

# **OneSteel Whyalla – Water Efficiency**

## **AIG Presentation**

**March 25<sup>th</sup> 2011**

## Background: Nature of Operations

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- Open cut magnetite & hematite ore mining operation
- >6 million tonne hematite ore export business
- 60km magnetite-slurry pipeline
- Fully integrated 1.2 million tonnes per annum steelworks
  - Pelletising plant,
  - Coke ovens,
  - Blast furnace,
  - Power station,
  - BOS Steelmaking & caster,
  - Long-product rolling mills

## Water – Our Approach

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### **Water**

Employee Awareness  
Direct Savings  
Alternative Water Sources



# Water – Awareness

## Engagement of the workforce

### Environment Champions Network Water Awareness Campaign Facilities Upgrade

#### Sustainability Update



##### Waterless Urinals-

Waterless urinals have now been installed at Admin and the Cafeteria.

The only water that needs to be used is by the cleaners each morning. The water supply to flush the urinals has now been turned off in these areas.

No flushing is required, which reduces water use significantly (by up to 98%).

The desert Cubes use microbial technology which triggers a natural breakdown of organic matter inside the drain, they also interfere with the bacterial digestion that produces unpleasant odours.

Waterless Urinals are successfully being used at a number of other sites within Whyalla and will be installed in other frequently used urinals within the steelworks.

Sara-Kate Stacey  
Environment Awareness Leader (4399)

An office building with 100 male staff could save 1,333,200 litres of fresh water per year



#### Sustainability Update

We would like to hear from you!

A Water Awareness Pamphlet has been sent out to all Onesteel employees which contains many useful water saving ideas for both at work and at home.

A tear-off feedback form is included as part of the pamphlet which will enable you to put forward your water saving ideas that are applicable to the Onesteel site.

All ideas received will be greatly appreciated!

The Water Saving Steering Team will review the ideas with prizes available for the most effective and/or easily implemented.

A prize will also be rewarded to the best idea from each business unit.

Your ideas can either be:

- Emailed to [OpportunitiesforWhyalla@onesteel.com](mailto:OpportunitiesforWhyalla@onesteel.com)
- Posted to Sara-Kate Stacey (Environment Department)
- Dropped off to your Department Administration in the allocated box:

- Plant Plant (Larisa Todd's office)
- Ironmaking (Sue Niemann's office)
- Mines (Kris Olsen's office)
- Steelmaking (Kerry Ballard's office)
- Steel Products (Dorothy Coomb's office)
- Maintenance Services (Maureen Ripley's office)
- Admin (Block 7 entrance)

Sara-Kate Stacey  
Environment Awareness Leader (4399)



**The Water Marley** - which, like a natural antiseptic, kills any bacteria that may be present, increased safety and a decline in odour, flora and fauna. By being clean water in your home and work place, we can all do our bit to ease the pressure on the planet.

The South Australian Government has implemented and installed advanced water filtration in an effort to conserve water. This solution captures a range of harmful and genetic issues to give water, both filtered and in the marketplace. By adopting some of these simple changes, you can make some considerable savings in water.

##### WATER-SAVING STRATEGIES

###### WORK - Do

- Identify and eliminate water leakage in your area.
- Reduce water usage when you are not present.
- Report any leaks.
- Adjust the rates to the industry required for the operation.
- Identify any equipment that is not working properly.
- Use the correct tools to ensure water is used only when needed.
- Apply pressure or fixtures water and replace with water-efficient models.
- Identify any equipment that is not working properly.
- Fixing any leaks through implementing pressure changes.
- Review wastewater return process.

###### WORK - Don't

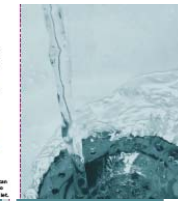
- Don't use a hose.
- Don't use a hose to clean up spills.
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##### HOME - Do

- Verify that your home is leak-free, make sure all taps are turned off and check if the water meter shows any flow.
- Install flow restrictor devices for toilets and water efficient showerheads that will significantly reduce water flow.
- Turn off the shower when you are soaping up.
- If you shower for 10 minutes, a water-efficient showerhead can save up to 100 litres of water for each shower, or up to 20,000 litres of water per year per person.
- Use a bucket to catch water when you are soaping up.
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##### WATER-SAVING IDEAS

Form for submitting water-saving ideas.

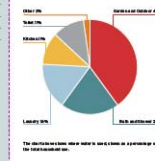


##### WATER-SAVING STRATEGIES

###### HOME - Don't

- Don't use water to clean up spills.
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###### HOUSEHOLD WATER USE



##### HOME - Do

- Review and reduce all water consumption and water leakage.
- Check for leaks in your home.
- Use the correct tools to ensure water is used only when needed.
- Apply pressure or fixtures water and replace with water-efficient models.
- Identify any equipment that is not working properly.
- Fixing any leaks through implementing pressure changes.
- Review wastewater return process.

###### HOME - Don't

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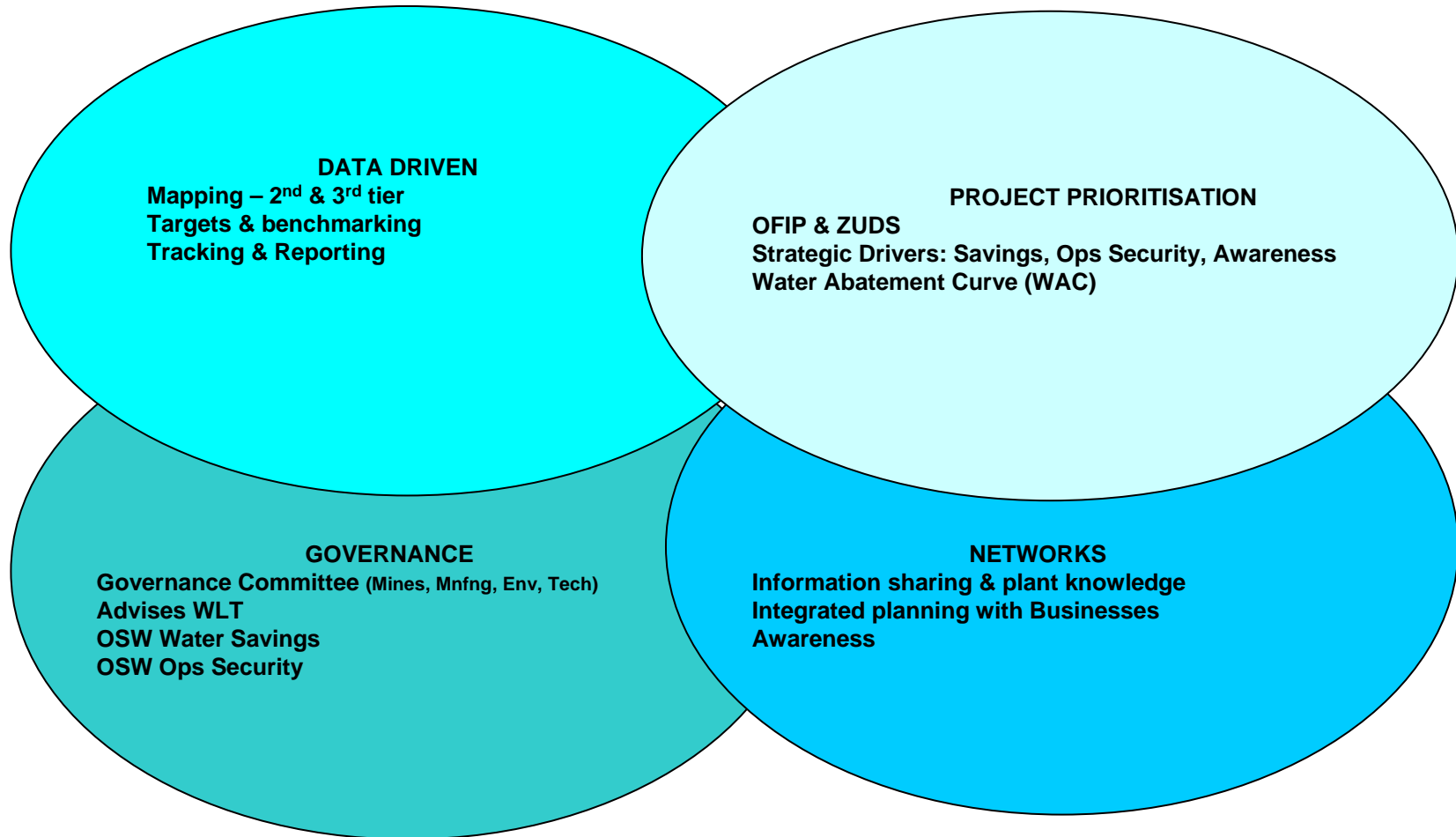


Onesteel  
SAVING WATER - YOU CAN MAKE A DIFFERENCE



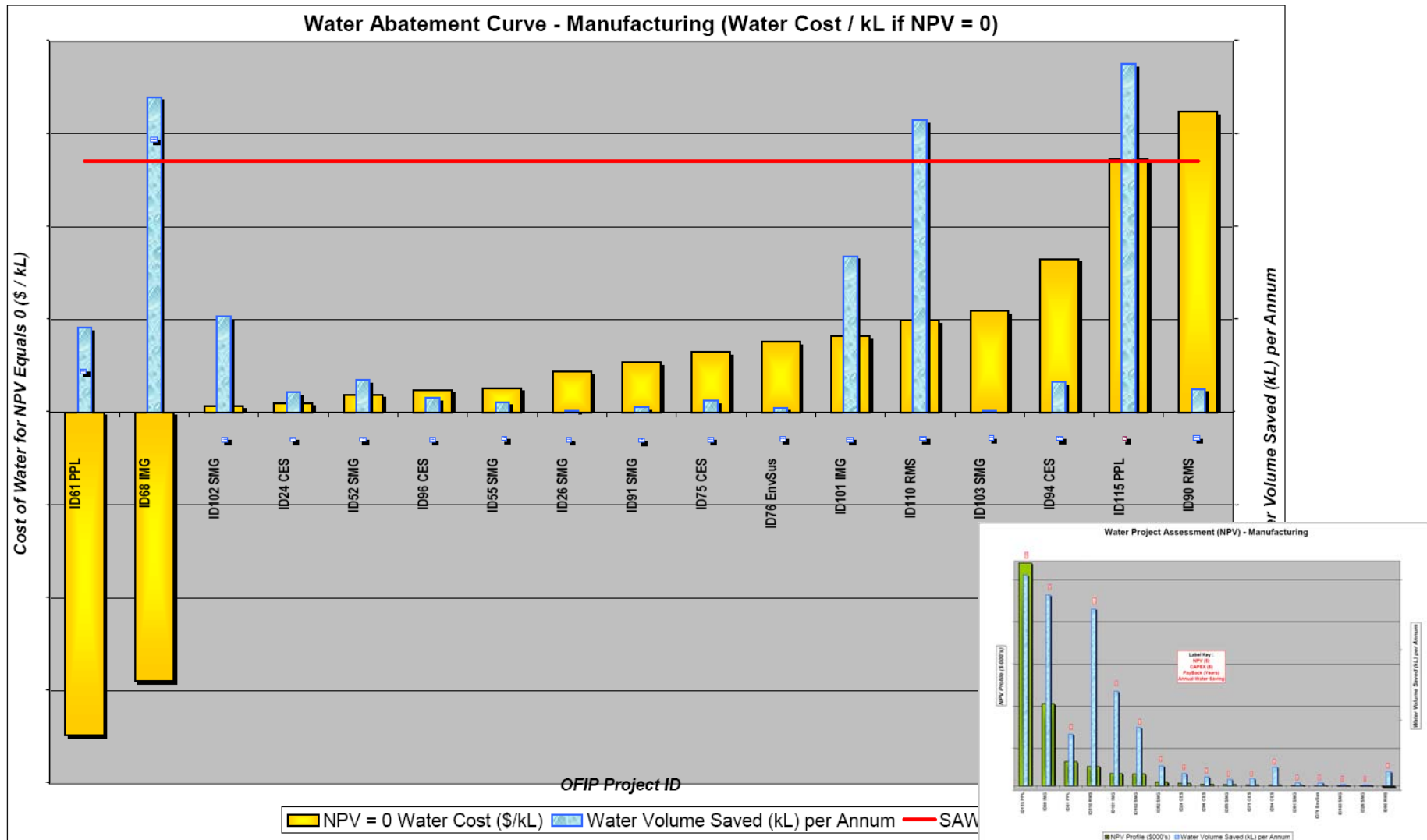
# Water – Savings

**Murray Water Reduction Strategy**



# Water – Savings

## Water Abatement Curve – Project Prioritisation



## Water – Savings

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### Savings projects - examples

The replacement of a water venturi pump with a vacuum pump at laboratories saved approx 1,000kLpa

Caster water treatment plant saved 25% of water use, saving 1,250kLpa through efficiency upgrade

Concentrator coarse tails dewatering optimisation approx saving 0.12 – 0.23GLpa

OBP Thickener optimisation - equipment upgrade – process control: 0.3GLpa

Tailings Storage water recovery for roads & suppression chemicals approx - saving 0.3-0.5GLpa



## Water – Alternative Sources

### **Waste water reuse**

Discharge from process Water Treatment Plant

Recycled water from the SA Water treatment plant

Fresh water saving approx 185,000kLpa

### **Making Water**

Salt Water Reverse Osmosis Desalination

1.5GLpa plant



## Making The Difference – Our Approach

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### **Sustainable Water Savings**

A multi layered approach is required

Employees need to see the need to save water

The business needs to demonstrate its commitment to saving water – top management visible support essential

Measurement is critical, relevant targets are essential

Need to have as many people involved in the water savings as possible