members as well as federal and state government agencies to facilitate consideration of a number of practical reforms. Some of the reform initiatives the Office is engaged in include:

Community related:

- 10.1 Develop guidance on matters to consider when entering into a neighbour or host landholder agreement.
- 10.2 Develop guidance on matters to consider regarding wind farms when purchasing rural property.
- 10.3 Promote transparency, skills and effective processes in handling complaints about wind farm projects.
- 10.4 Provide insights to the Australian Medical Association that may assist medical practitioners when consulting with patients living in proximity to a wind farm.

- 10.5 Clarify current arrangements in each jurisdiction with regards to rating wind farms for the purposes of council rates, land tax and emergency services levies to identify potential discrepancies and ensure that implications for landowners are understood.

Industry related:

- 10.6 Promote improved transparency of wind farm information and contact details on industry member websites.
- 10.7 Advocate for increased transparency of information about wind farm ownership and notifying relevant agencies when there has been a material change in the ownership of the wind farm.
- 10.8 Identify and promoting best practice models for the funding and accountability of wind farm decommissioning.
- 10.9 Advocate for fair and reasonable agreements between wind farms and landowners (hosts and neighbours) and for access to appropriate legal and financial advice.
- 10.10 Proactively engage with construction companies to assist in their design of community engagement and complaint response programs.

Federal Government:

- 10.11 Review of the Clean Energy Regulator's (CER) compliance enforcement powers and actions that may be taken by the CER in the event of a suspected or reported unrectified material breach of compliance (see also Recommendation 5.2.6).
- 10.12 Review of current CER annual statement return forms to better identify historical or contemporary compliance breaches, including steps taken to rectify breaches, and continue to provide ongoing input to the CER accreditation assessment process.
- 10.13 Consult with lenders, such as the CEFC, to encourage the consideration of specific loan conditions for wind farm projects that improve community outcomes and the rigour of compliance processes (e.g. independent auditing of noise assessments and post-construction noise testing reports).
- 10.14 Collaborative review of wind farm project pipelines with Federal Government stakeholders to identify projects that may have lapsed, changed and/or projects that should be proactively reached out to.
- 10.15 Guidance to the Australasian Fire and Emergency Service Authorities Council (AFAC) and state-based emergency services responders in relation to emergency management/bushfire protocols based on our learnings from actual emergency events.
- 10.16 Review and possible audit of the Royal Australian Air Force (RAAF) tall structure database with regard to input and accuracy of recording proposed and operating wind farm tall structure assets.
- 10.17 Review of the current Civil Aviation Safety Authority (CASA) processes regarding wind farms and air safety matters and the enforceability of CASA's recommendations by state governments into planning permit conditions.

State and Local Government:

- 10.18 Assist state governments during reviews and updates to wind farm planning guidelines. Most recently the Office has assisted and provided input to reviews in New South Wales, Victoria and Western Australia.
- 10.19 Clarification of the primary compliance authority for operating wind farms in each jurisdiction to provide clear accountability for the monitoring and enforcement of wind farm compliance.
- 10.20 Clarification of stewardship of the primary environmental wind farm standards in each state to minimise confusion for community members, government agencies and industry.
- 10.21 Review arrangements with regards to rating wind farms for council rates, land tax and emergency services levies in each jurisdiction so to identify any potential discrepancies and help ensure that responsibilities for costs are clear.
- 10.22 Advocate for a more transparent assessment process in the event of consent to modify permit conditions where material changes to a wind farm's design are proposed. The Victorian Minister for Planning has now adopted this approach when providing consent to requested planning permit modifications.
- 10.23 Provide input to the new Victorian guidelines and criteria for effective community engagement, as to be applied for candidates seeking to participate in the Victorian Renewable Energy Target (VRET) program.
- 10.24 Review current permit and compliance conditions for flora and fauna considerations to identify opportunities for clearer measures, thresholds and outcomes as well as improved compliance management.
- 10.25 Provide suggestions and assistance to assist local councils to fulfil their compliance responsibilities in relation to operating wind farm projects.
- 10.26 Assist resolution of current issues related to the application of the Victorian *Public Health and Wellbeing Act 2008* in regard to the handling of noise nuisance complaints lodged under that Act.

GLOSSARY

A-weighted scale	A scale that is applied to instrument-measured sound levels to replicate the relative loudness perceived by the human ear.
Amenity	The visual impact a wind farm has on the landscape.
Australian Government	The Government of the Commonwealth of Australia (also referred to as Federal Government).
Australian Wind Alliance (AWA)	A not-for-profit organisation that supports the wind energy industry in Australia, with the objectives of boosting regional economies and reducing pollution and greenhouse emissions.
Clean Energy Council (CEC)	The peak not-for-profit organisation supporting the clean energy industry in Australia. The CEC represents a range of clean energy sectors and works with governments and other organisations to promote the industry.
Community Consultative Committee (CCC)	A CCC is a membership that is set up to facilitate consultation between wind farm developers, the community, local councils and other stakeholders that may be involved in the development phase or operation of a wind farm.
Community Association	A non-governmental association of participating members of a community who facilitate representative community engagement in the development process.
Community Engagement	The consultative process of wind farm developers supporting the participation of community members in the development process.
Commercial Dispute	An issue regarding the contractual goods or services of a wind farm whereby financial compensation has been sought by a party (for example, a host or a neighbour).
Complainant	One or more resident(s) from a residence who has contacted the Office for the purpose of making a complaint.
Concerned Resident	A person who resides in a dwelling within proximity to a proposed or operating wind farm facility, who holds concerns about potential impacts of the proposed or operating wind farm and may make a complaint to the Commissioner.
Construction	The stage in which the wind farm including access roads is being built. The construction stage may last a number of years.
dB	Decibels, a measurement unit used to describe the level or intensity (loudness) of a sound.
dB(A)	A-weighted decibels, a measurement unit that used to express the relative loudness of sounds in air as perceived by the human ear.
dB(C)	C-weighted decibels, a measurement unit that is used to measure low-frequency noise.
dB(G)	G-weighted decibels, a measurement unit that is used to measure to infrasound.
Economic Loss	The potential negative impact that a proposed or developed wind farm may have on a particular community or individuals within a community. This is typically the loss or perceived loss of property values or business within proximity to a proposed or operating wind farm.
Expert	A person who has special skill, knowledge or authority in a particularly field of study.
Health	General physical or mental condition of a concerned resident.
Hz	Hertz, a unit which measures the frequency of sound waves, perceived by the human ear as pitch. The typical range of human hearing is 20-20,000 hz.
Industry Association	An organisation founded and funded by businesses and other parties that have an interest in the wind energy industry.
Industry Member	Employee or other party who is involved as a member of an industry association.
Infrasound	Sound that is lower in frequency than 20 Hz or cycles per second, the 'normal' limit of human hearing.
ISCOWT - Independent Scientific Committee on Wind Turbines	An independent, multidisciplinary, expert group established in 2015 by the then Minister for the Environment, the Hon Greg Hunt. The Committee was primarily established to investigate and provide advice on the potential impacts of sound from wind turbines.
LA90,10min	The A-weighted sound pressure level, obtained by using the fast time-weighting, that is equal to or exceeded for 90% of a 10 minute time interval. The values for individual 10 minute time periods are highly variable and a function of the hub height wind speed. The actual value for a particular hub height wind speed is determined by best fitting a polynomial function of hub height wind speed, which can be up to fourth order, to the individual 10 minute time period LA90,10min values when the wind turbines are operating. It is corrected to remove the effect of the

	background noise by subtracting a background noise function determined in the same way when the wind turbines are not operating. For example, for a particular hub height wind speed, the $L_{A90,10min}$ function determined as described above must be less than the greater of 35 dB and the background noise function determined as described above plus 5 dB.
Micro-siting	The process whereby the specific location of a wind turbine is determined.
National Health and Medical Research Council (NHMRC)	An independent statutory agency and expert body that promotes the development and maintenance of public and individual health standards. NHMRC provides research funding and development of advice, drawing upon a broad range of resources.
Natural Environment	The land, water, biodiversity, flora and fauna and the naturally occurring ecological processes that may be impacted by the development or operation of a wind farm.
Neighbour	A resident of a property that is within close proximity to a wind farm turbine/s, but does not host the turbine.
NZS 6808:1998	A recognised standard in New Zealand introduced in 1998 that provides methods for the prediction, measurement and assessment of sound from wind turbines. This standard was based on the United Kingdom 1996 Energy Technology Support Unit (ETSU) report <i>The assessment and rating of noise from wind farms</i> (ETSU-R-97, 1996). However the New Zealand standard introduced the L_{95} measurement used to describe background sound in New Zealand. The standard limit was 40dB, with a 'background +5 dB' variable. This standard was used for all wind farms in New Zealand until the introduction of the 2010 standard and was also adopted in Victoria prior to 2010.
NZS 6808:2010	A recognised standard in New Zealand introduced in 2010 that provides methods for the prediction, measurement and assessment of sound from wind turbines. This standard succeeded the 1998 version. While the 1998 version was introduced prior to significant wind farm development in New Zealand, a number of technical refinements and incremental enhancements were included in the 2010 standard. Notably, the standard also provided for a more stringent 'high amenity noise limit' in special local circumstances.
Ombudsman	Appointed authority to assist the public by investigating and resolving complaints on a specified issue.
Planning Process	A local, state or Federal Government process to determine whether a proposed project will be approved.
Responsible Authority	The planning authority responsible for the project from a planning/approval/compliance perspective.
Safety	The potential for the wind farm to cause danger, risk or injury to residents of a community within proximity to a wind farm. May include issues such as sleep deprivation, fire hazard, or any personal well-being.
Shadow flicker	The shadow cast by the sun over the rotating blades of a wind turbine that results in a rotating shadow affecting neighbouring properties.
Supportive Member	A person who resides in a dwelling within proximity to a proposed or operating wind farm facility, or is a member of the community that is in favour of a proposed or operating wind farm.
Terms of Reference	The specifications that outline the scope and limitations of the Office. See Appendix A .
Vibration	An effect of the infrasound that is produced by turbines.
Wind Farm Maintenance/Operations	Related to the ongoing process of ensuring the upkeep of the wind farm turbines for the life of the project.
Wind Turbine	Device with at least one moving part called a rotor assembly, which is a shaft or drum with blades attached, which is used to convert the wind's kinetic energy into electrical power.

APPENDIX A

Office of the National Wind Farm Commissioner

TERMS OF REFERENCE

The negotiated settlement of the Renewable Energy Target in mid 2015 is expected to lead to increased construction of wind turbines in the next five years.

The Senate Select Committee on Wind Turbines, held during 2015, identified many issues of concern relating to the standards, monitoring and operation of wind farms.

The Government responded positively to the recommendations of the Committee's Interim Report, including creation of the role of a National Wind Farm Commissioner.

The Commissioner will work collaboratively with all levels of government, scientists, industry and the community to resolve complaints from communities about proposed and operational wind farms.

The Commissioner will refer complaints about wind farms to relevant state authorities and help ensure that they are properly addressed.

The Commissioner will work with stakeholders to identify needs and priorities for monitoring wind farms.

The Commissioner will lead efforts to promote best practices, information availability, and provide a central, trusted source for dissemination of information.

The Commissioner, supported by the Australian Government Department of the Environment, will report to the Minister for the Environment and provide an Annual Report to the Australian Parliament on delivering against these Terms of Reference.

The work of the Commissioner will not duplicate or override the important statutory responsibilities of other jurisdictions, such as those relating to the planning and approval of wind farms.

The Commissioner is to draw on the work of the Independent Scientific Committee on Wind Turbines.

The role of the National Wind Farm Commissioner will be established for an initial period of three years and will be reviewed by the Australian Government.

APPENDIX B**Office of the National Wind Farm Commissioner**

COMPLAINTS HANDLING POLICY

(Version 1.4 – 1 August 2016)

Introduction and principles

1. The National Wind Farm Commissioner (the “Commissioner” or “we” or “our”) is an independent role created by the Australian Government, reporting to the Minister for the Environment and Energy. A primary role of the Commissioner is to receive complaints from concerned residents (“you”) regarding proposed or operating wind farm facilities. The Commissioner also works collaboratively with all levels of government, scientists, industry and the community to facilitate the adoption of best practices related to wind farm developments and operations.
2. This document outlines the Commissioner’s policy and procedure for receiving and handling complaints. In undertaking this role, the Commissioner may assist parties to find resolutions to complaints. Where appropriate, the Commissioner may refer complaints about wind farms to relevant government authorities and help to ensure that they are addressed.
3. Residents should bear in mind that the Commissioner’s role in complaint handling is a facilitation role only. The Commissioner will not formally recommend particular solutions to disputes, arbitrate complaints or provide formal advice. The Commissioner may, however, suggest possible solutions for consideration by the parties.
4. In seeking to address resident complaints, the Commissioner will not seek to duplicate or override the important statutory responsibilities of State and Territory governments or local government authorities.
5. You may still pursue your complaint via other jurisdictions, such as formal legal action or other dispute resolution mechanisms.
6. Core principles that guide the handling of complaints by the Commissioner are:
 - We are independent.
 - Our role is to use best efforts to assist the parties to find acceptable outcomes and reach agreement on a way forward.
 - We will assist parties to share fact and evidence based information relevant to a complaint so that they can work towards an outcome.
 - We will always act independently, impartially and ethically.

- We expect that the parties involved in a matter brought to the Commissioner will act with integrity and respect, and be genuinely seeking an outcome to the issues raised.
 - The Commissioner's process is a voluntary process.
7. The Commissioner will use best efforts to assist parties to resolve complaints received by the Office, however, the Commissioner will not provide legal, professional or technical advice to any person. While the Commissioner will undertake the role with due care, the Commissioner or the Commonwealth will not be liable for any loss or damage arising from the Commissioner's activities.

Our procedures for handling complaints

8. The Commissioner will receive complaints from concerned residents who reside in a dwelling within proximity to a proposed or operating wind farm facility. The concerned resident may be represented by an appropriate nominee acceptable to and approved by the Commissioner.
9. The Commissioner may decide not to handle a complaint. One of the factors in determining whether or not the Commissioner will handle a complaint will be how current the issue is. For example, the Commissioner is more likely to accept a complaint that relates to a current issue as there will more current and available evidence and prospects of resolution. Older complaints, particularly those that were about issues that occurred more than six years ago, are unlikely to be considered.
10. Our procedures enable us to provide an independent, objective and consistent process for responding to enquiries and for handling complaints from concerned residents. There are five main steps in our complaint resolution process:
- i. Enquiry**
 - ii. Complaint**
 - iii. Referral**
 - iv. Conciliation**
 - v. Closure.**

Enquiry

11. Your initial contact to the Commissioner will be treated as an enquiry if you:
- are requesting or providing information only
 - choose to remain anonymous
 - are not a resident or a person working within proximity to a proposed or operating wind farm facility; or
 - have lodged an initial complaint and need to provide more information before the matter can be accepted as a formal complaint by the Commissioner.

You may contact us by letter, email or telephone.

Complaint

12. If you would like to lodge a complaint with regard to a proposed or operating wind farm facility, we require the following information from you in writing, via letter or email:

- your name
- your address
- your contact details, including telephone and email
- the name of the proposed or operating wind farm facility
- the approximate distance of the nearest turbine to your dwelling
- the complaint you wish to make about the wind farm facility
- the basis of the complaint
- when you first made the complaint about the wind farm to the other party
- evidence in support of the complaint, including relevant dates
- a summary of any current or previous attempts to resolve the complaint, including relevant correspondence from you and other parties to the complaint
- the practical outcomes you are seeking in a resolution to the complaint
- your written permission for the Commissioner to discuss the complaint and provide your details to the other party or parties to the complaint; and
- other information we may deem necessary to assist us in attempting to understand the complaint and approaches for its resolution.

You may contact the Office for assistance and questions that you may have in preparing the materials to lodge a complaint.

Accepting your complaint

13. When we have received all of the requested information from you to file a complaint, we will accept your complaint, confirm with you that your complaint has been accepted and ensure that you have been provided with a complaint reference number.
14. The Commissioner will review the materials provided and may contact you to discuss the matter. The Commissioner may also contact other parties that are relevant to the complaint and assess their willingness to work to work with us to resolve the complaint.
15. Based on the review of the information and subsequent discussions, the Commissioner will determine the next steps in the complaint handling process.

Information handling

16. All information received by the Office for the purposes of handling these complaints will managed by the Commissioner and staff in accordance with *The National Wind Farm Commissioner Information Handling Policy*, available at www.nwfc.gov.au.

Referral

17. In many cases, the complaint may be best handled by a direct referral to the other party, such as the wind farm developer, wind farm operator, a State or Local Government department or agency. The Commissioner will assist in facilitating the referral, where possible.
18. When referring a complaint, the Commissioner may need to pass on information that you have provided to the Commissioner, including your contact information, to the other party, department or agency.
19. The other party may contact you directly in writing to address the issues raised in your complaint or provide information to us that we may then share with you.
20. Following any correspondence or discussion between the parties, the Commissioner may contact you and enquire whether or not the complaint has been resolved.

Conciliation

21. In the event that the complaint has not been resolved by referral, the Commissioner may seek to conciliate the complaint between you and the other party. If the parties are agreeable, the Commissioner will invite you and the other party to meet with the Commissioner for a discussion about the complaint and potential solutions. The meeting is an opportunity for the parties to come together, present their point of view and, in the presence of the Commissioner, attempt to resolve the complaint by agreement.
22. The Commissioner will confirm, after consultation with the parties, when and where the meeting will take place and who is to attend the meeting.
23. At the beginning of the conciliation meeting, the parties will be informed by the Commissioner about the way the conciliation will be conducted and the role of the Commissioner at the meeting.
24. If parties do not resolve the complaint at the conciliation meeting, a further meeting may be scheduled if the Commissioner is of the view that a subsequent meeting would be productive.
25. If attempts to conciliate the complaint do not result in an agreement to resolve the complaint, the Commissioner may, at the Commissioner's discretion, make non-binding recommendations to the parties. Such recommendations are not enforceable and are made in good faith for the parties to consider and decide whether or not to accept any recommendations made.

Closure

26. The Commissioner will consider whether a complaint is resolved and/or may close the file and stop handling the complaint at the Commissioner's discretion. Reasons may include where:
 - you confirm that you have accepted the other party's offered resolution
 - information has been provided by the respondent that addresses the questions or issues raised

- the Commissioner has made recommendations to the parties
- you do not provide consent for us to discuss your complaint or share information
- despite our efforts, you have not been able to reach a resolution of your complaint and we consider that further time and effort in handling the complaint will not assist with achieving a resolution
- you advise us that you no longer wish to pursue the complaint; or
- despite our efforts, you cannot be contacted by us to discuss the complaint.

27. The Commissioner may decide to also stop handling a complaint for other reasons. These include where:

- you have not provided sufficient documentation or evidence by a stated time for there to be an meaningful discussion of the complaint between the parties
- you have engaged legal representation to handle your complaint
- you have made threats to our Office or respondents to the complaint
- your behaviour has been unreasonable and detrimental to the objective of reaching a resolution to the complaint.

When we close the file on an accepted complaint, we may advise you that the matter will not be considered further by our Office and explain our decision. We may also inform the other party, if required.

Respect

28. We expect that all parties to a complaint will communicate with us and with each other in a professional, courteous and non-threatening manner. We take a serious view of communications that contain offensive, rude, abusive or threatening material. In these cases we may take a number of steps, including:

- suggesting that a party only communicate to the Commissioner in writing
- editing information that we have received to remove offensive or abusive comments
- not responding to communications that contain offensive or abusive comments
- stop handling the complaint; or
- report issues of concern to a higher level of management or to an external agency or regulator, the police or a law enforcement agency.

Contact details and website:

Email: nwfc@environment.gov.au

Toll free number: 1800 656 395

Mail:

Office of the National Wind Farm Commissioner
PO Box 24434
Melbourne VIC 3001

Website: www.nwfc.gov.au

Our website has a range of resources that may assist, including our *Guide to Conciliation*, which can be found at <https://www.nwfc.gov.au/publications/guide-conciliation-meetings>.

APPENDIX C



Office of the National Wind Farm Commissioner

INFORMATION HANDLING POLICY

(Version 1.2 – 23 March 2018)

Introduction

1. A key role of the Office of the National Wind Farm Commissioner (“the Office” or “we”) is to receive complaints from concerned residents regarding proposed or operating wind farm facilities and to assist the parties to the complaint to facilitate a resolution where possible. Complaints are received, accepted and handled in accordance with the Complaints Handling Policy at www.nwfc.gov.au.
2. All information received by the Office for the purposes of handling complaints will be managed by the Office in accordance with this policy, the Commonwealth *Privacy Act (1988)* and the Department of the Environment & Energy’s Privacy Policy at: <http://www.environment.gov.au/privacy-policy>.

Information we collect and store

3. We may record relevant information provided by complainants, including:
 - their name, address and contact details (including telephone and email)
 - complaint information and evidence provided in support of the complaint
 - the history of the complaint, including relevant correspondence
 - the outcome being sought in relation to the complaint
 - other information provided by the parties in relation to the complaint.
4. For each enquiry or complaint that we deal with, we may keep a record of:
 - our contact with the resident and the other parties to the complaint
 - any verbal or written authority given for another person to act as a nominee on behalf of the resident
 - correspondence we have received and sent
 - information received from the resident and the other parties
 - issues raised and information discussed, both internally and externally.

5. We will make every effort to protect this information from unauthorised disclosure. We record information, in electronic form, in a secure Complaint Management System provided by the Department of the Environment & Energy and may also keep hard copies of documents.

How we will disclose information

6. We may share information provided to us and other information relating to complaints with a range of third parties. Reasons and examples include:
- a) Information may be shared with another party to a complaint in order to give them an opportunity to respond to the information where, in our view, the sharing of information will help in the resolution of the complaint. As part of lodging a complaint, complainants will need to give consent to our discussing the complaint and sharing the information they provide with other parties relevant to the complaint. We may also ask the other party to contact you directly to engage in a discussion or convene a meeting with you to allow the other party to better understand the issues and/or directly resolve the complaint.
 - b) We may also provide information to government agencies where the complaint is best handled by referral to a State or Local Government department or agency in accordance with our Complaints Handling Policy.
 - c) We may also provide some complaint and enquiry information to other organisations where we need to report issues to an external agency or regulator, the police or a law enforcement agency. We will not necessarily ask for permission to share information in these circumstances.
7. If we need to disclose personal information with a third party in a way that is not contemplated by the *Commonwealth Privacy Act (1988)*, our Complaints Handling Policy or by this policy, we will seek your consent prior to sharing the information.
8. Where a party has received information disclosed by the Office, the third party is required to handle and store the information consistent with any privacy laws that apply to them.

Confidentiality

9. In dealing with a complaint, we may facilitate information sharing between the parties to assist in seeking a resolution or outcome.
10. Information exchanged between parties during meetings arranged by the Office is not confidential, unless the parties agree otherwise. If a party asks to keep specific information confidential, the party will need to clearly identify such information and the conditions for disclosure of the information to any other party. Parties may agree to enter into confidentiality agreements during the Complaint Handling Process, however the Commissioner will not be bound by such agreements.
11. When a party requests that information is kept confidential, we will inform them of any impact this may have on the resolution of the matter. Such restrictions may impact on our ability to further assist with the resolution of the complaint.

Privacy

12. Some of the information that we collect and store may contain personal information. We will handle personal information consistent with this policy, with applicable Australian privacy laws and the Department of the Environment & Energy's Privacy Policy at: <http://www.environment.gov.au/privacy-policy>.
13. If a complainant does not wish for the Office to use or disclose personal information, the complainant will need to make this clear to us when providing the information. We may advise the complainant if we think that this will limit the way in which we can assist them with their complaint.
14. Regardless of whether or not a complainant or person consents to any disclosure of personal information, we may disclose the information to relevant third parties where permitted under the *Privacy Act (1988)*. These third parties may include other parties to the complaint, law enforcement bodies, or a House or Committee of the Australian Parliament.

Requests for the release of information from our records

15. When a third party requests information from our records, and the circumstances are not covered by this policy, we will be guided as to whether the information should be released by applying the *Freedom of Information Act (1982)*.