

Denise Kennedy, President



Denise Kennedy, DKE Enterprises, Inc. (dba DK Enterprises) brings 34 years of leading successful business and marketing transformation strategies to the tire recycling industry and leadership in international associations and initiatives including volunteering as ASTM International Task Chair of Rubber Recycling and Subcommittee Chair of Recovered Carbon Black (rCB) on Environment, Safety and Sustainability; member of the Tire Retread & Repair Information, the Tire Industry Association (TIA), National Parks & Recreation, Rubber Division American Chemical Society, The Los Angeles Rubber Group, and four U.S. Scrap Tire Workgroup Committees (Goals, Ground Rubber, Civil Engineering, Tire-derived Fuel and Tire Exports).

Ms. Kennedy is recognized as one of the nations most widely acknowledged scrap tire industry experts. Since 2006, Ms. Kennedy's firm has been a contractor and subcontractor under 11 separate California Department of Resources Recycling and Recovery (CalRecycle) Contracts and the principal industry liaison, analyzing scrap tire flows and identifying market trends, barriers, and opportunities to assist in preparing the annual California Waste Tire Market Report. Denise has been passionate in encouraging clients to utilize best management practices in the development of new and/or feedstock conversion products. Ms. Kennedy is responsible for helping industry stakeholders obtain their waste tire facility and hauler permits and addressing environmental issues that impact the industry.

Ms. Kennedy's recognition of opportunities, passion for the industry, collaborative and matchmaking skills with the rubber and plastic manufacturers, end users, compounders, tire-derived material (TDM) feedstock suppliers, material testing facilities and technical experts, 16 years managing all aspects of a four multi-state tire recycling business, and 18 years as a business and marketing consultant has resulted in expanded advancement to the industry in problem solving and market and product development.

DK Enterprises

September 2005 – Present

Principal

Retread Tire Services Contract (DRR 19084), California Department of Resources Recycling and Recovery (CalRecycle), October 2020 – April 2022

- DK Enterprises, Inc. (DBA DK Enterprises) was awarded the first CalRecycle Retread Tire Services Contract (DRR 19094 October 2020-April 2022). DK Enterprises partnered with the Tire Retread and Repair Information Bureau (TRIB) and an assembled team of industry professionals nationwide to provide the expertise to support CalRecycle's tire market development goals to increase the use of retreaded tires through effective education and training for potential retread users as well as provide relevant research information to business and government policy decision makers.
- Our team's effort was to help drive increased retread tire adoption in California and help the California retreaders to continue to grow and expand their businesses. The Contract was designed to: 1) effectively use end-of-life resources; 2) reduce greenhouse gas emissions; 3) reduce tire disposal and 4) pursue a demand-driven, sustainable, and diversified approach for retread tire market development in California.
- Produced the video "[Retreads Work](#)" and brochure [Choosing Retreads for Your Fleet](#). Both items can also be found on the [TRIB](#) and [CalRecycle](#) web sites. www.retread.org.
- Hosted a series of seven "[Virtual Retread Plant Tours and Educational Workshops](#)" between September 2021 and March 2022, that include interactive retread plant tours with eight California retread managers and representatives from the retread manufacturers (e.g., Bridgestone Bandag, Goodyear, Continental, Michelin, Oliver Rubber).

**Feedstock Conversion Technical Assistance and Material Testing Services (FCS)
California Department of Resources Recycling and Recovery (CalRecycle)
Contractor for three contracts between June 2015 and March 2023 (DRR 20149, DRR 18113, and DRR 14019)**

- The FCS contracts were designed to expand the demand for different and higher value-added tire-derived feedstock conversion products to support CalRecycle's [Tire Incentive Grant Program](#) (TIP).
- Responsibilities included identifying, qualifying, and securing manufacturers that meet specific criteria and have the capability of developing and manufacturing a product that will replace virgin rubber, plastic, or other raw materials with a minimum of five percent tire-derived material (TDM).

- Prepared and implemented the candidate manufacturer's activity plans and contracting firms to provide technical and material testing services to the manufacturer in the production of new commercial tire-derived products.
- Managed all contract work including subcontracting to 58 technical and certification advisors and 18 testing laboratories to provide services specific to the development of TDP's (e.g., rolled coated building product membranes; sidewalk repair systems; crumb rubber intermixed base layer; storm sewer system, pipe fitting couplings; pour-in-place top wear layer replacing EPDM; porous pave surfacing; acoustical sound flooring underlayment; mining applications, ground reinforcement systems, retaining wall, industrial anti-fatigue mats, and auto display turntables.
- Extracted, collected, and performed testing of 350 rubber samples from the California TDM feedstock suppliers (processors) and tire-derived product (TDP) manufacturers that participated in FCS and TIP. Performed sieve analyses of samplings to determine the particle size distribution that is consistent with ASTM D5644-18 (Standard Test Method) and ASTM D5603-19 (Standard Classification of Source of Rubber and Particle Size Distribution); and lab testing as appropriate.
- Produced the "[Test and Classify Recycled Rubber Video Tutorial](#)" and [User Guide](#) to support classifying and testing particle size distribution as per ASTM D5644-18 and ASTM D5603-19, and provided industry and technical [Terminology Terms and Acronyms](#), and [Guidelines and Test Methods](#).

Tire Market Analysis and Support, 2020 – 2023, Subcontractor to Boisson Consulting, California Department of Resources Recycling and Recovery (CalRecycle), 2020 – 2023

- Produced and updated the [California Tire-Derived Product Catalog](#) and selected outreach material.
- Assisted in preparing CalRecycle's Annual [California Waste Tire Market Report](#) by analyzing scrap tire market trends and economics; conducting industry stakeholder surveys and interviews; and providing data and references related to tire markets for the report.
- Participated in securing presenters and presentations and promoting the annual California Tire Conferences and Workshops.
- Assisted with researching, interviewing, and supporting potential grantees to apply

for the CalRecycle Tire Incentive Program (TIP).

- Coordinated, collected, and prepared report for contractor that included information received from California TDM processors and haulers (e.g., container size/type/dimensions, count by type of load, trailer number, trailer type, open or closed top trailer, scale weight information). Provided feedback from contacts about their process in collecting and receiving tires, equipment used, haulers, and what they reportedly use for definitions related to equipment, loads and tire weights.

Tire Outreach and Market Analysis (TOMA2), Subcontractor, California Department of Resources Recycling and Recovery (CalRecycle), 2016 – 2019

- As subcontractor to Boisson Consulting, Ms. Kennedy provided support services as identified in the previous TOMA 2013 – 2016 contracts.
- Assisted in preparing CalRecycle's Annual California Waste Tire Market Report ([link to Market Report](#)) by analyzing scrap tire market trends and economics; conducting industry stakeholder surveys and interviews; and providing data and references related to tire markets for the report.(DRRR-2020-1691) link to 2019 Market Report
- Updated the California Tire-Derived Product Catalog ([link to TDP Catalog](#)) annually and produce select outreach material.
- Coordinated planning between the outreach activities and the California Tire-Derived Product (TDP) manufacturers and tire-derived material (TDM) feedstock suppliers.
- Supported updates and reports on TDP End-of-Life trends, issues, goals, and approach.
- Assisted in selection of speakers for the California Tire Conference held annually.
- Qualified and collaborated with TDP manufacturers to apply for the CalRecycle Tire Incentive Program Grants.

Tire Outreach and Market Analysis (TOMA), Subcontractor, California Department of Resources Recycling and Recovery (CalRecycle), 2013 - 2016

- As subcontractor to the Louis Berger Group, Ms. Kennedy provided support preparation to CalRecycle's Annual California Waste Tire Market Report by analyzing scrap tire market trends and economics; conducting industry stakeholder surveys and interviews; and providing data and references related to tire markets for

the report.

- Identified and introduced eighteen firms who have manufactured new tire-derived products (TDP) or were interested in feedstock conversion TDPs' to participate and apply to the CalRecycle Tire Incentive Program 1 (TIP1) and TIP2 Grant Programs.
- Collaborated with industry and CalRecycle Contractor team to develop, maintain, and update content and existing California tire-derived related firms to the 650 plus page digital California Tire-Derived Product Catalog DK Enterprises was tasked to produce. The TDP Catalog represents 19 market categories to reach out to potential customers, end uses and new market opportunities.
- Conducted select outreach activity including prospecting with targeted groups to identify specific opportunities and strategies and follows up on customer sales leads to ensure effective TOMA outreach activities.
- Provided market trends, crumb rubber updates, industry issues and various activities to contractor team that impacts California stakeholders and TOMA activities on an ongoing basis.
- Assisted in preparing reports for CalRecycle as CalRecycle subcontractor to include:
 - *The Outlook for Crumb Rubber Feedstock Conversion* (DRRR 2014-1510)
 - *Best Management Practices for Tire-Derived Product Development* (DRRR-2014-1509)
 - *Markets for Wire and Fiber from Waste Tires* (DRRR 2014-1513)
 - Establishing Best Management Practices for Playground Surfaces to Comply with ADA Accessible Design (DRR-2014-1496)
 - *Tire-derived Product Business Assistance Program* (2013)
 - *Annual California Waste Tire Market Report* (2007 – 2018)

Tire-Derived Product Business Assistance Program (TBAP), Subcontractor, California Department of Resources Recycling and Recovery (CalRecycle), 2006 - 2013

- Denise Kennedy, DK Enterprises performed work under three separate subcontractor agreements (R.W. Beck, SAIC, Leidos Engineering/Louis Berger Group).
- Collaborated, assisted, and advised the California Department of Resources Recycling and Recovery (CalRecycle) contractor team in identifying, developing, and implementing innovative scrap tire market development initiatives and outreach programs and conducting research studies and reports.

- Assisted with preparing, surveying, and interviewing industry stakeholders for six Annual Scrap Tire Market Development Reports to include market barriers and opportunities, trend analysis and estimates of the statewide recycling rate.
- Assisted an estimated 50 scrap tire tire-derived material suppliers and manufacturers with business and market strategies, new product development, material and product testing, feedstock quality control, brand strategy, market collateral, web content and design, advertising, trade show hardware, LEED, third party certification, GSA and development of end user and market potential lists.
- Delivered 30 new qualified TDP manufacturers and feedstock conversion TDP manufacturers to apply and participate in TBAP grants.
- Identified testing facilities and coordinated and facilitated product testing needs for over 30 TBAP grantees utilizing 15 different labs.
- Collaborated with industry stakeholders to include TDP manufacturers, compounders, and testing facilities to prepare the CalRecycle Report *“Best Management Practices for Tire-Derived Product Development”*.
- Identified the need and tasked to prepare the CalRecycle Report and Webinar *“Establishing Best Management Practices for Recycled Tire Rubber Playground Surfaces to Comply with New ADA Accessible Design Requirements”*.
- Tasked to produce the CalRecycle’s Tire Derived Product Catalog which includes, manufacturers, TDM suppliers; retreaders, pavers and installers-CA contractors market collateral, California tire industry directories; case studies and CalRecycle’s annual report.
- Assisted with research for multiple reports including *“Outlook for Crumb Rubber Feedstock Conversion”*; *“Markets for Wire and Fiber from Waste Tires”*; and *CalRecycle’s National Tire Incentive Reports”*.

National Client Activity, 2005 – Present

- Assist clients in establishing and utilizing best management practices in the development of tire-derived feedstock conversion products (i.e., replacing plastic and other raw materials) and provide matchmaking services to connect the

customer, end user, manufacturer, feedstock supplier, compounder, equipment manufacturer and technical support team.

- Provide site selection services, and securing hauler and waste/scrap tire facility permits as required by state and local agencies.
- Collaborate and assist clients with new and expanding operations; site selection, equipment selection, and scrap tire hauling, and facility permits.
- Provide third party testing for recycled tire rubber using the WS Tyler Ro-Tap Vibratory Shaker as per ASTM D5644 (Test Method) and ASTM D5603 (Particle Size Distribution); product testing protocol; coordinate clients required tests with over 10 labs; and support industry certification, ADA, and LEED (if applicable).
- Consultant in new technologies (e.g., hydrocarbon manufacturing, hydrocarbon recovery, pyrolysis, devulcanization). Assist with market development, testing protocol and testing coordination.
- Assist clients with market development strategies including market collateral and market networks.
- Produced 16 unique digital turning-page electronic publications for clients; CalRecycle TDP Catalog; five CalRecycle TBAP grantees; and membership documents for the Synthetic Turf Council.
- Hosted tire-derived product showcases for Walmart's corporate buyers in Bentonville, Arkansas in 2008 and 2010. Introduced 40 TDP manufacturers to the Walmart Buyers.
- Prepared Scrap Tire Cleanup Proposal including market, disposal and transportation opportunities which resulted in an Indiana firm being awarded a \$2.5 million tire cleanup in Washington State. Trained and assisted staff in reporting and tracking tire cleanup activity for State and invoicing purposes. 2007 – 2009.

Waste Recovery, Inc. / Waste Recovery West, Inc.

1989 – 2005

- *Vice President 1995-2005; Transportation & Tire Recycling Facility Manager 1989 - 1995*
- Managed all aspects of a four-state tire recycling company that focused on Tire-Derived Fuel and civil engineering projects for its markets, totalling 8 million tires.

- Developed two new scrap tire operations in California including one at Calaveras Cement (now owned by CalPortland) and one operation in Livermore, California..
- Set-up transfer stations in three states to move tires efficiently to company's processing facilities.
- Responsible for securing additional customers throughout Washington, Oregon, Idaho, and California resulting in an increase of 3.5 million passenger tire equivalents.
- Managed local, intrastate, and interstate transportation activity; commercial and route drivers; selection of equipment; and permitting and fleet maintenance.
- Managed scrap tire cleanups including government contracting, hiring, transportation and legal disposal of over 27 million scrap tires from three states illegal scrap tire cleanups.

Education

University of Washington Alumni

Affiliations

- U.S. Scrap Tire Workgroup Committees (Goals, Tire-Derived Fuel & Exports, Civil Engineering; Rubber Asphalt, Ground Rubber Chair (2010 – 2014)
- The Los Angeles Rubber Group, Inc. (TLARGI)
- American Chemical Society (ACS)
- Synthetic Turf Council
 - Membership Committee Chair (2014 – 2017); Member (2018 - 2023)
 - Recycle and Reuse Task Group Chair (2016 – 2017)
 - Awards Committee (2017 – 2019)
- Tire Industry Association (2005 – current)
- Tire Retread Information and Repair Bureau (TRIB) (2007 – current)
- Retread Tire Association (2005 – current)
- ASTM International
 - Committee D04 on Road and Paving Materials
 - Committee D11 on Rubber and Rubber-like Materials

- Subcommittee D11.20 (Compounding Materials and Procedures)
- Task Group D11.27 (Rubber Sustainability) Rubber Recycling, Devulcanized Rubber and Microplastics
- Subcommittee Chair D36.40 (Environment, Safety & Sustainability), (2017 to current)
- Committee D24 on Carbon Black
- Committee D20 on Plastics
- Committee F08 Sports Equipment, Playing Surfaces, and Facilities
- Committee F15 on Consumer Products
- Committee F09 on Tires
- US Border 2012 and 2020

Conference and Webinar Presenter

Ms. Kennedy is a recognized speaker at national and international conferences to include sixty-six (66) presentations since 2006. Associated reports and webinars prepared by DK Enterprises are posted on CalRecycle's web site. Ms. Kennedy has assisted in the selection of speakers and venue for the CalRecycle annual tire conferences since 2008 and for coordination of the recycling venue/sessions for the International Tire Exhibition & Conference (ITEC Tire Expo), Akron, OH in 2010, 2012, 2014, 2016 and scheduled September 15 – 17, 2020.

- *Best Management Practices (BMP)*
 - Retread Tire Services Contractor Report, CalRecycle Tire Conference, 2022
 - Retreading is the Beating Heart of Sustainability, 2021
 - California Tire-Derived Products, 2021
 - Best Management Practices in Developing New Tire-Derived Products (DRR-2014-1509); <https://www2.calrecycle.ca.gov/Publications/Details/1509>; Tasked by SAIC.
 - Establishing Best Management Practices for Playground Surfaces to Comply with ADA Accessible Design (DRR-2014-1496); Tasked by SAIC; <https://www2.calrecycle.ca.gov/Publications/Details/1496> and Webinar (2013), <https://www2.calrecycle.ca.gov/TDPCatalog/172/>
 - Best Management Practices in Developing Tire-Derived Products (ITEC Tire Expo 2012; CalRecycle 2010-2015; Recycled Rubber Products Technology Conference, 2014; Colorado Tire Conference 2018)

- Presented BMPs at Multiple Conference Locations (2011 – 2018)
- California and US Tire Recycling Markets
 - California and US Tire Market Trends; ITEC Tire Expo (2010)
 - US Market Trends, European Tire Conference, Brussels, Belgium (2017)
 - Building an Industry through Market Driven Alliances (2016, 2017)
 - Viable End Use Tire-Derived Markets (2018)
 - Manufacturing Using Recycled Tire Rubber in OTR's, Industrial and Other Tire-Derived Products; Tire Industry Association Off-the-Road Tire Conference (2016)
- ASTM
 - Role of ASTM International Standards in Building the Tire Industry (Clemson University Global Tire Conference (2019); California Tire Conference (2016, 2017, 2018); European Tire Conference Brussels, Belgium (2017); ITEC Tire Expo (2016); 7th Annual Scrap to Profit (2017)
 - ASTM Standards for Recycled Rubber and Recovered Carbon Black, California (2017)
 - ASTM International D11.20.01 (Recycled Rubber) Proposed Changes to Benefit Manufacturers (International Tire Exhibit & Conference (ITEC), Akron, OH, and Recycled Rubber Products Technology Conference (2016)
 - Recycled Tire Rubber Standards Influence Product Performance
- Other
 - Creating A Sustainable Market Place in the Scrap Tire Industry
 - "Sustainable Solutions" Article, *Polymers and Tyre Asia* December 2010/January 2011
 - "Sustainability," A Business Philosophy
 - Building the Industry Through Market Driven Alliances and Partnerships (2008, 2011, 2013)
 - Scrap Tire Removal Best Management Practices (2004 – 2011 multiple conference)
 - Scrap Tire Exports, ISRI (2012)
 - Green Business Philosophy, TIA Tire & Rubber Recycling Conference (2009)
 - Playground Surfacing Trends, Standards and Hot Topics (2011, 2012, 2013)
 - Product Testing Demonstrations of Playground Surfacing (2007 – 2013)