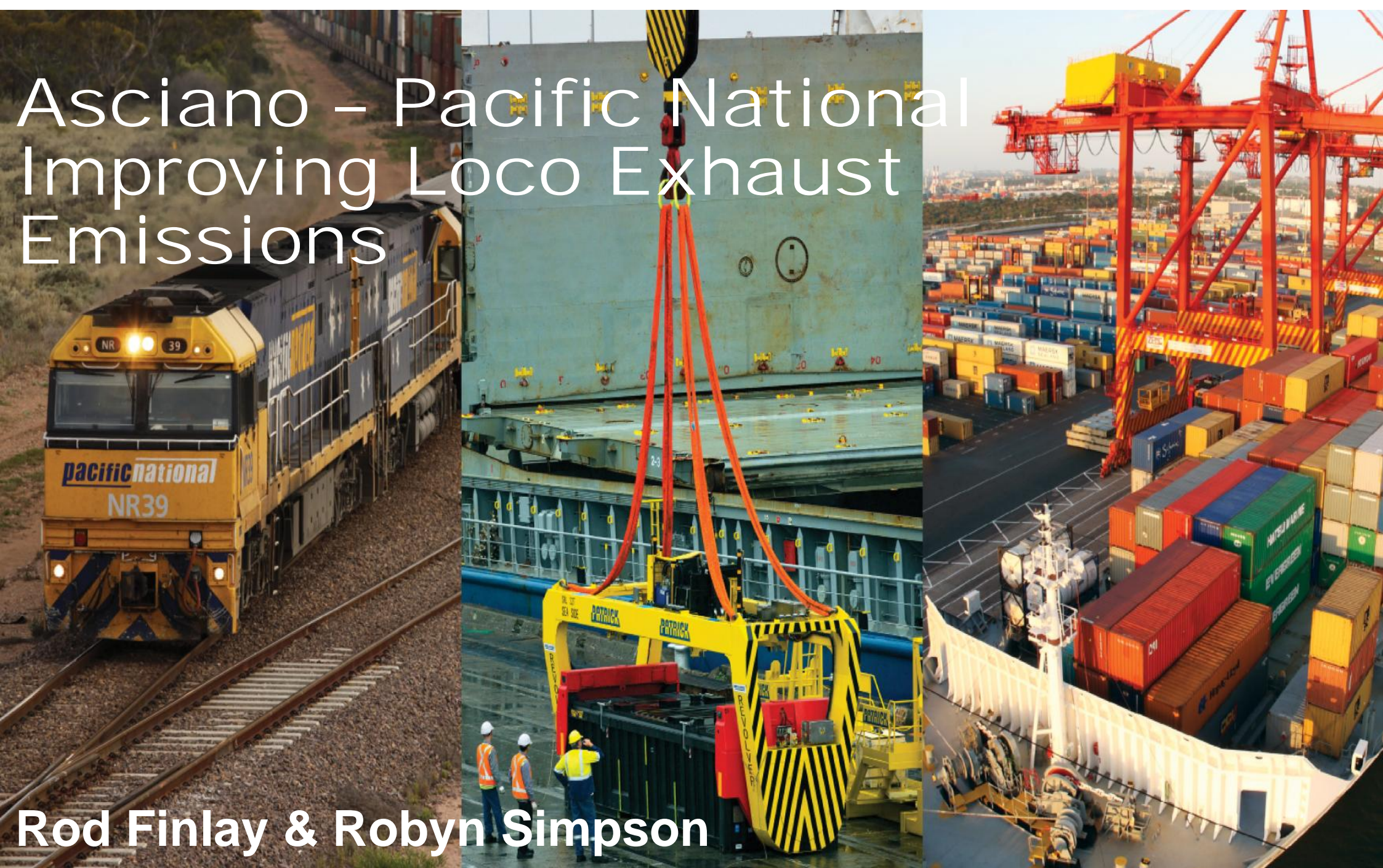


Asciano – Pacific National Improving Loco Exhaust Emissions

Rod Finlay & Robyn Simpson



FINDING THE RIGHT SOLUTION FOR THE AUSTRALIAN RAIL ENVIRONMENT

- **Efficient movement of goods vital to the economy - rail supports many of Australia's most important industries**
- **Australia is currently one of the most intensive users of road transport in the world**
- **Rail has an important role to play:**
 - most efficient mode of freight transport;
 - contributing to social amenity by reducing carbon emissions & congestion;
 - improving road safety outcomes
- **Asset lifespan - age and number of Australian loco assets**
- **National business model – with potentially state based regulation**

It is important that we improve our emissions contribution without compromising rail transport's many benefits

LOCO EXHAUST EMISSIONS TRIAL

Industry leadership

- Build data to support asset strategy
- Evidence based approach & the contribution from loco sources

Challenges:

- No dedicated / accredited test facility
- Total cost of testing technology
- Test setup – testing kit efficacy only, not rebuild benefits
- Quantification / Fuel & Power
- Duty Cycles

Further testing conducted in March 2016



OUTCOMES

excellent emissions reductions for PM, NOx 'regulated pollutants'

alarming fuel increases, therefore

CO₂ increases

- **CHOICE:** NOx or fuel-efficiency
- **Priority pollutants:** PM and CO₂
- **Suppliers:** certification of technology for both emissions and fuel efficiency impacts
- **Assess upgrade solutions, case by case for engine class**



OTHER LOCO EMISSIONS MANAGEMENT

We undertake:

Locomotive maintenance program

Fleet modernisation

Fuel efficiency programs

External influences on emissions:

- **Rail network pathing**
- **Rail envelope**
- **Fuel standards**



OUR LOCO EXHAUST EMISSIONS STRATEGY

1. Carbon emissions reduction alongside loco exhaust emissions improvement
2. Sustainable introduction of proven technology to existing and new fleet
3. Loco maintenance programs



YOUR QUESTIONS?

