

# Coopers Gap Wind Farm Community Consultative Committee

## Impact of Wind Farms on Surrounding Land Values



Presented by  
Robert Dupont

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# Impact of Wind Farms on Surrounding Land Values

## 2009 Preliminary Assessment

- 2009 Preliminary Assessment of the Impact of Wind Farms on Surrounding Land Values
- NSW Valuer-General / Department of Lands
- Cabinet submission on social, environmental and economic costs and benefits

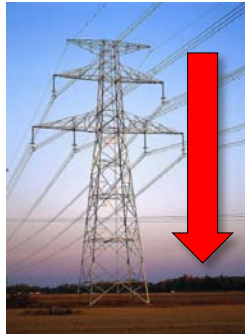


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# Impact of Wind Farms on Surrounding Land Values

## Values of Surrounding Properties

- Often key concern of surrounding residents
- Little information / research done to date
- Concerns are understandable as views and noise are known to be strong drivers of property values



# Impact of Wind Farms on Surrounding Land Values

## Difference



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# Impact of Wind Farms on Surrounding Land Values

## 2009 Research was inconclusive

Author (Year)	Nation	Methodology	Results	
Jorgenson (1996)	Denmark	Sample: 102 locations Analysis: Hedonic price modelling	Slight reduction in value found.	↓
Sterzinger et. al. (2003)	US	Sample: 25,000 Analysis: Hedonic price modelling	Increases in values found.	↑
Sims & Dent (2007)	UK	Sample: 1,052 Analysis: Hedonic pricing modelling	No statistical relationship found.	—
Hoen & Wiser (2008)	US	Sample: 450. Analysis: Hedonic price modelling with physical inspections of each sale. Most robust study to date.	No statistical relationship found. Some isolated cases of value reduction.	—
Henderson & Horning (2006)	Australia (Crookwell, NSW)	Sample: 78 Analysis: Conventional valuation analysis	No reduction in value found.	—
Hives (2008)	Australia (Waubra, Vic)	Sample: 12 Analysis: Conventional valuation analysis	No reduction in value found for rural properties. Possible reduction found in lifestyle properties.	—
Jess (2008)	Australia (Vic)	Sample: 7 Analysis: Conventional valuation analysis	Revealed developer had purchased surrounding properties. One property value estimated to have reduced by 30% but subjective.	↓

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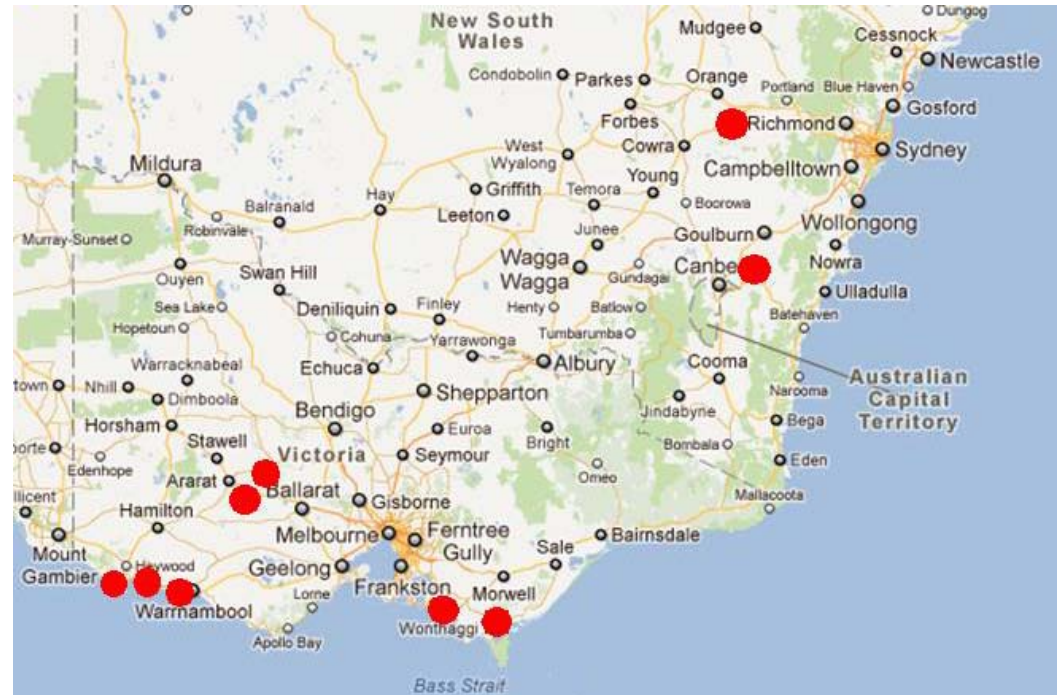
## Method

### Sample: 8 wind farms inspected

- Blayney
- Capital (Lake George)
- Waubra
- Challicum Hills
- Toora
- Wonthaggi
- Cape Bridgewater
- Codrington / Yambuk

### Analysis

- Before and after sales analysis
- Matched pairs sales analysis



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## Results

- 45 sales investigated
- 40 did not show any reductions in value
- 5 properties were found to have lower than expected sale prices
- Urban block 6% reduction
- Rural lifestyle properties 6%, 24%, 25% and 27% reductions plus a 15% increase
- But inconsistent



# Impact of Wind Farms on Surrounding Land Values

## 2009 Conclusions

- Least likely to affect rural properties
- Generally will not impact standard residential properties located > 2 kilometres away
- Most likely to affect lifestyle properties where dwelling is located within 1 kilometre of turbines
- Conclusive trends yet to be evident in sale prices



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## Recommendations by NSW Government

- Conclusions may not represent conditions in NSW or Australia
- No conclusions regarding impact on lifestyle properties – therefore no conclusions on ANY property in NSW
- Identified setbacks as reducing impacts on values
- Recommend further comprehensive and ongoing research



# Impact of Wind Farms on Surrounding Land Values

## 2009 - What's happened since?

- Perception in marketplace regarding health issues
- Scientific evidence still refutes health concerns
- Clean and green image challenged
- Anecdotal evidence gets strong publicity



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# Impact of Wind Farms on Surrounding Land Values

## 2013 – Further Studies

### Australia – CSIRO – International

- Hoen & Wise 2009 seminal study – 7,500 properties, 3 models – 24 sites
- Hinman 2010 – 3,581 transactions over 9 years – 12 sites
- Carter 2011 – 1,298 sales over 13 years – 20 sites

All hedonic studies with large databases



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## Hedonic Method

- Scenic vista stigma
- Area stigma
- Nuisance stigma
- Anticipation stigma



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# Impact of Wind Farms on Surrounding Land Values

## Hedonic Method

$$\ln(P) = \beta_0 + \beta_1 N + \sum_s \beta_2 S + \sum_k \beta_3 X + \sum_v \beta_4 VIEW$$
$$+ \beta_5 DISTANCE + \beta_6 ((DISTANCE - 1) \cdot LTIMILE) + \varepsilon,$$

(1)



# Impact of Wind Farms on Surrounding Land Values

## Peer Review Conclusions



- No statistically significant effects on values
- All three reports indicated a possible link to anticipation stigma



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## Dissent

- McCain - USA – 2010 20% - 25% Reduction (no peer review)
- Valuation Office Agency – UK Lower Banding
- 2012 Sunak / Madlener – Germany – 18 years, 1,042 sales
  - No anticipation stigma
  - Proximity to turbines a major input
  - 200 metres = 1% reduction in value
  - > 2 kilometres – no significant effect



# Impact of Wind Farms on Surrounding Land Values

## Market Influences on Values

- Perception = Health and resale
- Aesthetics = Industrial appearance
- Noise = Effects subjective
- Alternatives = Longer marketing
- Common sense = With / Without





# Impact of Wind Farms on Surrounding Land Values

## Negative Publicity

- CSIRO study acceptance of rural wind farms 2012
- Stronger support than otherwise assumed from media coverage
- Existing regulatory approach biased towards negative publicity
- NSW government survey: 23% against proposal > 10 kilometres from site



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# Impact of Wind Farms on Surrounding Land Values

## Short term – Concept Planning Stage



Anticipation stigma

- Fear of unknown
- Negative publicity
- Deters purchasers

← Your own worst enemy

- Potential for decrease in values highest in this phase



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# Impact of Wind Farms on Surrounding Land Values

## Medium Term – Construction Phase

- Increased activity and prosperity advantage to business
- Strong demand for short term accommodation
- Upward pressure on rents
- Strong increase in economic activity
- Little increase in general property values



# Impact of Wind Farms on Surrounding Land Values

## Long Term – Operation and Maintenance

- Known quantity, general acceptance
- Economic benefit
- Various studies: approx 5 turbines = 1 regional job
- Lessors' income spent locally
- General increase in values

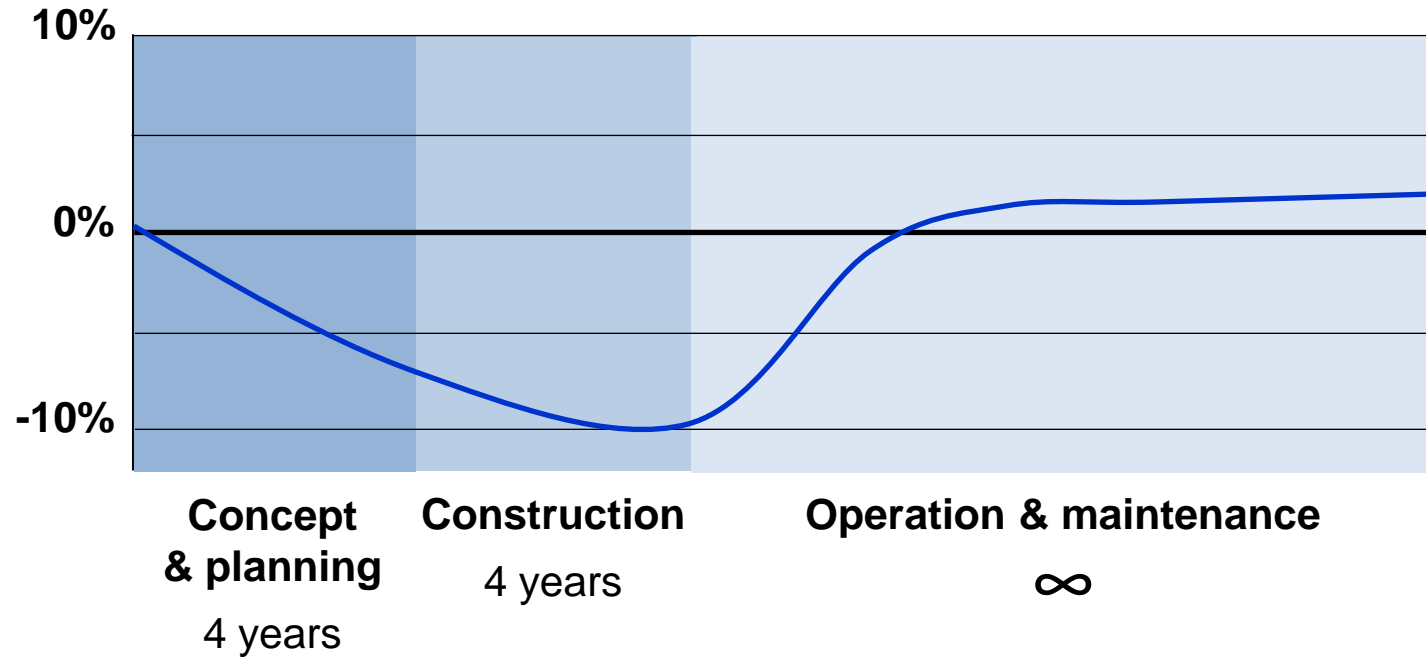


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# Impact of Wind Farms on Surrounding Land Values

## Value Curve



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## Thank You

