

AIST 2011 President's Award Breakfast *Keynote Address*

**Frederick "Fritz" Henderson, Chairman and Chief Executive Officer, SunCoke Energy Inc.
3 May 2011 • Indianapolis, Indiana**

AIST President William P. Breedlove presented Frederick "Fritz" Henderson with the 2011 AIST William T. Hogan, S.J. Lecture Award in appreciation for his keynote address, "Observations Regarding Opportunities for Growth in the Steel Industry." Henderson spoke before a gathering of 1,200 people at the AISTech 2011 President's Award Breakfast in Indianapolis, Ind., USA, on 3 May.

Thank you, Bill. It's a privilege for me to be here. First, I want to congratulate AIST and its leadership for a great conference, and for strong representation and support for our industry.

When I thought about my agenda for this morning, I looked back at the last three years' speakers – John Surma, John Ferriola and Bob Souillere – and I realized I have a deficiency in industry experience. So I said, "What do I want to speak about?" I have expertise in an industry that is a customer of steel. I thought, "I can talk a little about that, but it's not my direct area of responsibility." And moreover, since my company, SunCoke Energy, is in the registration process, I'm actually not free to talk about it. So I said to myself, "Let me think about the inspiration for my comments," and I looked at John Surma's presentation last year. He said, "I have two choices: I can either talk about a very technical question or I can speak about the business." John

chose to speak about the business, and that's good guidance for me this morning. I also thought about advice I always give myself before speaking, which is, "Say something interesting and be brief." So, I will try to follow both pieces of advice here today.

Before getting started, I want to reflect on the late Father Hogan and his dedications and passions to manufacturing, steel interdependence, innovation and technology, the importance of global business and promoting U.S. industry. In fact, Father Hogan saw the importance of the interdependence of steel – the crucial importance of manufacturing. When I started my career, almost 30 years ago, I believed in making things, and I still do. Father Hogan saw the importance of Asia long before it became important. In fact, his ideas and thoughts were relevant then, and I believe they're highly relevant today. So it's an honor for me to receive this award. Thank you very much.



Background: William T. Hogan. Foreground: William P. Breedlove (left) presents Frederick "Fritz" Henderson (right) with the 2011 AIST William T. Hogan, S.J. Lecture Award.



I want to talk about steel as a growth industry. It has been a growth industry, and I believe it will continue to be a growth industry in the future, really fueled by emerging market infrastructure and the regular drivers – transportation, industrial and commercial, construction, and consumer products. In fact, the growth of the past could be very different from the growth of the future. Let's start out with the big picture and ask, "Where are our economies going?" I'm not smart enough to think about 2050 – the World Bank does. But I am capable of thinking about 2025, and thinking about the last 25 years. Figure 1 shows world Gross Domestic Product (GDP) starting with 2005. First, notice how the bar is rising significantly from today. Second, where the economies are and what percentage they make up of GDP is fundamentally different as time passes. I believe this is an accurate prediction. I've seen this in the last 25 years, and we're going to see it in the next 25 years. All of this is going to drive significant demand for steel.

Let me focus on developing nations and look backward to 1980, when developing nations were 18% of global GDP. In 2010, they were 26% (Figure 2). It's on an inexorable march upward, and not because we want developed economies to contract – that's not true.

They're growing, but these countries are growing at a much faster pace. Figure 3 illustrates the contribution of developing nations to growth coming out of the recession. This chart looks at the recessions of 1981–82, 1990–91, 2001 and 2009. You can see, coming out of each of these recessions, developing nations are taking a far higher percentage; they're basically the engine for growth for the global economy coming out of recessions. I believe this will continue.

When you look at GDP growth, it's very simple. Figure 4 shows 2009, 2010 and the 2011 forecast. You can see what's happening – certainly a recovery from the 2009 recession, with developed economies growing at about 3% in 2010, and continuing at a little bit less than that pace in 2011. Look again at the orange bar, at developing economies. I can tell you, as these markets develop, they drive prodigious demand for steel.

Now I'm going to work your eyes. Look at Figure 5, which goes back to 2000. Look at 2000 compared to 2010 – what has happened to the steel industry? It has grown. Production across the steel industry has grown. But look at where it has grown. Other countries have not shrunk significantly. But the orange piece, which is Asia, has been the

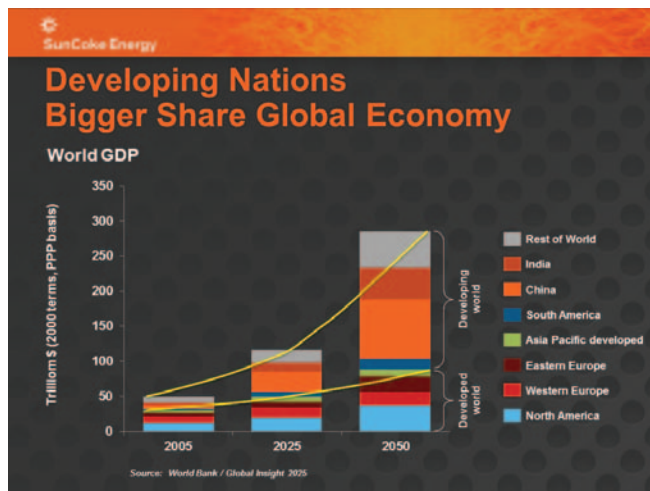


Figure 1



Figure 2

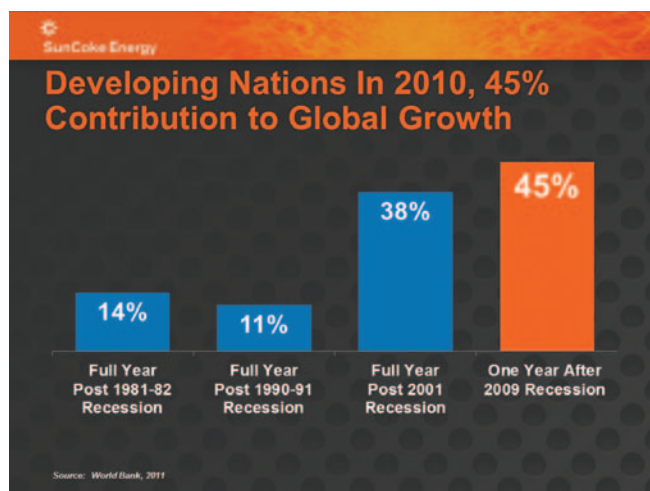


Figure 3



Figure 4

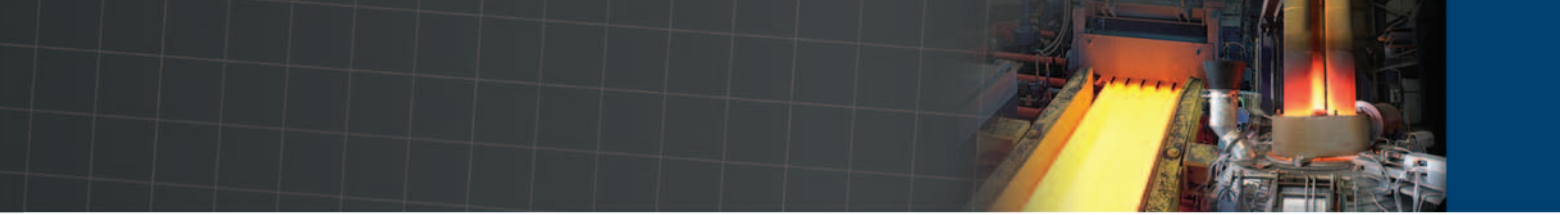


Figure 5

driver of both economic growth on a global basis and a significant driver of steel and steel consumption. Bill Breedlove mentioned, in his earlier comments, that China has been the driver of this growth. It's also changed the competitive landscape. The left side of Figure 6 is a look at the major players in the steel industry in 1999. These were the top 10 companies. One company was in China, and the remaining companies were all in developed economies – well-developed economies. Now look at the landscape in 2009, on the right side of Figure 6. At the top is ArcelorMittal, a company that didn't exist in 1999. Then you see six of the top 10 steelmakers in emerging economies, and you see seven in Asia. This is a remarkable change – not only in terms of aggregate production and consumption of steel, but the nature of the firms that compete in the industry.

The demand, historically, has been fueled by the traditional drivers, principally with a significant impact in infrastructure. Figure 7 looks at an expectation for infrastructure investment over a longer period of time, through 2017. The view is that almost \$22 trillion will be spent on infrastructure in these emerging economies over this period of time. That is a massive amount of infrastructure investment, and anyone who spends time in these developing economies – not just the large

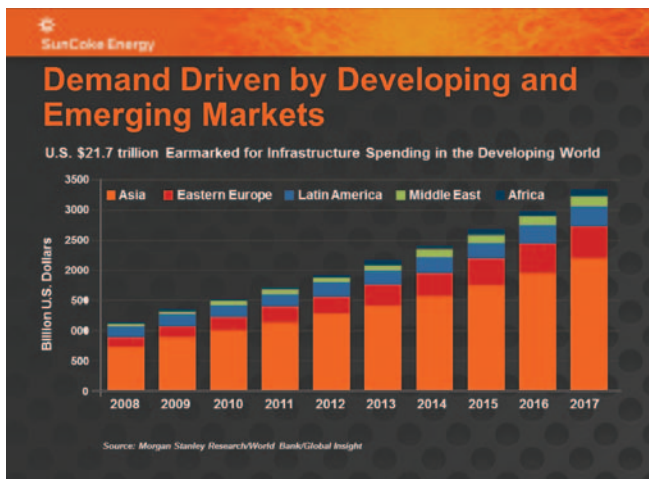


Figure 7



Figure 6

ones like China or India, but also smaller developing economies like Thailand and Vietnam – sees these markets growing and growing significantly. You see it in South America, you see it in Africa, and you see it in every emerging market. As countries grow, as middle classes grow, infrastructure grows, driving significant demand for steel.

The BRICS – Brazil, Russia, India, China and South Africa. I'm not an expert in many things, but one thing I believe I'm an expert in is emerging markets. I've lived and worked in Brazil, Asia and Europe, and I've seen these markets grow. Figure 8 looks at Brazil, Russia, India, China and South Africa, and it looks at their contributions – whether it's in foreign trade, foreign direct investment or global GDP. Now, these are not homogeneous countries – they're not even close. China, with its 1.3 billion people, is an economic machine, with a different political system. India also has a different political system, with a population close to China, and – I would argue – reaching escape velocity in terms of GDP growth. Brazil, a country with 180 million people, used to be the "country of the future," a country that has strong agricultural exports, strong infrastructure investment and accounts. When I lived in Brazil in 1997, I wouldn't have dreamed that Brazil's balance sheet as a country would be what it is today. Finally, Russia – a country with

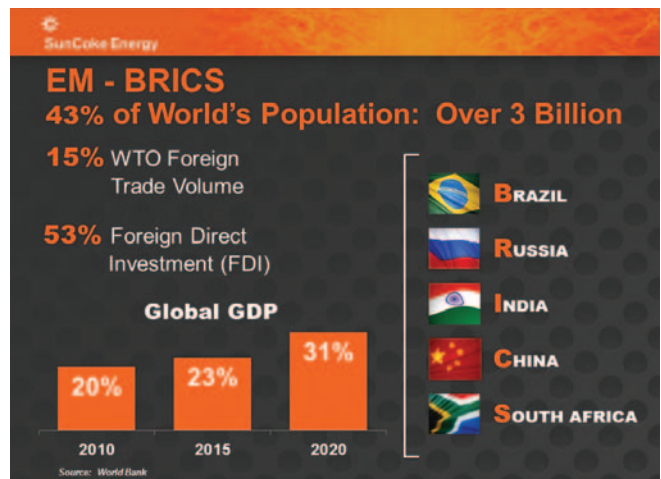


Figure 8



Figure 9

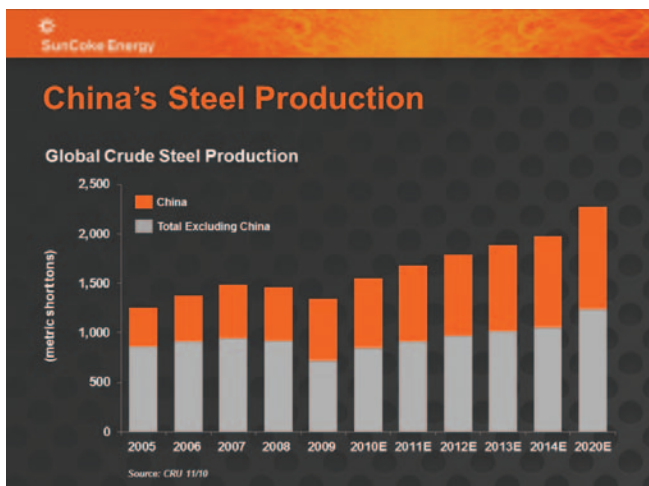


Figure 10



Figure 11

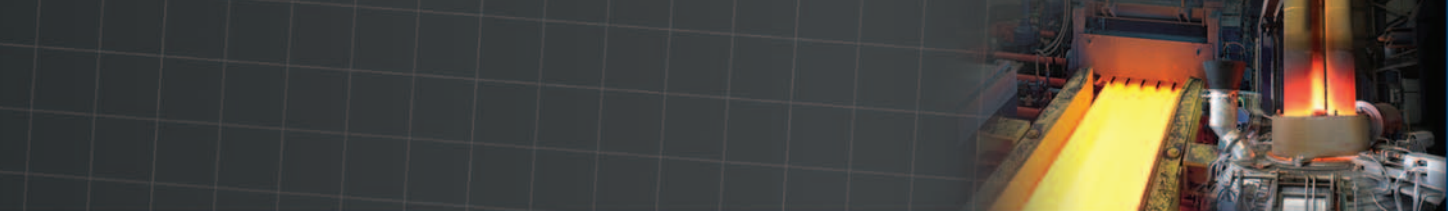
60 million people, the smallest of all these countries, but a country with substantial raw material resources and reserves; I would say the same about South Africa.

These markets are not at all similar. In fact, I would argue they're all highly different. Figure 9 focuses on China's rapid growth in steel production relative to the globe since 2000. When I came into the steel industry, I wondered, "Where is steel produced?" and I realized that aggregate production capacity tripled – more than tripled, nearly quadrupled – in China over a nine- or 10-year period. It's just amazing.

Look at China's steel production going forward (Figure 10). I think China cannot continue to grow at 9 or 10%. I'm a believer in the law of large numbers; however, I do not believe for one second that it's going to grow at 10%. As you look at a country like China, growing at perhaps 4 or 5%, and India growing from there, I would say the outlook for steel, for infrastructure and for growth in China in terms of the business, continues to be very, very strong. What's different from the past, and what I think you're going to see in the future, is India. As I said before, I believe it has reached escape velocity. GDP is truly growing and gaining momentum. Figure 11 shows historic steel production in India. As I look forward, I believe by 2015, India could be the second largest producer of steel in the world. Think about the implications for our industry in iron ore, in coal. Think about what happens when a country like China begins to meaningfully recycle scrap. Think about what that means for scrap; think about what that means for arc furnace production in a country like China. Think about how it affects you, all of us, and how we capitalize on these opportunities.

Shifting gears, I do want to talk a little about autos, and auto outlook and perspective. Take note of Figure 12. I lived this chart. As I think back to what happened during this period of time, the U.S. actually enjoyed a nine-year period where aggregate demand in autos in North America was at about 17 million units (this is production as opposed to demand). You can see what happened in 2008 and 2009, with production levels falling 50% from their peak in North America (blue line). You see the recovery in 2010. At the same time, the orange line is China. I'm going to talk a little about the past and the future. I took responsibility for GM's business in Asia on 1 January 2002, and the first two months I was there, we took a view of what was going to happen to the China auto market. We thought it would hit 10 million units. We were branded as heretical, we were considered absolutely out of our minds. "It can't reach 10 million anywhere between here and 2025," we were told. It turned out we were wrong. We just missed it on the wrong end. What happened with the China auto industry has been nothing short of phenomenal.

Going forward, we're going to continue to see China grow, and we will start to see growth in India (Figure 13). These emerging markets are picking up momentum. In India, we will start to see middle classes grow. We've seen it in Brazil; we've seen it in China; and we're going to see it in India. But what does that mean? That means we're going to see growth in both worldwide production and in NAFTA (Figure 14). I'm absolutely convinced worldwide production, even in developed countries, will be driven in part by emerging economies like China, India and Brazil. The level of production and demand in 2008 and 2009 in North America was driven in part by a very deep recession – the absence of credit, not just scarce credit. I was on the board of directors at GMAC at the time, which is a \$240 billion finance company, and it couldn't finance. That was a very scary moment. What happens in this kind of financial climate is you stop lending, which is exactly what happened. It's not that you don't want to lend, but that you can't fund yourself.



The level of demand that occurred in the U.S. market in 2008 and 2009 was unsustainably low. Whether it was housing declines, fuel prices peaking or lack of credit, it could not continue at that pace. In 2010 and 2011, it has recovered. It has been a weak recovery, but there's no way that the United States market, for example, should sell at a level of 10.5 million units – not with the population, not with the income, not with the credit in this country. It just doesn't compute. It happened for specific reasons, but now you're seeing the natural growth within the industry. While perhaps it won't rise back to a 17 million unit market, I believe that in the foreseeable future, three to four years, you're going to see 15–16 million units. All of this is going to drive demand.

Since I've been in the steel industry, I've noticed a lot of discussion on aluminum versus steel. Most of the time, these discussions are framed in "either/or." I'm not an automotive engineer, but I've worked with many of them. They look at materials in a very agnostic way. Automotive leadership asks engineers to do some very simple things: we want to design beautiful vehicles that are highly fuel efficient, that are very safe and crash well, that can be manufactured, that have good ergonomics and have an efficient supply chain. That's it. So,

automotive engineers have to make tradeoffs among all these things, and they do, for example, between aluminum and steel. Aluminum has some advantages, and has made significant in-roads, particularly in powertrain. Think about cylinder heads, transmission cases – you've seen aluminum being used more and more across the vehicle. But it also has disadvantages, and steel has some significant advantages, as Figure 15 shows. First, if you look particularly at body cost, the front end of a vehicle in an assembly plant, the stamping operation at the body shop, and you think about higher-volume manufacturing, steel has a significant cost advantage. Second, steel has significant manufacturing advantages for high-volume OEMs (Figure 16). As long as innovation continues, steel is going to continue to have an advantage in this area. Yes, you can have aluminum bodies, but it's going to be more costly. In fact, as I think about the steel industry and innovation, there are tremendous opportunities to continue to innovate in this area, since steel enjoys some significant advantages in the body engineering area.

So, what's the future? It's all about weight, quality and economy. It's about serving the automotive engineers well so that, as they make tradeoffs among materials, steel continues to play a prominent role

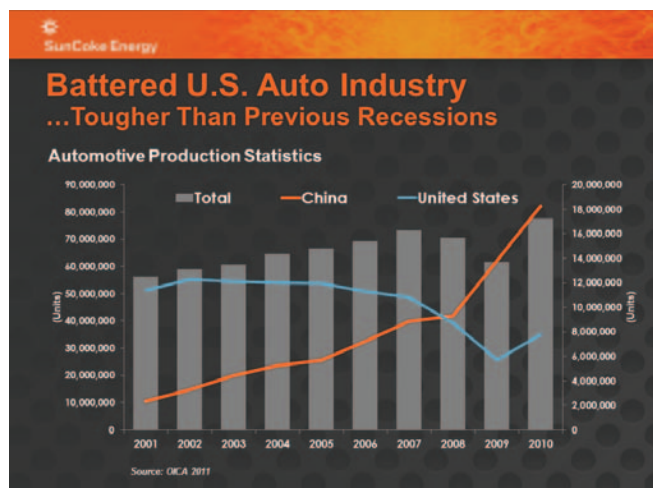


Figure 12

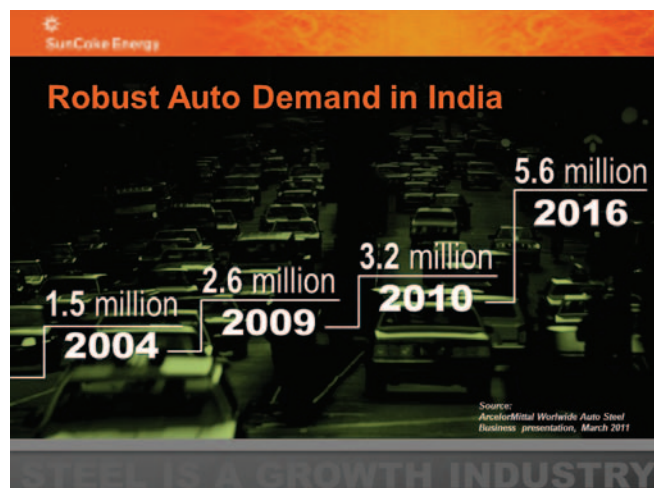


Figure 13



Figure 14

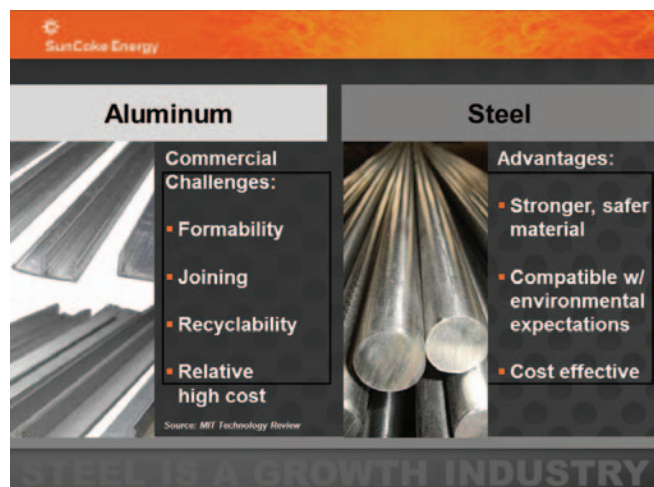


Figure 15



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Body Costs

	Steel Unibody	Aluminum Space Frame	Aluminum Unibody
Low Production	\$5,800	\$4,500	\$7,200
Medium Volume	\$2,500	\$2,800	\$3,600
Volume of 300,000	\$1,400	\$2,400	\$2,000

Source: MIT Technology Review

STEEL IS A GROWTH INDUSTRY

Figure 16

in the game. When I think about my experience in the automotive industry, I've seen aluminum, I've seen steel, I've seen plastic intake manifolds – I've seen all sorts of materials substitution. But the automotive engineer is generally agnostic. Automotive engineers need to do certain things to produce great vehicles, and as long as steel continues to have advantages relative to other materials, it's going to play a significant role. Figure 17 shows some examples of products developed by steel producers that have brought innovation to the auto industry and the vehicles themselves.

So, two key headlines conclude my remarks. First, I truly believe that steel is a growth industry going forward. The role of people in this room, the people who supply steel and those who supply to steel, is to work with your customers on future demand, wherever it is, whomever it is with. There's a tremendous opportunity to grow in this business. Second, I think you're going to see domestic growth. There's a lot of discussion about rising fuel prices; it's very significant to consumers. But, as opposed to 2008, where demand fell significantly, demand hasn't fallen. You've seen shifts, which is a more logical thing. You've seen consumers look for more fuel-efficient vehicles, and you've seen a shift away from vehicles that consume more. But

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 - High tensile & low yield
 - Up to 20% weight savings & improved performance
- Hot Stamping**
 i.e., A&B pillar reinforcements, roof rails, side wall members, beams & crash management structure
 - Process changes steel microstructure & strength
 - Improved tensile strength
- Hydraulic Stamping (Forming)**
 i.e., exhaust systems, fuel injection systems, seat belt detractors, gear & bearing assemblies
 - Process is reliable, precise and powerful
 - Constant press force during stamping process

Figure 17

you have not seen any significant reduction in aggregate demand. So, I do think you're going to continue to see growth in the market here in the United States, in autos and in the economy, but you're also going to see a significant engine of growth in emerging markets. You have seen it, and you're going to continue to see it. You really need to find your role in that – your role in the business.

I have had a lot of jobs through my career, and one of the things I learned is that you have to sweat the details. You need to understand the details of your business. But you also need to make the big calls right. Leadership gets paid to get the big calls right, and you have to find your role in this rapidly evolving economy, in this wonderful global market.

Finally, let me give some advice regarding automotive manufacturing. Leverage your innovations and your advantages – steel's advantages. Optimize the value equation, because that's what matters to an automotive engineer.

Thank you for your time. It was a pleasure to be here this morning to receive the award. ♦



A crowd of 1,200 gathered for the President's Award Breakfast in Indianapolis, Ind., to hear SunCoke Energy Inc. chairman and CEO Frederick "Fritz" Henderson's keynote address.