



TWEED
SHIRE COUNCIL

Landfill Emissions Response

A positive approach to landfill gas

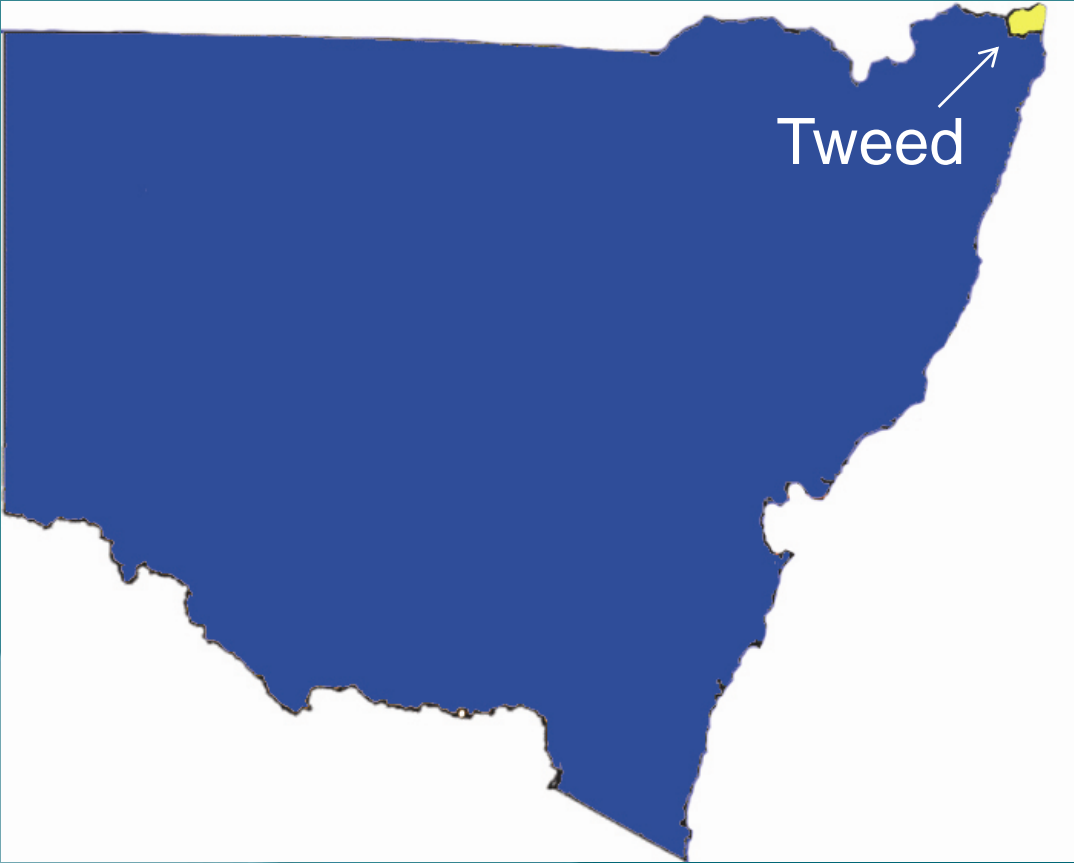
Australian Local Government
Association

Carbon Price and Council
Landfill Forum
Canberra April 2012

Who we are at Tweed Shire Council

- Tweed Shire Council has a population of approximately 90,000 residents
- Hinterland and coastal villages with much growth
- Provide 36,000 properties with a kerbside waste and recycling service
- 14,000 take up the optional green waste service
- One central facility Stotts Creek RRC which hosts putrescible landfill, non-putrescible landfill, and all recycling and recovery activities

This is Tweed



What we at Tweed Shire Council are not

- We are not experts in the Clean Energy Legislation Package
- We are not experts in Carbon Farming Initiative
- We are not experts in NGERs

Tweeds approach to landfill emissions

- New bin system to reduce waste & organic loading in landfill
- Education program
- Entered into negotiations (early) with gas infrastructure contractor
- Signed up for NGERs (early) to quantify our emissions profile
- Entered regional discussions with active waste group
- Strategic planning: TSC's 2012-2021 Community Strategic Plan
- Executive and Political backing

Stotts Creek Resource Recovery Centre



- Landfill inputs is approximately 50,000 tpa (40 putrescible)
- Will reach capacity in 2013
- Our current NGERs emission result is around **18kt** due largely to active gas extraction and combustion
- Future Quarry and Landfill proposed for adjoining site - Eviron

Stotts Creek RRC Renewable Energy Facility

- B.O.O
- 1 x 0.4 megawatt Micro Power Station
- Back up Flare
- Credits and electricity sales to contractor
- Emission and environmental benefits to Council

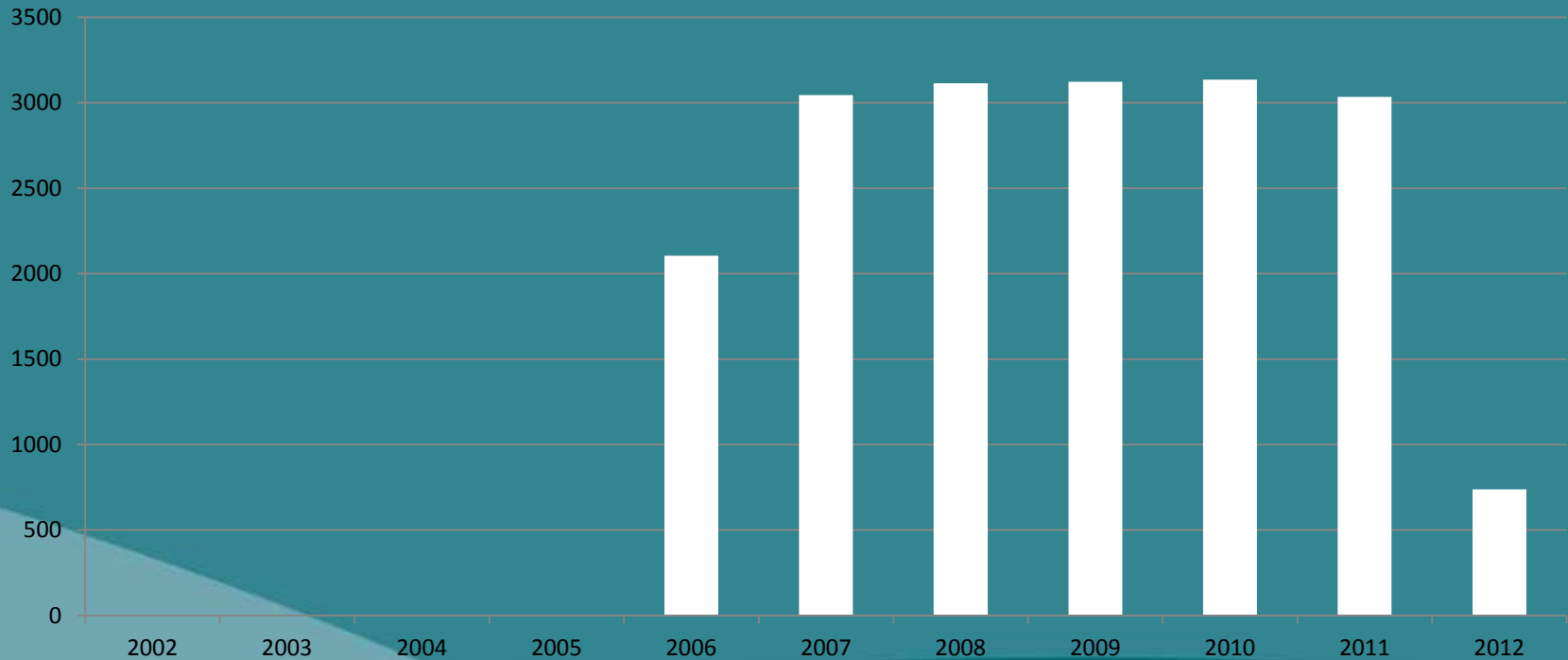


Renewable Energy Facility

- Understood to be the only landfill gas micro power station in Australia
- Flare installed 2002, REF commenced 2006
- To date has produced 18,000 megawatt hours and captured 11,000,000m³ of landfill gas (about half of which is methane)
- Reduced the facilities emissions by around half
- 45 gas wells in capped landfill cells and sacrificial wells installed in active waste fill areas
- Expected to continue for another 20years

Total Megawatt hours per year (calendar)

Tweed Shire Renewable Energy Facility



Our actions with NGERs to date

- **Year 1 (2008/2009):**
 - **Registered in NGERs as an entity (corporation)**
 - **Engaged a consultant to assist with data capture and calculations, and provide Council with a toolkit**
 - **Councils activities did not meet the corporation threshold (100kt)**
 - **Stotts Creek RRC exceeded the facility threshold (25kt) with emissions registered at 27.48kt**
 - **Data for Stotts Creek RRC only, was keyed into OSCAR**

Facility Name	GHG Emissions (kt CO2-e)
BP WWTP	4.05
Stotts Creek RRC	27.48
BP WTP	1.04
Street lighting	2.57
Public BBQ/toilet	0.05
Vehicle Fleet	2.97
Swimming pools	0.84
Civic Centres	1.41
Town Clocks	0.001
Emergency Services Buildings	0.02
Cemetery	0.08
Art Gallery	0.95
Sports Grounds	0,20
Depots	0.20

Our actions with NGERs to date

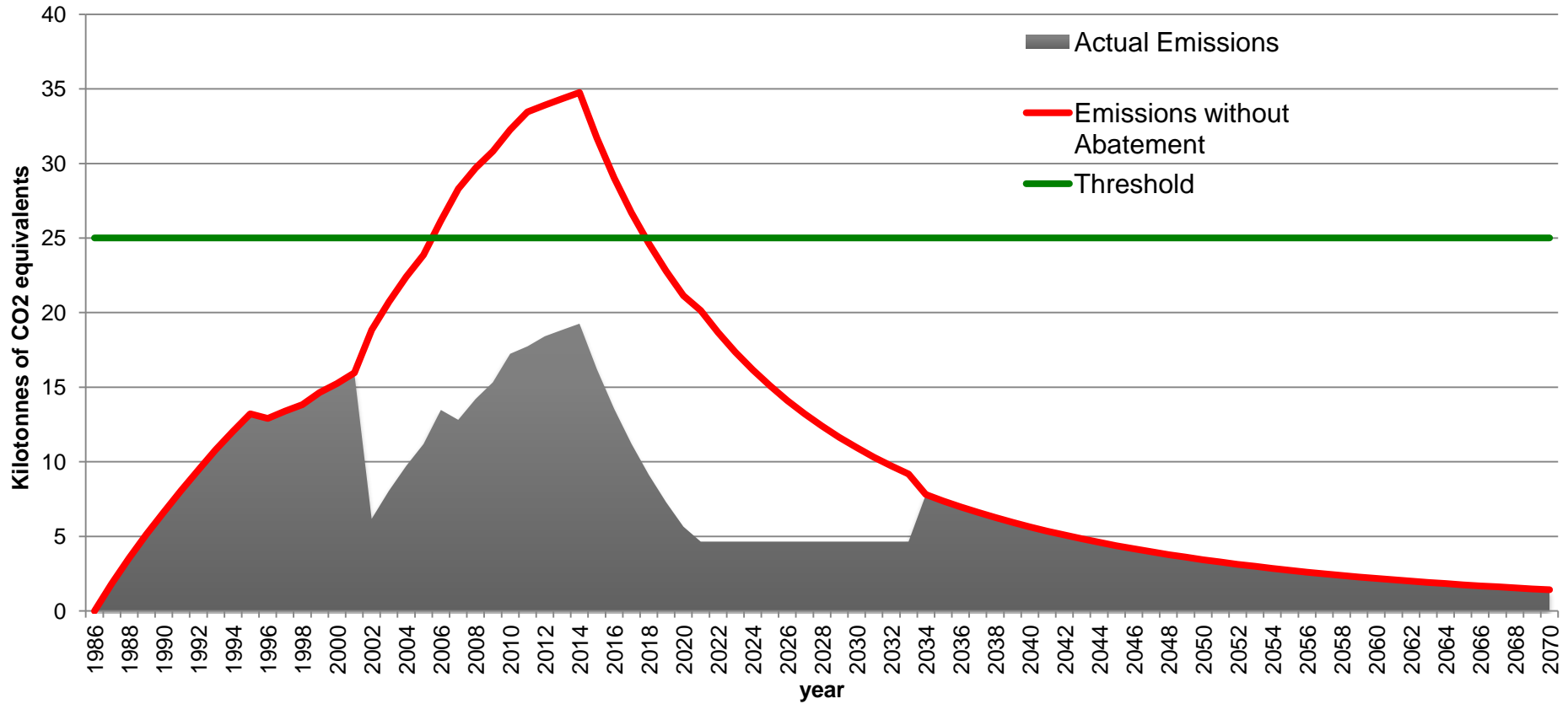
- **Year 2 (2009/2010)**
 - **Utilised consultant data capture toolkit to calculate emissions from Stotts Creek RRC (facility) only**
 - **Keyed data into new version of NGERs**
 - **Due to changes in the default waste mix types the emissions profile dropped dramatically**
 - **New results were 2008/2009 15.32kt and 2009/2010 17.24kt**
 - **Results clarified with DCCEE & OSCAR report produced**

Our actions with NGERs to date

- **Year 3 (2010/2011)**
 - **Utilised consultant data capture toolkit to calculate emissions from Stotts Creek RRC (facility) only**
 - **Keyed data into new version of NGERs**
 - **Emissions result was 17.73kt**
 - **Independently assessed by another consultant**
 - **OSCAR report produced**

Emissions Profile

Emissions Stotts Creek RRC



What you will need

- A very good handle on your current and historical waste to landfill inputs
- A very good handle on your waste characterisation (unless you intend to use defaults)
- Good data capture and communication with your gas contractor
- Other scope emissions data (fuel, electricity etc.) but these are miniscule
- A good attitude

What we struggled with

- Historical waste tonnage and characterisation data
- Inconsistencies with early NGERs calculator (decomposition delays and waste mix streams) dramatically reduced the facilities emissions and therefore exposure to the carbon legislation
- No threshold = no report
- Confidence in our numbers

What we are doing now

- Engaged a consultant to truth our numbers
- Reviewing existing gas harvest contract for Councils new landfill development (royalties, CFI etc)
- Reviewing our landfill contract to determine 'operational control'
- Continue with regional waste disposal strategy
- Continue with investment into new landfill infrastructure with a close eye on Carbon Legislation

Any questions?

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