

# ***SEEING THE FUTURE FIRST***

*How Cummins will deliver for  
its customers in a changing world*



# THE WORLD IS CHANGING...

*The world is more connected than ever and nations are confronted with the challenge of governing in an economically and culturally globalized world. By 2030, the world will need to extract 55 percent more raw material, produce 30 percent more energy, and source 40 percent more fresh water to meet the needs of a rapidly growing global population.<sup>1</sup>*

**...and we're faced with big questions as a company.**

At Cummins, in our journey to becoming the best power solutions provider globally, it's not always easy to provide a definitive answer to the question "are we there yet?" And in a rapidly changing world, it's not always clear where "there" even is. The path to success is long and often arduous, requiring us to navigate even when the picture of the future is fuzzy.

Cummins, like companies in every industry, faces unprecedented change to traditional business models and to the technologies and systems that powered the last 100 years. Potential technology substitutions such as electric vehicles replacing internal combustion engines or an internet of things instead of complex global supply chains are creating perhaps the greatest level of uncertainty that our industry has ever faced. If the new normal of the future is constant disruption, how will we ever know if we are there?

<sup>1</sup> "Expect the Unexpected: Building business value in a changing world." KPMG. 2012.

In order for Cummins to power the next 100 years, it's critical that we see the future first and be prepared with the right technology and services to power our customers' important work and to deliver value to all stakeholders including employees, communities, and the environment.

**Scenarios can help us plan for what we don't know we need to plan for.**

Cummins is using a method known as scenario planning to contemplate different potential future outcomes in order to make more informed decisions. Cummins' objective in doing scenario planning is to ensure that its investment portfolio is informed and contemplates all major scenarios that would impact the business on an ongoing basis and that looks beyond our normal five year planning window.

***A scenario is "an internally consistent view of what future might turn out to be – not a forecast but a potential outcome."***

*Michael Porter, 1985*

To do this, Cummins first identified the driving forces behind major changes in the world and the critical uncertainties within each. Based on the themes of those critical uncertainties, plausible scenarios were developed to weave a narrative of potential futures. Potential outcomes and implications to Cummins' business were then analyzed to understand when and how disruptions might occur over time. In simple terms, Cummins repeatedly asked itself, "what if?" to expose the greatest uncertainties about the future.

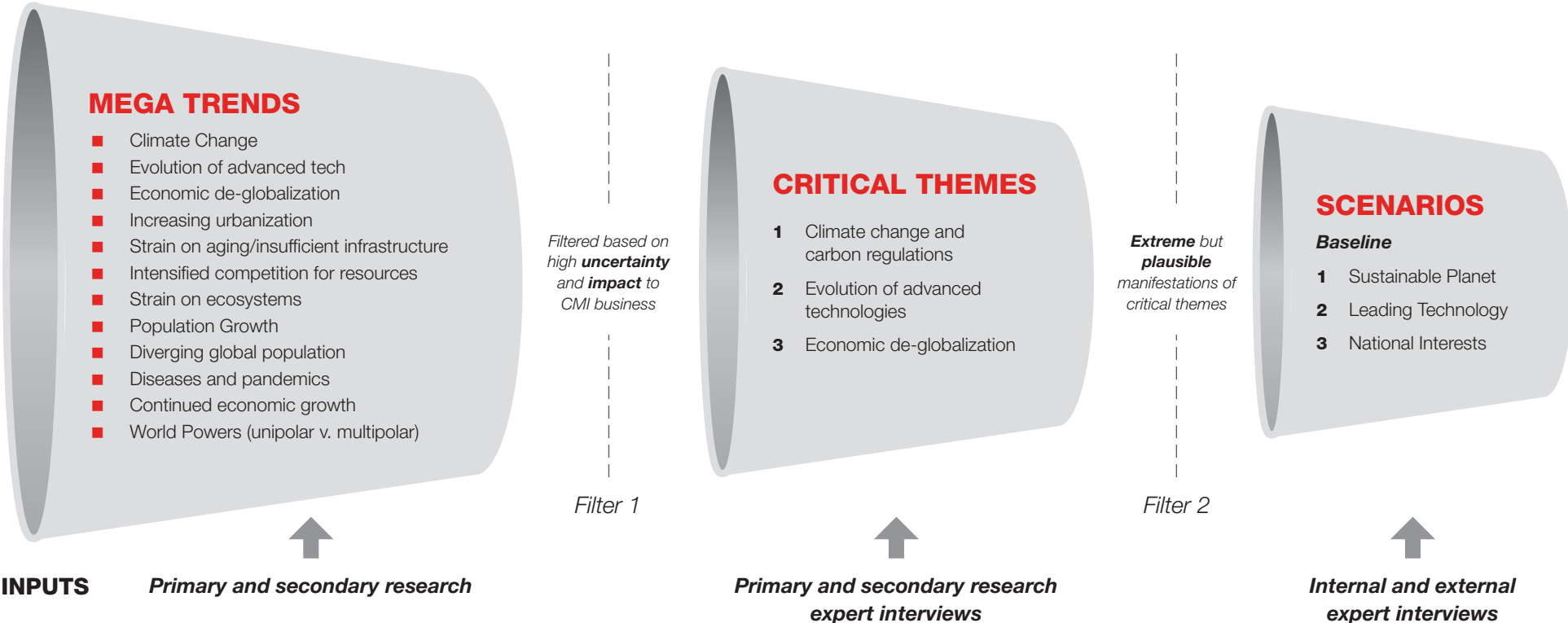
Finally, to keep that analysis relevant, Cummins must continually monitor and respond accordingly to changes. Scenario planning must be used as tool on an ongoing basis to account for real world changes that occur to inform the potential futures that are yet to come.

# UNDERSTANDING UNCERTAINTIES

In contemplating the different forces shaping the world, it is important to consider the major trends and themes that have both a high degree of uncertainty and a high impact to our business.

Extensive primary and secondary research was conducted to identify the trends and themes that are most critical to Cummins' business. The figure below illustrates the framework used to distill mega trends into the most relevant themes for Cummins.

Illustratively, urbanization, population growth, and continued economic growth are themes that, while very real, do not have both a high degree of uncertainty and a high impact on the technology choices in Cummins end markets, and thus they were not considered critical.



# IMAGINING POSSIBLE FUTURES

Cummins developed three distinct scenarios and a baseline scenario to creatively imagine what the world could look like in 30 years and beyond if it were shaped by the themes of Carbon Regulation, Technology Advancement, or Economic Globalization.

Through consultation with internal and external experts, Cummins developed three stretch scenarios which contemplate extreme but plausible evolution of each of those three themes. These scenarios are described in the figure to the right.

These scenarios are built upon a Baseline Scenario that assumes a moderate and inconsistent level of government regulation, continued advancement of technologies along current trends, and robust economic growth and global trade.

Like headlights on a road, it's to be expected that each scenario is easier to see in the near term. However, the scenarios are most useful when the imagination is stretched to bring seemingly far-off possibilities into focus.

## IDENTIFYING LEADING INDICATORS

An important way to effectively use scenario planning is the identification of the leading indicators of change in our markets. Each of these indicators or "signposts" are recognized as either a driver of a change, or a manifestation of a change, that could significantly impact Cummins' business. These factors act as inputs into a set of models to understand how a change might drive a disruption and technology substitution.

Signposts that are relevant to Cummins can generally be categorized as technological advances, economics, infrastructure, regulations, and geopolitics.

Monitoring these factors and looking out for key signposts on an ongoing basis will help Cummins identify future conditions in order to make appropriate strategy and investment decisions.



**STRETCH  
CRITICAL THEME**

**Carbon  
Regulation**

**Technology  
Advancement**

**Economic  
Globalization**

**SCENARIOS**

**1  
SUSTAINABLE  
PLANET**  
Strong government  
lead actions against  
climate change

**2  
LEADING  
TECHNOLOGY**  
Faster evolution technology  
transforms industry

**3  
NATIONAL INTERESTS**  
Reversal in globalization  
reduces trans-national trade

# SCENARIO PLANNING FOR POTENTIAL LOW CARBON FUTURES

***While climate change assumptions and low carbon technologies were considered across all scenarios, one scenario focused directly on the theme of carbon regulations. This scenario, "Sustainable Planet," envisions a future in which countries around the world take aggressive and globally orchestrated steps to decarbonize their economies. In this scenario, governments of large economies feel an urgent need to mitigate the threat of climate change. Governments are in the driver's seat and are motivated by public pressure to collaborate and to orchestrate a global shift toward a low carbon economy and limit the global average temperature increase to 2 degrees Celsius by the turn of century.***

Cummins used a climate-related scenario to understand the extreme limits and major drivers of action within this scenario out to 2035; anything less extreme would be compared to a baseline assumption of how this scenario might play out.

Cummins has a long history of environmental leadership through developing cleaner and lower carbon technologies, voluntary sustainability goal setting, and working across stakeholders to address environmental challenges. The company adopted its first-ever comprehensive environmental sustainability plan in 2014 and will continue to that will build on its successes by continuing to set goals to reduce carbon, use fewer natural resources, and partner to solve complex problems.

Scenario planning has already helped accelerate Cummins' voluntary sustainability actions and this practice ensures an even closer connection between our environmental strategy and our

business strategy. For example, in 2017, Cummins signed on to the Science Based Targets Initiative (SBTI) that uses environmental science to support companies with greenhouse gas (GHG) reduction target setting, consistent with limiting global warming to 2 degrees Celsius or lower.

## THE PATH FORWARD

Cummins' mission is to make people's lives better by powering a more prosperous world. From powering fire trucks that keep communities safe, to heavy-duty trucks that deliver goods, to generators supporting hospitals, we help power the interconnected world so many of us have come to depend on. As the world changes and big questions continue to face many industries, Cummins will continue to use scenarios and monitor regulatory, technology, and market trends to understand and plan for what we don't yet know we need to plan for.

Cummins will power a more prosperous world by excelling in our core business and expanding into new markets and new technology solutions. Cummins is already a global technology leader and is ready with a broad portfolio of solutions for our customers including advanced diesel, alternative fuels, natural gas, electrification, automation, and digital solutions.

In order to see the future first and win, scenarios help us understand how the world is changing and adapt accordingly when the time is right and with the right investments.



**Cummins Inc.**  
**Box 3005**  
**Columbus, Indiana**  
**47202-3005**  
**U.S.A.**

[cummins.com](http://cummins.com)  
©2018 Cummins Inc.