

World Business Council for Sustainable Development

TIP: INDUSTRY ENVIRONMENTAL IMPACT AND MEASUREMENT

As part of its overarching mission, the WBCSD Tire Industry Project (TIP)—a global voluntary, CEO-led initiative undertaken by 11 leading tire companies—continues its work to better anticipate, identify, analyze, and address the potential environmental and human health impacts of tires.

Based upon a comprehensive analysis of existing science, TIP develops benchmarks, identifies data gaps and designs research to fill those gaps. Since its inception, TIP has developed resources such as environmental key performance indicators and Product Category Rules. These tools help advance TIP's collective analysis of member companies' environmental impacts and efficiency.

OBJECTIVES:

- Develop relevant methodology that allows TIP member companies – and, when possible, the industry at large—to measure their environmental performance and impact
- Foster a culture that enables innovation and improvement related to environmental measurement, performance, and impact
- Consistently evaluate and assess the state of knowledge related to environmental measurement, performance, and impact of the tire industry

FOCUS:

Product Category Rules:

In order to better understand the environmental impact of tires, TIP has invested in the development of a Product Category Rules (PCR) document, a set of industry-specific guidelines compliant with ISO14025, that manufacturers follow in determining product environmental impacts for Environmental Product Declarations (EPDs). TIP developed a first-of-its-kind PCR that is technically comprehensive, global in scope, and enables consistency of evaluation.

- The elements of the PCR include:
 - Requirements for the underlying life cycle assessment (LCA)
 - Data, calculation and reporting requirements
 - Use stage calculations
 - Content of the Environmental Product Declaration (EPD)
- Specific equations are used in the PCR to calculate energy use related to a tire's performance. These equations include, but are not limited to:
 - Energy consumption due to rolling resistance
 - Energy consumption due to acceleration resistance

PRODUCT

MOUNTING

USE

END-OF-LIFE TIRES (ELT)

- According to the PCR, the four stages of a tire's LCA include:
 - Product
 - Mounting
 - Use
 - End-of-life tires (ELT)
- There are approximately 15 environmental indicators as part of the EPD including, but not limited to:
 - Global warming potential
 - Ozone depletion potential
 - Use of renewable primary energy
 - Use of freshwater resources
 - Particulate matter

Environmental KPIs:

TIP identified environmental key performance indicators (KPIs) that measure operational impacts of the tire industry related to carbon emissions, energy consumption, water intake, and ISO 14001 certification of the environmental management systems at production plants. With the help of a consultant, TIP was able to consolidate all of this data.

- TIP's *Environmental Report* describes the common methodology, which previously did not exist for the industry, that includes the scope, indicators and calculation methodology used when measuring KPIs.
 - The purpose of the *Environmental Report* is to report and share environmental performance related to carbon emissions, energy consumption, water intake and ISO 14001 certification.
- The *Environmental Report* notes that while production increased substantially, TIP member companies saw slight increases in total energy consumption and carbon emissions. However, intensity—the amount of energy used or carbon emitted relative to increased production volume—actually decreased.
- The *Environmental Report* includes the following operational impacts:

Carbon:

- Between 2009–2015, carbon emissions intensity decreased by an average yearly rate of 2 percent
- Carbon emissions of TIP are strongly correlated to energy consumption, indicating that there was not a major change in carbon emissions content over the studied period

Energy:

- Between 2009–2015, TIP decreased its energy intensity on average by 2 percent per year
- The reduction in energy intensity is attributed to the tire industry's energy efficiency initiatives, such as new facilities, heat recovery, predictive maintenance activities and LED lighting

Water:

- Between 2009–2015, TIP decreased its water intensity on average by 4 percent each year
- During the two-year period 2013 – 2015, the tire industry decreased its water intake by 10 percent
- The decrease in water intake is attributed to the efficiency of water reduction programs implemented by the industry

THE ROAD AHEAD:

- TIP will update the PCR as the methodologies used to carry out LCAs and EPDs evolve.
- The PCR will be valid for five years after the publication date.
- TIP members individually will continue to research new methods of reducing carbon emissions, saving energy, and reducing water intake at manufacturing facilities.

FACTS AND FIGURES

- The PCR are designed to be used **globally** and can be referenced by any manufacturer and/or any program operator.
- TIP's KPIs measure **carbon emissions, energy consumption, water intake, and ISO 14001 certification**.
- TIP created a **common methodology to consolidate environmental performance data** from manufacturing facilities to show progress in reducing environmental impact in production.



ABOUT THE WORLD BUSINESS COUNCIL FOR SUSTAINABLE DEVELOPMENT

WBCSD is a global, CEO-led organization of over 200 leading businesses working together to accelerate the transition to a sustainable world. We help make our member companies more successful and sustainable by focusing on the maximum positive impact for shareholders, the environment and societies.

Our member companies come from all business sectors and all major economies, representing a combined revenue of more than US\$8.5 trillion and with 19 million employees. Our Global Network of almost 70 national business councils gives our members unparalleled reach across the globe. WBCSD is uniquely positioned to work with member companies along and across value chains to deliver high-impact business solutions to the most challenging sustainability issues.