



AAPA CONFERENCE 2011

The Launching Event for Australia's Future to the Global Leadership in Sustainable Road Construction

The Challenge for Australia





Objectives of this presentation

1) Australia in 2025: "Global Leader in Sustainable Road Construction"

- 2) Challenges for Australia
- 3) Strategies and Best Practices in Europe
- 4) Technologies to Come
- 5) AAPA Resolution 2011 & Outlook for Australia





Sustainable Road Construction

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Australia – Land of Opportunity

- Australia has the best pre-conditions with its beautiful landscapes, a country of wealth, independence and innovation.
- Australians are passionate about preserving their land
- I invite you all to follow this road.





Sydney the best choice for AAPA 2011







Narrow Roads



AAPA Conference 2011





Traffic Jam







Damaged Roads







Roads Requiring Maintenance







Speed of Change in Construction Equipment

Speed of Change



2000





These methods have gone a long time ago...







The future is already here

Wearing coarse with <u>92% RECYCLING</u>

in Hamburg Germany







Are European asphalt standards lower?

- European asphalt standards are even more severe.
- European warranty conditions for Asphalt are even more stringent.
- Europe was forced by governments and a competitive price situation, to produce top quality asphalt with high percentage of Recycling.





The Good Old Days







Today's Clean Asphalt Plant







Are European Asphalt Prices High?

- European asphalt prices are even lower.
- Prices for Aggregates and Bitumen are comparable to Australia.
- Strategies were found to comply with the most severe Environmental requirements and still offer very competitive asphalt prices.





A Long Time Ago







Proven & Documented Quality







Do Europeans have a liking for Toys?

- Documented and proven Quality in soil and asphalt compaction is the way to reduce quality claims and cost.
- It pays for the extra cost of the equipment
- Extended warranty periods require a more sophisticated Quality assurance in compaction.





Drivers for EU Sustainable Road Construction







From new Roads to Maintenance







Tier IV and "TA Luft": most stringent standard







Drivers for EU Sustainable Road Construction







European Answer to the Challenges

Innovations

New Strategies

Best Practices





Strategies and Best Practices

- There is no "one" single best practice.
- Many different solutions, will suit individual situations.

Some of these practices and strategies are:

- 1. Recycling Strategy ★
- 2. Economy of Scale Strategy ★
- 3. Vertical integration strategy ★
- 4. Diversification / Logistic Strategy ★
- 5. Solution Strategy ★
- Or a combination of any of these strategies

High % Recycling and High Flexibility are common





1. Recycling Strategy



- Highly Competitive thanks to RAP
- High RAP storage volume
- High flexibility
- Quality Assured RAP





2. Economy of Scale Strategy



- Consolidation: 100 \rightarrow 50 plants
- High volume production
- High recycling ratios
- High flexibility



Production: 800'000 t.p/a Recycling: 400'000 t.p/a





3. Vertical Integration Strategy







4. Diversification / Logistics Strategy







4. Diversification / Logistics Strategy







5. Solutions Strategy



- Project-specific offers (performance based for BOT and PPP)
- High recycling ratios
- Innovative construction processes
- High quality / prolonged warranty period





Outcomes of the 5 strategies

• Pre-condition:

Environmental and Community friendly

• Strategy

Priority: Low operating costs vs investment costs

Implementation

- High percentages of Recycling
- Significant increase in volume
- High Flexibility / Maintenance / Serve all Customers
- Optimised logistics





Objective: The CO₂ neutral Asphalt Plant







Solar heated bitumen farm













Global Solar Radiation







Wood Dust Fired Burner









Wood Availability







The operator recognises.....







Intelligent, Fully Integrated Road Construction

- Closing the Loop (from Road to Road)
- High quality, reduced costs and construction time
- Ecology, Economy, Safety







Future Leader in Sustainable Road Construction

Australia has the best pre-conditions to become a world leader in sustainable road construction:

- Population and government: sensitive to the environment
- Infrastructure investments focuses on roads
- Access to the global technology (Europe, US)
- Existing plant population needs to be renewed





AAPA Resolution 2011

New AAPA slogan "Green Asphalt is the Answer!"

Sustainable Road Construction

- What we take out of the road, we put back!
- Green Asphalt preferred in tenders
- Government adopts performance based principles
- Phase out processes that are not environmentally friendly.





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

