
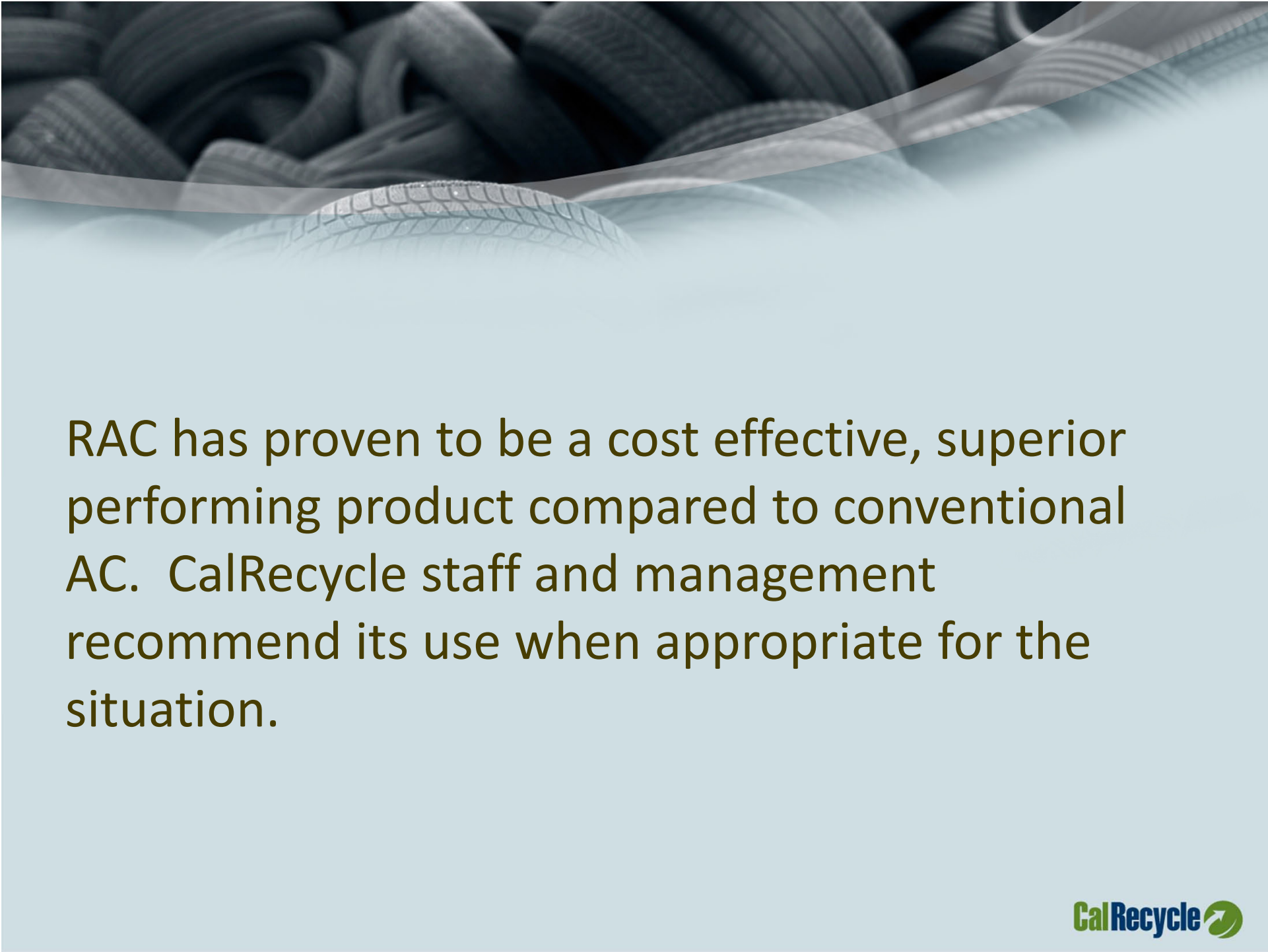




CalRecycle/CIWMB Support of Rubberized Asphalt Concrete (RAC)

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- ❑ Rubberized Asphalt Concrete (RAC) has been a tire diversion strategy used by the CIWMB/CalRecycle since the very beginning of the Tire Program.
 - ❑ The use of RAC by State and Local Government Agencies currently diverts over five million waste tires per year from landfill disposal
 - ❑ Over the past twenty years of the Tire program RAC has diverted an estimated 68 million waste tires



RAC has proven to be a cost effective, superior performing product compared to conventional AC. CalRecycle staff and management recommend its use when appropriate for the situation.

Overview of Support

- Caltrans
- Local Government
 - Technology Centers
 - Contracted Experts
- Research Contracts
- Grants

Caltrans-CalRecycle Collaborations

❑ Technical Research Interagency Agreements

- 1992-Lab Test Equip & Air Monitoring
- 2003-State of the Art & Recycling

❑ Construction Projects

- 1993 Maintenance Project – Hwy 16
- 2002 Overlay Project – Hwy 33



RAC Technology Centers

RAC Technology Centers

- The center was created to promote the use of RAC by local governments via peer to peer training
- The center provided RAC technology transfer, maintained a website and toll-free hotline
- CIWMB partnered with Los Angeles County DPW in 1997 to create the first center
- Partnered with Sacramento County in 2000 to provide services in Northern California



RAC Expert Contracts

RAC Expert Contracts

- New way to deliver RAC technology transfer
- Direct technical support of our expanding RAC grant programs
- Engineering Evaluation and design assistance
- Increased field support of grantees
- Technical Investigations

RAC Expert Contracts

- 2005 - MACTEC Engineering and Consulting
- 2009 –Jacobs Engineering
- 2012 – Quincy Engineering Inc.



RAC Research Contracts

Research Contracts

- Use contracts to fill in gaps in knowledge base, determine feasibility of technology, investigate new processes and materials
- Partner with entities that have a proven expertise and record of accomplishment with RAC projects and/or research.

Research Contracts

Past Research Contracts

- Terminal Blend Chip Seal Demonstration Project
- Terminal Blend and Warm Mix Asphalt
- Life Cycle Cost Analysis (LCCA) for RAC materials
- Warm Mix Asphalt Performance Evaluation

Research Contracts

Current Contracts

- Reclaimed Asphalt Pavement (RAP) in Chip Seal and RAC Hot Mix Demonstration Project
- Warm Mix Asphalt Technology Evaluation
- RAC Performance Models Development



Grants

Grants

- ❑ Provided Grants for RAC since the beginning of the Tire Program

- ❑ Awarded over \$55M in the last 10 years
 - \$40.5M for overlay projects
 - \$14.5M for chip seal projects



Why CalRecycle Should Continue to Support RAC

- Largest recycling use of waste tire rubber
- Demonstrated superior performance of RAC over conventional asphalt concrete (AC).
- Shown to be a cost effective resurfacing option over conventional AC



Rubberized Asphalt Concrete Cooperative Purchasing Program (RCPP)

2013





The RCPP designed to increase RAC usage through an economy of scale with support of **reimbursements** and **technical assistance**.

Local jurisdictions enter into RAC Cooperative Purchasing Agreements (RCPA) and pool their collective projects for hot plant to bid a RAC production for the coming season.

The RCPA guarantees a RAC tonnage and establish a fixed price with the RAC plant that can substantially lower the overall price of RAC in the region.

Each agency separately bids the haul and placement.





CalRecycle

Funding and Reimbursements



Technical, Procurement and Project Management Support

RCP Champion

Partner #1

Partner #2

Partner #3

Increased Usage = Cost Savings*

Partner #4

Partner #5

RCPA

Hot Plants
Blender Units
Haul and Placement Contractors

Project #1

Project #2

RAC Projects



What are the benefits?

- Facilitates smaller jurisdictions entering into RAC Cooperative Purchasing Agreements (RCPA)
- Increases RAC Usage:
 - Supports current RAC grant recipients and targeted support for non-grant recipients
 - Communicates positive business case
 - Eliminates Blender Unit mobilization costs, lower costs for underserved jurisdictions
- Makes RAC More Affordable
 - Shared Economies of Scale
 - Absorption of plant mobilization costs
 - Lowers RAC costs through increased competition and competitive pricing
 - Opens the current producer/contractor bidding paradigm
 - Mitigates higher RAC costs through reimbursements and services
 - Creates better opportunities for disadvantaged contractors



RCPA Support and Services

Technical Assistance

- RAC Technical Presentation, ranging from 2 hours or to 2 days
- Onsite Inspections during the RAC project, from ½ day to full day

Initiate RCPA

- Confirm RCPA objectives, success factors and approach
- Finalize roles/ responsibilities (RAC Champion, Partners, Hot Plants, Contractors, CalRecycle, Quincy)
- Develop high level schedule
- Support communications with executives and decision makers

Develop RCPA Procurement Docs

- RCPA (MOU or agreement between jurisdictions)
- RCPA Procurement Documents (IFB, Tech Specs)
- Detailed scope and schedule
- Communications with executives and decision makers

Facilitate RCPA Procurement

- Providing guidance and management during procurement process (assisting Partners, supporting Champion in lead role)
- Oversee procurement, IFB release
- Contract negotiations and contract finalization

Manage and Monitor RCPA, Final Report

- Technical and project management support
- Tonnage and cost tracking
- Assistance developing Final Report

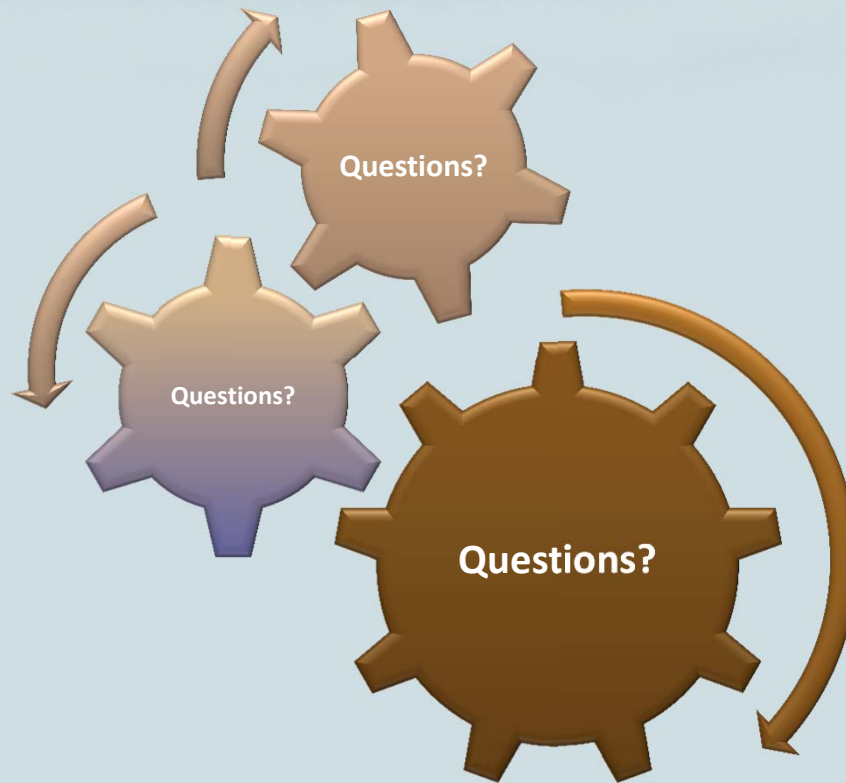


Next Steps

1. Gather RAC partners
2. Request a Technology Transfer Presentation
3. Attend the kickoff meeting
4. Review and execute MOU, QA/QC plan
5. Review and bid procurement
6. Bid haul and placement
7. Reconcile tonnage



Questions?



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