

AAPA **AMMANN**



And now Australia sets the Global Standard for Sustainable Road Construction

Presented by Rolf Jenny
Senior Vice President Ammann Group

AAPA Conference 2013

AAPA **AMMANN**

Leadership in Sustainable Road Construction



- AAPA Resolution 2011** ✓
- National and state road authorities**
Supporting new technologies ✓
- Road construction companies**
Investing in new technologies ✓
- Equipment Manufacturing**
R&D new technologies ✓

AAPA Conference 2013

AAPA **AMMANN**



Globally first "High Recycling Technology" plants installed in Australia.

A New Technology Conquers Global Road Construction

AAPA Conference 2013

AAPA **AMMANN**

Global Trends in Asphalt Industry

- Road maintenance and RAP usage gains importance
- Government finances are even under more pressure
- Pressure to reduce carbon footprint is strongly increasing
- All environmental issues are getting fundamental importance: noise, fumes, outer, dust, emissions from stack, etc.
- Health & Safety needs 100% compliance

➔ The asphalt industry has to respond to this requirements.

AAPA Conference 2013

AAPA **AMMANN**

National and state road authorities are supporting

Maximising the Re-use of Reclaimed Asphalt Pavement: Binder Blend Characterisation

This report presents the findings from the first year of a three year Austroads study which **aims to maximise the re-use of reclaimed asphalt pavement (RAP) in new asphalt product.**

The production of asphalt mixes **with almost 100% reclaimed asphalt** has been reported to be **technically feasible.**



AAPA Conference 2013

AAPA **AMMANN**

Key Drivers for Australian Asphalt Producers

- Flexibility to cater all market requirements
- Workplace Health and Safety
- Egress work areas and accesses
- Reduction in Maintenance costs
- Software Tools for Energy Efficiency
- Noise reduction techniques
- Fume and Vapor Recovery

➔ These key drivers have strongly influenced the development of "High Recycling Technology"

AAPA Conference 2013

AMMANN

The 4 Main Elements of High Recycling Technology

1. New Approach for Asphalt Recycling
2. Highest Environmental Friendliness
3. Plant Management Systems for Best Efficiency and Quality
4. User Friendliness

AAPA Conference 2013 7

AMMANN

New Philosophy in Asphalt Recipe Design

NO CHANGE IN SPECIFICATION OR QUALITY

Past **Current** **HRT**

Aggregates, Filler, Additives, Fresh bitumen, Reclaimed asphalt, RAP

AAPA Conference 2013 8

AMMANN

RAP Handling – Correctly Sorted and Dry

12/18, 6/12, 0/6

AAPA Conference 2013 9

AMMANN

Mainstream Virgin Materials, RAP Secondary

RAP Dryer as "Add-On", Main stream Virgin Aggregates, Mixing Tower Virgin Aggregates

AAPA Conference 2013 10

AMMANN

Mainstream Recycling – Virgin Secondary

Secondary Virgin Aggregate, Main stream RAP, RAP Dryer, Buffer, Weighing, Mixer

AAPA Conference 2013 11

AMMANN

Avoid Aging of Bitumen with HRT

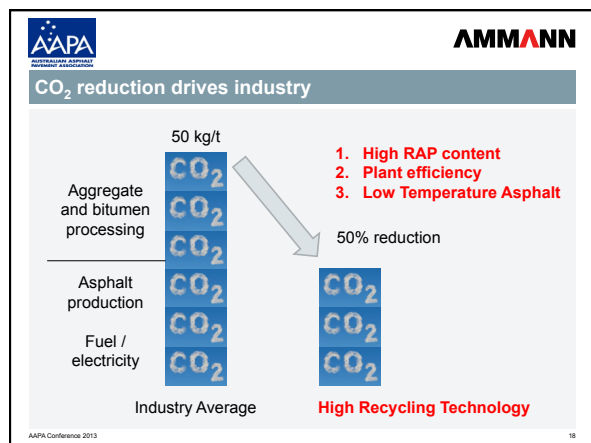
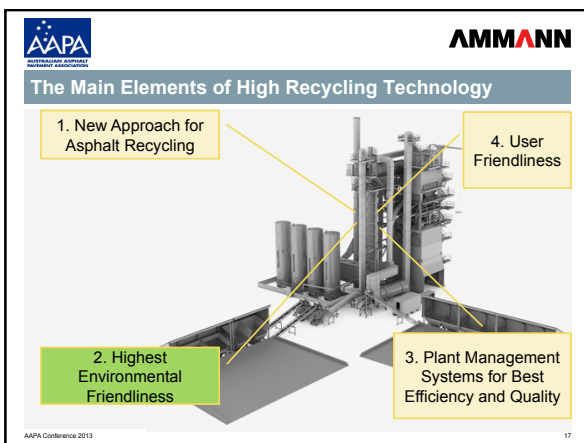
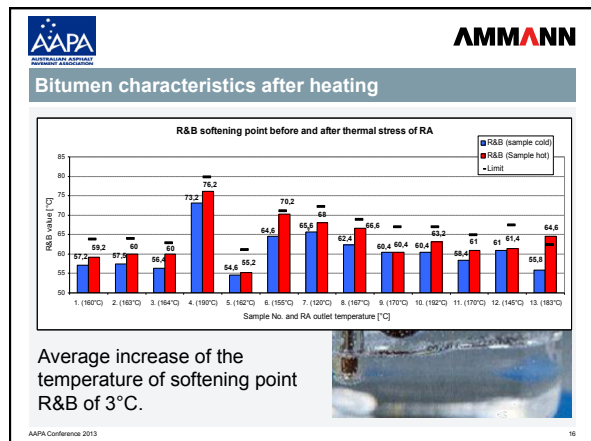
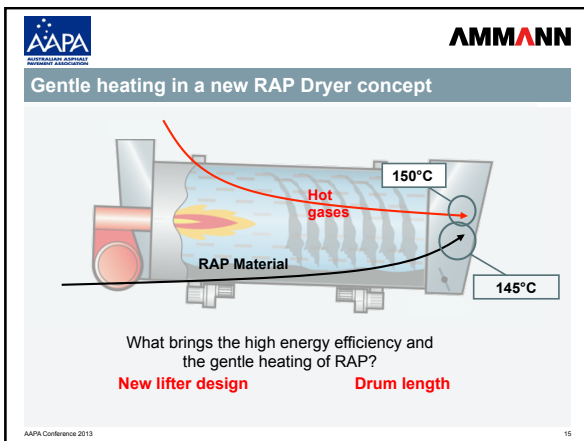
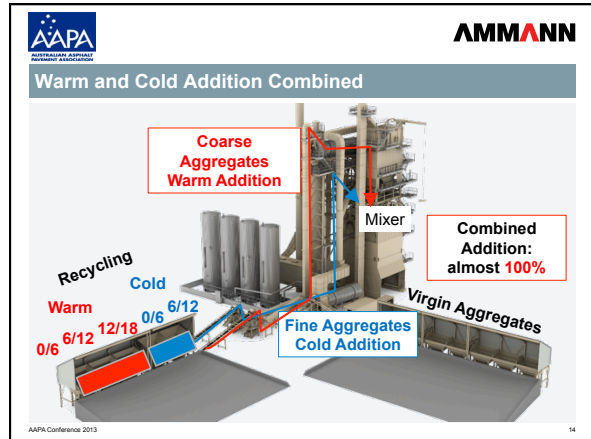
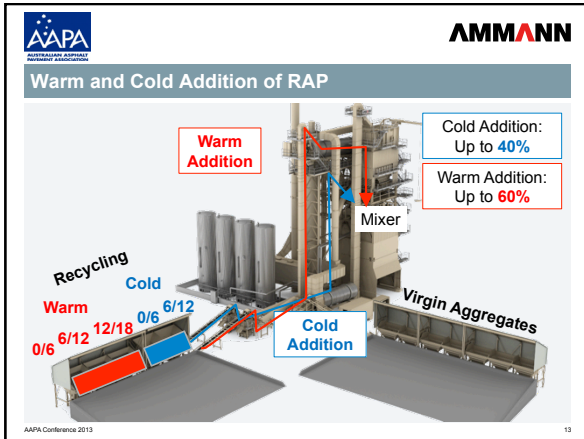
Coarse RAP Particles **Fine RAP Particles**

Larger aggregates, Low content of bitumen, Finer aggregates, High content of bitumen

Gentle heating in a new drying drum concept, Heating during mixing process

HRT option Warm and cold addition in parallel

AAPA Conference 2013 12



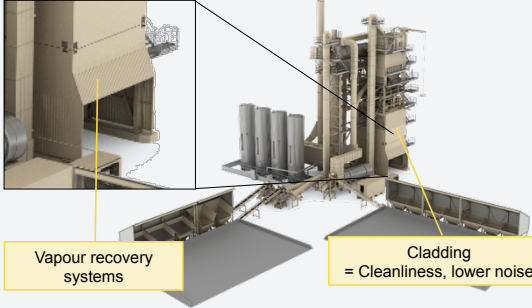


AAPA
AUSTRALIAN ASPHALT
RECYCLING ASSOCIATION



AMMANN

Environmental Requirements



AAPA Conference 2013 19

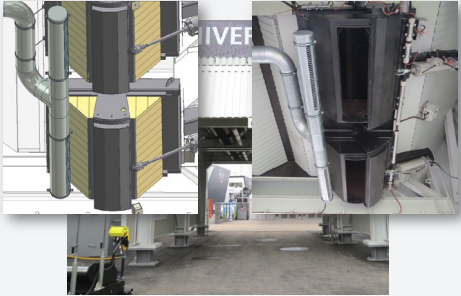


AAPA
AUSTRALIAN ASPHALT
RECYCLING ASSOCIATION



AMMANN

Load Out – Emission Reduction System



AAPA Conference 2013 20



AAPA
AUSTRALIAN ASPHALT
RECYCLING ASSOCIATION

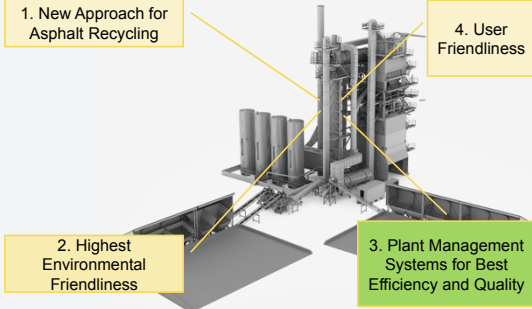


AMMANN

The Main Elements of High Recycling Technology

1. New Approach for Asphalt Recycling

4. User Friendliness



AAPA Conference 2013 21

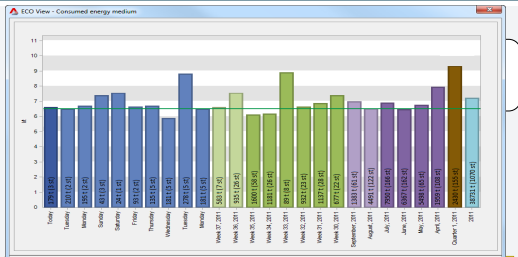


AAPA
AUSTRALIAN ASPHALT
RECYCLING ASSOCIATION



AMMANN

Monitoring Efficiency



Basis for energy & cost saving

AAPA Conference 2013 22

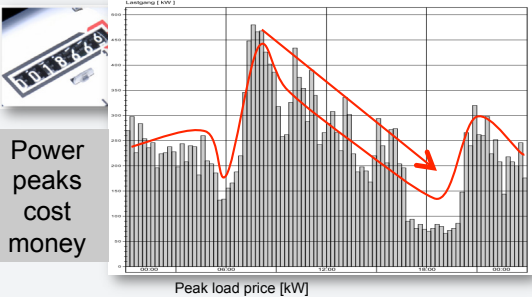


AAPA
AUSTRALIAN ASPHALT
RECYCLING ASSOCIATION



AMMANN

Peak Load Management – for cost saving



AAPA Conference 2013 23

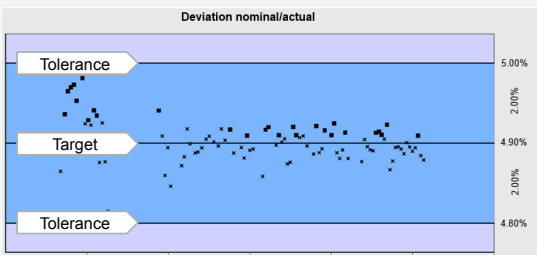


AAPA
AUSTRALIAN ASPHALT
RECYCLING ASSOCIATION

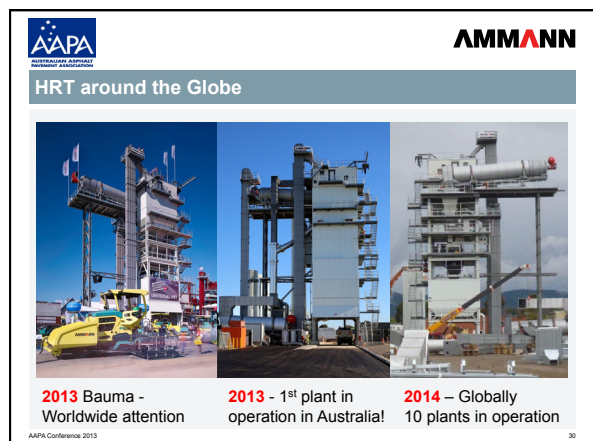
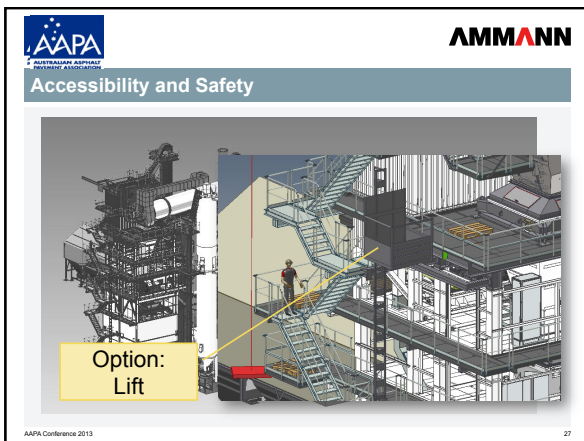
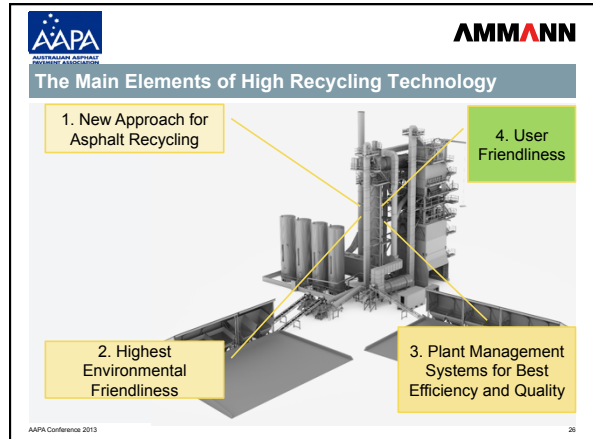
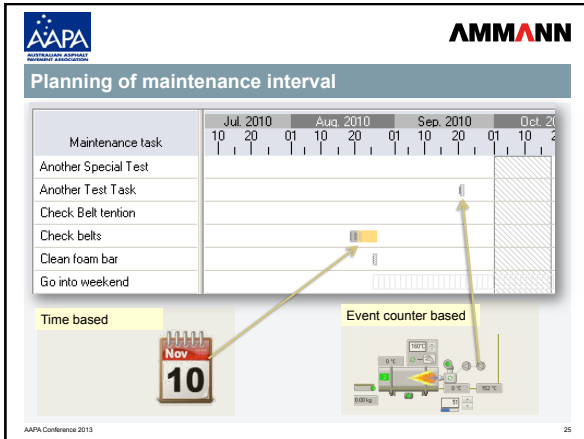


AMMANN

Integrated Quality Control Reports



AAPA Conference 2013 24



AAPA **AMMANN**

Topic for AAPA 2015?



AAPA Conference 2013 31

AAPA **AMMANN**

Toward a CO₂ Neutral Asphalt Plant

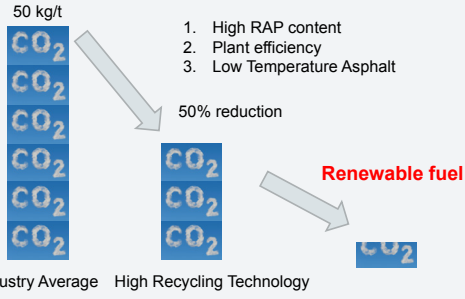
50 kg/t

1. High RAP content
2. Plant efficiency
3. Low Temperature Asphalt

50% reduction

Renewable fuel

Industry Average High Recycling Technology



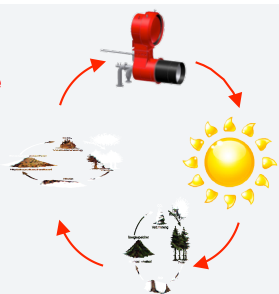
AAPA Conference 2013 32

AAPA **AMMANN**

Wood dust as a fuel

CO₂ neutral & renewable

Already proving itself



AAPA Conference 2013 33

AAPA **AMMANN**

Wood Dust – Another step towards CO₂ neutral asphalt



Prototype is in operation

By 2014, a further 10 units will be in operation

AAPA Conference 2013 34

AAPA **AMMANN**

See you at AAPA 2015

Australia can be proud for taking the lead into the High Recycling Technology concept.

Thank you for your attention

AAPA Conference 2013 35