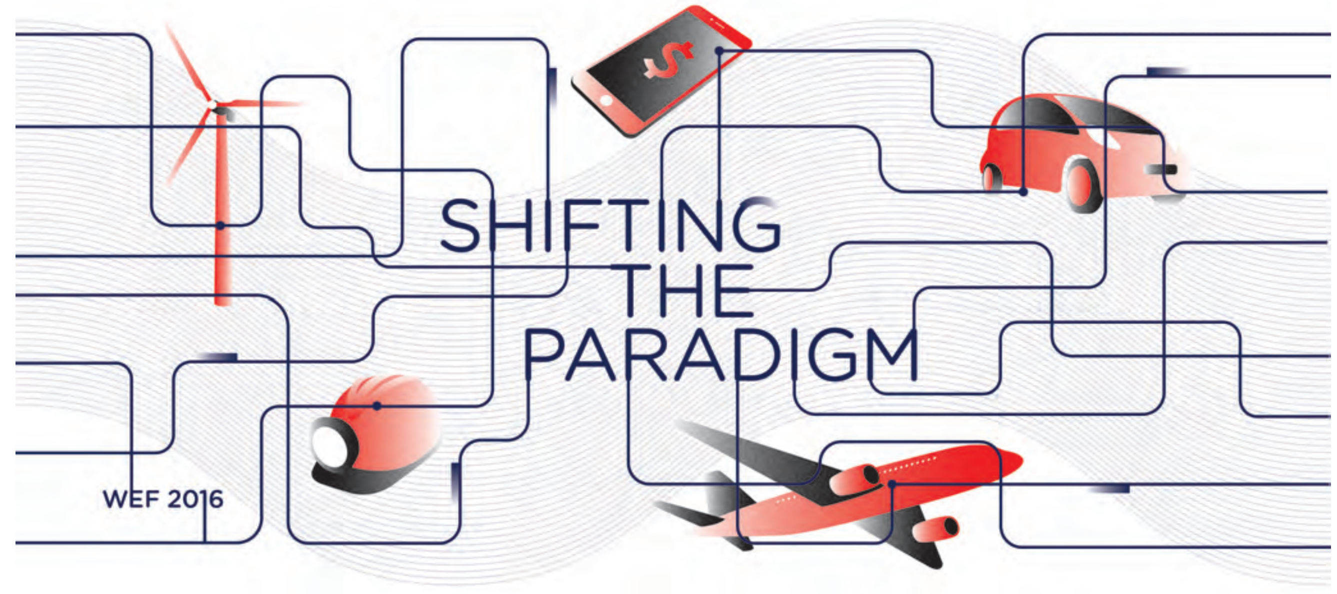


GLOBAL LEADERS IN **SUSTAINABLE INNOVATION**

As the 46th annual meeting of the World Economic Forum gets under way in Davos, participants are facing up to some of the most challenging economic and social conditions in a generation. The dramatic slowdown in the global economy, combined with widespread political unrest and with existential concerns about the environment, is for many delegates compelling evidence that the growth model of recent years has been exhausted. The task at hand now is to develop a new way ahead, a new model that harnesses the power of technology and innovation to deliver global economic growth that is both more inclusive and more sustainable.

> **“Innovation is the most important and only sustainable source of economic growth for companies and countries.”**
> Klaus Schwab, Founder and Executive Chairman, WEF

“The new technology age, if we shape it and contribute to it in a responsive and responsible way, can catalyze a new cultural renaissance that will enable us to feel a part of something much larger than ourselves—a true global civilization,” Klaus Schwab, founder and executive chairman of the WEF, said last year.

The theme of this year’s event is Mastering the Fourth Industrial Revolution. The technologies needed to deliver a new economic growth model are essentially ready, ranging from the Internet of Everything (IoE) and digital money to alternative fuels, 3-D printing, nanotechnology, robotics and even artificial intelligence. The challenge now is to use these innovations to transform today’s systems of production and consumption, while at the same time delivering growth that creates employment, increases social inclusion and rewards investment.

As this report illustrates, some of the world’s leading businesses are already rising to this challenge in a variety of industries. Manufacturers of cars and trucks are not only evolving toward alternative fuels but also using Internet technologies to position themselves as providers of integrated mobility services, working with governments to improve the quality of life in the world’s fast-growing cities. Giant mining multinationals, faced with a continued downturn in commodity prices, are transforming into long-term partners for national and regional development. In the financial services sector, telecommunications companies, banks and exchanges are developing new ways of accessing the unbanked and mobilizing capital for sustainable investments. Meanwhile, policymakers are working hard to ensure that new regional trade and investment agreements raise the bar for environmental protection and employee rights worldwide.

> **“People need to realize not only that the paradigm has changed, but that they have to do something about it.”**
> Chris White, Senior Vice President of IoE, Cisco

Just as coal and steam powered the first industrial revolution, it is communications technology that is fueling today’s transformation. Networking giant Cisco estimates that IoE, the networked connection of people, processes, data and things, represents an opportunity to generate $19 trillion of value in the private and public sectors. Chris White, the company’s senior vice president of IoE, says that partnerships between both sides will be the key to unlocking this value. “Digitalization and technology are not just issues for technocrats,” he says. “They should be on everyone’s agenda. Companies and public-sector organizations need to think about forming new partnerships to drive transformation forward.”

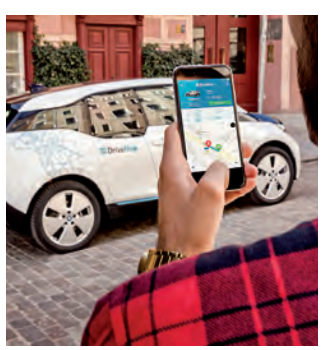
As the WEF begins, a consensus is already emerging among participants: The time for action is now. Technological and social change is happening so quickly that today’s mechanisms for governance and growth are already looking outdated. “My main worry is that people aren’t taking advantage of the opportunities of innovation fast enough,” White says. “We need to look at what we can today and accelerate what we are doing, if we are to successfully transform our businesses, cities, countries and our entire society.” ■

SUSTAINABLE MOBILITY: IS THE FUTURE ELECTRIC?

It has been a year of unprecedented change in the world's automotive industry. Increasing public concern over car emissions, combined with advances in technologies for batteries and alternative fuels, has led to a rapid growth in the market for low-emission vehicles. At the same time, car manufacturers and governments have been radically rethinking today's model of car ownership and are working toward a more sustainable vision of urban mobility.

Some of the world's most sophisticated economies are pioneering the revolution. In Norway last year, over one-fifth of new car sales were electric vehicles (EVs). Cities across Germany are providing parking privileges for shared vehicles. In the run-up to the Olympic Games of 2020, Japan will spend over $300 million on infrastructure for hydrogen-powered cars. In all three countries, carmakers are partnering closely with governments to ensure that the infrastructure and incentives are in place to support the transition to a new generation of vehicles and a new model of mobility.

"Governments understand that in the early stages they need to prime the pump with incentives for consumers in order to grow the electric vehicle market," says Thierry Bolloré, chief competitive officer of Groupe Renault, which in 2015 sold its 280,000th EV, accounting for half of all EVs on the roads. "At the same time, governments worldwide are setting increasingly stringent standards for emissions. As a result, the EV market may be still small, but it's growing very fast, by around 50% in 2015. It's only going to go in one direction—and before long the market will be so large that incentives won't be needed."



DriveNow: BMW's car-sharing service

At the COP21 climate conference in Paris, the Renault-Nissan Alliance provided a fleet of 200 electric cars of various types and sizes, the largest electric vehicle fleet ever assembled. The Alliance is currently focused on improving the distance that EVs can travel before needing to recharge, hence eliminating the so-called 'range anxiety' of EV drivers. "We believe that by no later than 2020, our EVs will have double the range they have today," Bolloré says. "We want range anxiety to disappear completely."

> **"We are investing billions of euros to offer the widest range of EVs in the market."**
> Thierry Bolloré,
> CCO, Groupe Renault

The key to increasing the range of zero emission cars lies in improving the performance of their batteries, but without increasing the weight of the vehicles. The Alliance is currently developing new battery technologies with its suppliers that will not only increase the range of its EVs, but will also make recharging the battery a much quicker process. At the same time, public authorities are increasing their investments in charging points. By 2020, E.U. Member States will have to have built enough infrastructure to ensure that EVs can circulate at will in cities and suburbs, with ideally one recharging point per 10 EVs on the roads.

Thierry Bolloré, CCO, Groupe Renault, with France's most popular EV, the Renault Zoe

At the top end of the EV market in Europe, the star performer is BMW's i3 model. In Germany, one in every four EVs sold in the last two years has been a BMW i3, and the model is the third most popular EV in the world. With the i3, BMW is also pioneering innovative services that are designed to make urban driving more sustainable. In September, the company's DriveNow car-sharing service put a fleet of 400 i3s into service in the Danish capital of Copenhagen. By reducing the numbers of cars on the roads, and ideally replacing them with EVs, car-sharing schemes such as DriveNow can both improve urban mobility and reduce pollution. Carl Friedrich Eckhardt, head of BMW's Center of Urban Mobility Competence in Munich, estimates that 50,000 car-sharing vehicles could do the job of 500,000 individually owned cars in the German capital, reducing traffic and freeing up city parking space for new uses by city dwellers. BMW set up the center in early 2015, specifically to help create a sustainable model for urban mobility and improve the quality of life in cities.

At the Renault-Nissan Alliance, Bolloré says that new engine technologies, regulations and software connectivity are now steering the automotive industry toward a radically different business model, in which car manufacturers sell sustainable mobility services rather than just cars. "Mobility is going to become something very different to what it is today," he forecasts. "In the future, people won't necessarily only be buying cars from us—they will be buying mobility services."

These services are already available in some markets. In Copenhagen, BMW has now linked the electric i3's navigation software to the city's public transport system, so that it informs drivers in real time on the best way to complete their trip and on the intermodal connections they can make. "The system can tell you when there is congestion and can recommend alternatives with public transit," Eckhardt says. "A whole new world of urban driving is possible when you link up cars and public transport. Our vision is to export our car-sharing ideas and mobility services to as many cities as possible and at an ever greater scale." ■

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Produced by the buzz business for TIME CUSTOM CONTENT

IS THE HYDROGEN FUEL CELL THE TURNING POINT?

Electric cars are not the only alternative to the internal combustion engine that are under development. In 2015, Japanese car giant Toyota began selling in Europe and California its Mirai automobile, a futuristic vehicle that uses a hydrogen fuel cell for power and emits only water vapor from the tailpipe as a byproduct. The launch of Mirai forms part of Toyota's long-term strategy of eliminating nearly all petrol and diesel engines from its output by 2050. It is the latest result of a long-standing commitment to sustainability that saw the company launch the Prius, the first mass-produced hybrid, back in 1997.

> **"Toyota is a global player with the financial capability to invest in researching different types of energy."**
> Jacques Pieraerts, VP Communication, External and Environmental Affairs, Toyota Motor Europe

In Toyota's latest world first, the Mirai, the engine combines hydrogen with oxygen to produce electricity. As the technology does not rely on a battery, it avoids the range anxiety problems faced by today's generation of EVs; in effect, the hydrogen itself serves as an energy storage device. Furthermore, the time taken to refuel with hydrogen is only three to five minutes, comparable with conventional cars, whereas many EVs still require overnight charging. "With the Mirai, drivers have autonomy of around 500 kilometers, which is still a challenge for electric vehicles, and you can refuel very quickly," says Jacques Pieraerts, vice president of communication, external and environmental affairs at Toyota Motor Europe. While Toyota believes that there will be a place in the market for EVs, especially for short trips and for urban car-sharing schemes, it thinks fuel cell vehicles will be more appropriate for longer journeys. By 2020, the company aims to be selling 30,000 Mirais a year, up from 2,000 in 2016.

One challenge that hydrogen fuel cell vehicles face in common with EVs is the still limited scope of public infrastructure for alternative fuels and recharging. To respond to this challenge, Toyota has put together a broad coalition of partners from the public and private sectors, who all share a common interest in building what the company calls the hydrogen society.

In Europe, Toyota launched the Mirai in the German city of Hamburg, which is already home to four hydrogen refueling stations and which produces hydrogen using wind power. In California, the state government is investing $200 million to build a network of over 100 stations. Toyota itself has also released thousands of its fuel cell patents free of charge to speed up adoption of the technology. "With global population growth as fast as it is and with increasing demands for mobility and energy, we cannot continue with business as usual," Pieraerts says. "It is time for revolution, not evolution." ■

VOLVO'S ElectriCity

In the development of sustainable urban transport, partnerships between vehicle manufacturers, energy suppliers, academia and local authorities are playing a fundamental role.

Thanks to cooperation across industry, research institutions and the public sector under the ElectriCity initiative in Sweden, last year the city of Gothenburg began operating its very first route for electric buses, supplied by the Volvo Group. For city residents, the transformation of Line 55 has resulted in less noise, lower emissions, and state-of-the-art bus stops and vehicles. For Volvo, the city is serving as a testing ground for its sustainable transport initiatives. "We created ElectriCity because we want to focus not just on the buses but on the total transport solution. We might make the cleanest buses, but to respond to the public transport challenge effectively we need partners," Volvo Group's chief sustainability officer Niklas Gustafsson says. In the capital, Stockholm, Volvo is also partnering with electricity supplier Vattenfall to provide rapid charging points for its buses. "There is great potential to make energy savings by working together on sustainable transport projects," Vattenfall president and CEO Magnus Hall says. ■

Content by THE BUZZ BUSINESS

CNH INDUSTRIAL TRAILBLAZES IN INNOVATION

While the high-performance road vehicles of global brands such as Nissan, Renault and Toyota may be the most visible face of the fuels revolution, it is in the world of agricultural and industrial equipment that change is taking place at the fastest rate. "The lion's share of our capital spending is now going toward improving the environmental performance of our engines and developing technologies for alternative propulsion and precision farming," says Richard Tobin, chief executive officer of CNH Industrial, the sector leader in the Dow Jones Sustainability World and Europe indices, which owns brands such as New Holland Agriculture, Case IH and Iveco.

Richard Tobin, CEO, CNH Industrial

For heavy-duty trucks that operate in these segments, electrification is not a feasible option; the weight of the batteries needed to power them would make them impractical. Instead, manufacturers are developing engines that run on natural gas as a low-polluting alternative to diesel. To date, CNH Industrial has already produced around 14,000 commercial vehicles powered by either compressed natural gas (CNG) or liquefied natural gas (LNG), ranging from light-duty vans to medium-and heavy-duty trucks. In July last year, the company delivered Israel's first-ever natural gas vehicle, as part of its partnership with the Israeli government. As with the EVs and hydrogen fuel cell markets, Tobin says that the engine technology is now ready; what is needed is for governments and energy companies to fund the fuel stations and infrastructure required.

> **"As an industry leader, we are obligated to be at the front of the sustainability curve. Our clients expect it."**
> Richard Tobin, CEO, CNH Industrial

The company is also investing in the development of biomethane as a fuel. Biomethane is produced from biogas, which is created naturally when bacteria break down organic matter and animal waste. According to CNH Industrial, a vehicle powered by biomethane produces CO^2 emissions that are comparable to those of an electric vehicle fueled using energy produced from renewable sources. The company's Iveco Bus brand already manufactures a range of vehicles that run on natural gas and can also be fueled using biomethane. For farmers, there is an additional incentive: With the right refining equipment in place, farms should be able to produce their own biomethane from organic waste and then use it as a fuel to power their tractors and other agricultural equipment—in other words, become energy-independent farms. "In a way, we are going full circle from having horse-drawn carts back to vehicles which are fueled by biomass," Tobin says. "A large farm could theoretically have the ability to supply all of its own fuel through biogas, biomethane and renewables." ■

GREENER SKIES

It is set to be a critical year for the world's commercial aviation sector. By the end of 2016, the International Civil Aviation Organization (ICAO), a UN agency, will endorse a global standard for CO^2 that all new aircraft will have to meet. This year, the ICAO will also approve the industry's first worldwide carbon-offsetting scheme. "All of the new regulatory frameworks are going towards reducing emissions and potentially imposing higher costs for emitting carbon," Julie Felgar, head of environmental strategy at Boeing Commercial Airplanes, says. "The aviation industry has to respond to that reality." In the long term, by investing in new aircraft technologies, better fuel efficiency and enhanced in-flight operating procedures, the sector aspires to cut its net CO^2 emissions to half of its 2005 levels by 2050. Meanwhile, the focus on environmental issues is also reducing aircraft noise; the new C Series model from Bombardier, coming into service this year, is the quietest in its class. "Nearly the same things that contribute to reducing aircraft emissions also reduce noise," says Bruce Parry, the company's head of sustainability, product development engineering. "It is one of the advantages of developing a completely new, clean-sheet design." ■

MONEY MAKES THE WORLD **GO ROUND**

Over the course of the last 18 months, concern has been mounting about the potential of financial technology (fintech) to disrupt the business models of existing lenders and create new risks and uncertainties for today's banks. At the same time, however, pioneering companies are embracing these technologies and developing innovative ways of mobilizing capital, and helping to make the financial system greener, more sustainable and more inclusive.

> **“It is only by pursuing a responsible and forward-looking approach to business that we can achieve long-term success.”**
> René Buholzer, Global Head of Sustainability, Credit Suisse

In recent years, mobile money services have been leading the drive to increase financial inclusion, especially in sub-Saharan Africa. Last year, a report from the World Bank found that between 2011 and 2014, the proportion of adults with a financial services account increased from 51% to 62%, a trend driven above all by mobile money accounts in Africa. “Access to financial services can serve as a bridge out of poverty. We have set a hugely ambitious goal—universal financial access by 2020—and now we have evidence that we're making major progress,” World Bank Group President Jim Yong Kim has said.

In many African countries, more people now use a mobile money account than a bank account. Many of them will be customers of Vodafone's pioneering M-Pesa service, which after launching in Kenya back in 2007 has now spread to almost a dozen countries. Wherever they are, any customer with an M-Pesa account can use their mobile phone to transfer funds to other users and non-users and to pay their bills, all for the cost of a tiny transaction fee. According to the World Bank, the affordability of the service has been key in opening the door to formal financial services for Africa's poor. In Kenya, around 40% of all cash transactions are now carried out via M-Pesa.

“In the developing world, there is no real easy access to the traditional banking services and they tend to be expensive for poorer people,” says Michael Joseph, one of the founders of the M-Pesa service and now Vodafone's director of mobile money. “M-Pesa has brought some basic financial services to people for the first time and it has had a huge impact on their lives.”

M-Pesa mobile services connect the unbanked masses to the global economy

As well as serving as a medium for transactions, M-Pesa also enables poorer people, especially women looking after their families, to save, earn interest and borrow against those savings, very often for the first time in their lives. Vodafone is now examining the potential for adding new financial capabilities to M-Pesa, such as international money transfer, insurance services, and government payments.

Meanwhile, long-established financial institutions are also working hard to support financial inclusion and to increase their funding of socially and environmentally positive projects. Banking giant Credit Suisse was an early leader in the development of microfinance and impact investing. It is now looking closely at how it can better mobilize private capital to protect conservation hot spots around the world. “Our best contribution is in applying classic banking services to respond to the great global challenges of today,” René Buholzer, the bank's global head of sustainability, says.

Public funds and charitable donations by themselves will not provide enough money to protect valuable areas of conservation, the bank believes. Working with the World Wide Fund for Nature (WWF) and consultancy McKinsey, Credit Suisse has published a research report, based on which the bank has developed a new product that enables private investors to allocate their capital to conserving vulnerable ecosystems, while also generating a financial return. “It is our responsibility as a bank to help bring more private money into protecting these hot spots,” Buholzer says.

Alongside the global banks, newer players in the financial sector are delivering innovative financing mechanisms for environmental investments. The Sydney-based company Carbon Trade Exchange (CTX) has launched a series of carbon platforms around the world, enabling market participants to trade their carbon credits and other environmental commodities. By joining the CTX Voluntary Carbon Market, businesses can access hundreds of carbon projects globally to offset their emissions and become carbon-neutral. “A large proportion of trading in the global carbon market is still being done over the counter or by direct intermediaries,” CTX founder and executive chairman Wayne Sharpe says. “A carbon exchange is a much more efficient way of distributing funds to climate projects where the need is greatest. Participating in an exchange is one of the easiest ways for a company to support green growth and sustainable development.” ■

> **“It is exhilarating to change people's lives for the better and make their lives easier.”**
> Michael Joseph, Director of Mobile Money, Vodafone

PHOTO: Plan International

Credit Suisse supports financial education for girls

ITALY ASSERTS GLOBAL LEADERSHIP

SUPPORTING **SUSTAINABLE TRADE**

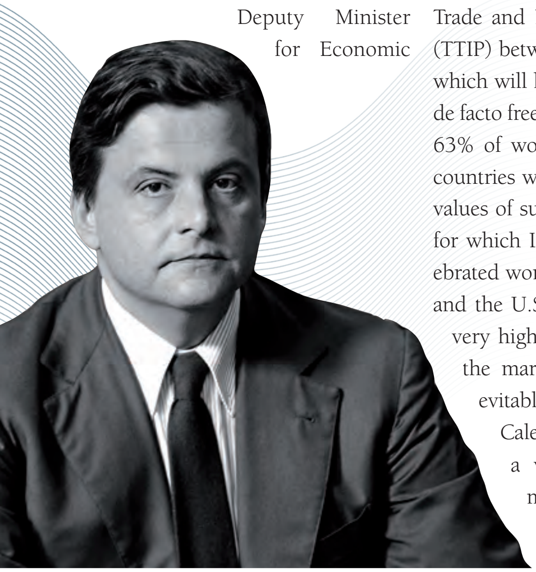
In Davos this year, politicians and policymakers are debating the next stage in the integration of international trade, with giant regional free trade agreements set to transform global flows of goods and services. At the same time, the world's consumers are increasingly willing to pay a premium for products made to the highest standards of sustainability. Few countries are as well positioned to benefit from these two trends as Italy, where the business community's commitment to high-quality exports has long been a source of national pride.

> **"The world's consumers are willing to pay higher prices for the sustainability and quality of Made in Italy products."** Carlo Calenda, Deputy Minister for Economic Development

"Italy is one of the E.U.'s leading countries in ensuring the sustainability of its products and of its entire supply chain," Deputy Minister for Economic Development Carlo Calenda says. "There is now a fantastic opportunity for Italian companies, as emerging markets such as China switch to consumption-led growth and towards more sustainable models of development."

The increase in exports is currently powering the Italian economic recovery. In the first 10 months of 2015, Italian exports to countries outside the European Union rose by 3.7%. That performance reflects not only the strength of foreign economies, but also a targeted campaign by Italy's governments and businesses to focus on expanding its market share in those countries where trade barriers are coming down fastest. "Because of the high level of tariff and non-tariff barriers in countries in the Mercosur bloc, in South America we have switched our focus to more open markets, such as the members of the Pacific Alliance like Chile and Colombia," Calenda explains.

The export performance of the country is increasingly geared to the ongoing wave of new free trade deals. Following last year's landmark Trans-Pacific Partnership agreement, all eyes are now on the proposed Transatlantic Trade and Investment Partnership (TTIP) between the E.U. and U.S., which will lead to the creation of a de facto free trade area representing 63% of world trade. Participating countries will be committed to the values of sustainability and quality for which Italian products are celebrated worldwide. "When Europe and the U.S. come together to set very high standards for entering the market, standards will inevitably go up worldwide," Calenda says. "This will be a very positive development both for Italy and for sustainable development in general."



A SAFE BET IN EUROPE

At the same time as it increases its global exports, Italy is also attracting ever higher levels of foreign investment, especially from companies in developing countries that are looking to secure a foothold in more stable economies. One of the core topics of discussion in Davos this year has been the turmoil in the world's largest emerging markets. To help investors from these countries and others set up and run businesses in Italy, the government of Prime Minister Matteo Renzi has carried out a wide-ranging series of legal and tax reforms. As a result, in AT Kearney's FDI Confidence Index 2015, Italy increased its position to 12th overall, a rise of eight places. In 2014, the country experienced the highest growth rate among European countries for inward greenfield FDI projects.

"Thanks to the reforms, there is now a greatly improved working environment in Italy for investors," says Riccardo Monti, president of the Italian Trade Agency (ITA). "Italy has significant competitive advantages for manufacturing and exporting high-end products such as pharmaceuticals and industrial equipment. We are seeing a lot of interest from investors in developing countries, who want to invest in Italy as a more secure platform for growth."

Renzi's government has identified 50 measures to enhance the country's economic competitiveness and has so far approved over 75% of them, including removing obstacles to hiring, new rules on dismissals and introducing generous tax credits for R&D.

As part of the reform process, the ITA has set up a new Foreign Investment Department and has stepped up promotion activities internationally. The agency is opening nine foreign investment desks worldwide in strategic markets including Istanbul, London, Dubai, Singapore and Shanghai. "We see a very positive outlook for our economy driven by strong exports and continued growth in FDI. In recent years foreign investors have been drawn to developing markets, but now they are now looking for more security," Monti says. "They can come to Italy, enjoy all of the advantages of an advanced economy and still access 800 million people within a three-hour flight." ■

> **"This year, the government will complete the implementation of what we consider the most comprehensive structural reforms in any European country, making Italy an even more attractive place for business."**
> Riccardo Monti, President of the Italian Trade Agency

CYPRUS: STABLE FINANCE, STABLE GROWTH

As the world's policymakers continue to grapple with the consequences of the global financial crisis, the remarkable recovery of the island economy of Cyprus has become a point of reference in the debate. The turnaround in the country's fortunes provides compelling evidence that a rapid and radical restructuring of the financial sector, combined with other reforms, can enable a country to grow its way out of austerity and back to stability and prosperity.

"Cyprus had to get back on its feet quickly after the bailout of 2013 to survive," says John Hourican, chief executive officer of the Bank of Cyprus, the country's largest bank. "The government listened to the financial and business community, maintained the support of the Cypriot people, and acted swiftly to get the country out of danger. There's not the same sense of urgency in some larger European countries, which could learn a lot from how Cyprus is fixing its economy."

In March 2013, following the bursting of a bubble in credit and housing, Cyprus became the fifth European Union member state to receive a bailout from the E.U. and the International Monetary Fund. The government was signed up to an ambitious program of economic reform and recapitalized the banking system, in return for financial support of €10 billion from the IMF and European partners.

> **"We have to provide the conditions for the next generation to show us how to think differently."**
> John Hourican, CEO, Bank of Cyprus

"The President, the government and senior levels of management in the banking system in Cyprus were all very well lined up together," Hourican says. "We were in a worse position than Greece, with a broken banking system and with customers unable to access their deposits. But in Cyprus there was more determination from policymakers in all areas of the economy to resolve the crisis. We had a simple mantra, which was to get it done."

At the island's third-largest bank, Hellenic Bank, Chairwoman Irena Georgiadou says the key to the country's turnaround has been the willingness of policymakers and financial institutions to think the unthinkable and to open a new chapter in the island's economic development. "We wouldn't have been able to achieve what we have done simply by going on with business as usual," she says. "At Hellenic Bank, the pace of change has been continuous. We have altered our practices in nearly all our business areas, and we have brought in completely new shareholders, management and board of directors. The leadership of Cyprus and of the banks all share the same conviction that change is the only way forward to create sustainable development."

Stable foundations for growth signal calm waters ahead for Cyprus

Since Cyprus signed up to the bailout program, the rapid pace of reform has helped to eliminate the country's fiscal deficit, restore the banking sector to health and attract record levels of foreign investment. Cyprus re-accessed international capital markets in 2014 and abolished its last remaining capital controls last year. Unemployment is heading down, and the economy returned to growth in 2015 after three years of recession.

Left: John Hourican, CEO, Bank of Cyprus
Right: Irena Georgiadou, Chairwoman, Hellenic Bank

The restoration of confidence in the banking system has played a critical part in steering the economy back on to a track of sustained growth. "We have seen an increase in deposits month upon month since the lifting of capital controls, because people are now confident that the bank and the country are on the road to repair," Hourican says. Meanwhile, the Bank of Cyprus has sold most of its international operations and is normalizing its funding arrangements. "We have repatriated surplus liquidity and capital outside Cyprus and we are shrinking to strength in our home market," Hourican says. Stronger balance sheets and higher deposits are setting the stage for financial institutions to step up their lending activities; the island's banks are now focused on reducing the amount of non-performing loans and on putting their capital to work in the wider economy. The Bank of Cyprus in particular is looking to finance new businesses and entrepreneurs, and last year it set up its IDEA Programme for supporting innovative startups. "It is our responsibility as a bank to contribute to changing the country's economy for the next generation," Hourican says.

> **"We are very focused on implementing change and on investing in the future."**
> Irena Georgiadou, Chairwoman, Hellenic Bank

At Hellenic Bank, Georgiadou says the institution is now the largest source of finance for new projects in sectors that are strategic to the country's economic future, such as energy, education and health. As the country looks toward building a prosperous, sustainable future, it is the consensus that has been forged between bankers, policymakers and the ordinary people of Cyprus that may be the island's greatest asset, she says. "Everyone is working together and is committed to making Cyprus a place where people want to come to live, work and invest." ■

MINING BREAKS **NEW GROUND**

From left: Sam Walsh, CEO, Rio Tinto; Michael Fahrbach, Global Head of Sustainability, Glencore; Mark Cutifani, CEO, Anglo American; Elaine Dorward-King, Executive VP Sustainability and External Relations, Newmont; Brent Bergeron, Executive VP Corporate Affairs and Sustainability, Goldcorp

For one of the world's oldest industries, it has been a transformational shift in culture. In the face of an extended slump in prices for metals and minerals, the largest mining companies are maintaining their investments in support of the communities affected by their operations. These multinationals recognize that their ability to develop new projects and create long-term value for shareholders now depends as much on the consent of local communities as it does on a return to high prices in commodity markets.

"Whatever we do as an industry, we have to think very carefully where and how we invest," says Mark Cutifani, chief executive officer of Anglo American. "As much as we think about the actual investment in our capacity, we also have to think about that investment in terms of communities."

As chairman of the International Council on Mining & Metals (ICMM) from 2013 to 2015, Cutifani has played a leading role in steering miners toward a stronger focus on long-term development issues. In Western countries, mining has historically been a major contributor to economic development, not only in providing fuels and metals to industry, but also in bringing road, rail and social services to once impoverished regions as a byproduct. Today, in some of the remotest corners of the world, miners are once again catalysts for rapid social and economic development. This time, however, the environmental and social needs of the countries and the communities where they invest are of paramount strategic concern to mining multinationals. "The key is that, as an industry, we have learned about the potential negative consequences of mine development," Cutifani says. "We are now working hard to accentuate the positive role that we can play, and to make sure that mining plays an integral part in the development of an entire community, not only to the benefit of a lucky few."

> **"As miners, we need to make sure that what we do makes a positive difference to the people affected by our operations and helps them maintain a meaningful existence."**
> Mark Cutifani, CEO, Anglo American

To help achieve this ambition, Anglo American has worked with the Kellogg Innovation Network of the Kellogg School of Management at Northwestern University on the Development Partner Framework for mining companies. Cutifani says the framework aims to fundamentally change the extractive business model of the mining industry, and to help miners become integrated and proactive development partners. "When miners go into a community, they should start by asking the locals what they want for their children in the next 20 to 30 years and how they can help them achieve those objectives," he explains. "That is very different from a technical conversation with a group of mine engineers. We have to change the nature of the conversation, from this very different starting premise."

It's a groundbreaking approach that is slowly winning the support of other companies in the industry. In 2014, mining giant Rio Tinto contributed to around 2,200 socioeconomic programs across 40 countries, making community contributions of $270 million worldwide. "The truth is that you can achieve shareholder returns and growth while at the same time making community contributions," chief executive officer Sam Walsh says. "Good sustainable development is good for business as well."

"Mining companies do not have a choice," Keith Slack, global program manager of Oxfam America's extractive industries team, says. "Their continued ability to get access to resources depends on their having positive and constructive relationships with local communities. The more progressive international mining companies now understand this."

The sector's focus on investing in community relations is not confined to the developing world. Before beginning to develop its new Éléonore gold mine in northern Quebec, Canada, Goldcorp worked hard to win the support of the Cree Nation of Wemindji, an indigenous community in the region. The company only began constructing the mine—which started producing last year—once it had signed a landmark partnership agreement with the Cree. That agreement has ensured that the mine has had a very positive impact on employment rates in the Cree community; Goldcorp invested in building a Cree training center, and partly as a result over one in five of the mine's employees are now Aboriginal.

"We believe that if you do not have communities involved and supportive of the project, then you basically do not have a project," Brent Bergeron, the company's executive vice president for corporate affairs and sustainability says. "If your dialogue with communities starts off on the right foot, then you have the ability to develop a relationship that is open, transparent and based on trust. The community knows that they are involved in the project with you, that they are a partner, and they feel a sense of ownership as well."

Bergeron says that even before acquiring the Éléonore project from an exploration company over 10 years ago, Goldcorp was careful to survey the state of community relations ahead of closing the deal. The company has deliberately chosen not to invest in other projects where relationships with local communities were more problematic. "Our view is that if we are going to work together on traditional lands and are going to be partners, we have to establish this trust and genuine partnership before we can move forward," Bergeron says.

> **"Our new scorecard for social value creation enables us to demonstrate our contribution to a community."**
> Michael Fahrbach, Global Head of Sustainability, Glencore

In countries without the long mining heritage of jurisdictions such as Canada, the world's leading miners are now introducing these best practices in community relations and in transparency. In Suriname, the smallest independent country in South America, gold miner Newmont is ensuring that its $1 billion Merian gold project will generate sustainable economic and social benefits for local communities and for the wider population. Ahead of starting the production this year, the company signed an agreement with the Paramacca community that includes the creation of a development fund and terms for local employment and procurement. "From the beginning we have sought to engage with the local people and consult with them about the impacts and opportunities of our mining operations," Elaine Dorward-King, Newmont's executive vice president of sustainability and external relations, says. Around a quarter of the project's permanent employees now come from the surrounding community.

In Suriname, as well as prioritizing dialogue with the local communities, Newmont is also committed to ensuring transparent relations with the national government, which in 2014 acquired a 25% stake in the Merian project. Worldwide, the company is actively involved with the efforts of the Extractive Industries Transparency Initiative (EITI) to improve governance in resource-rich countries, and it already publicly discloses its global tax and royalty payments. "One of the reasons why transparent royalty and tax payments are so critical to the mining industry is that it is the only way for local people to feel that they're fully sharing in the economic opportunity," Dorward-King says. "There needs to be transparent governance structures in place if our investments are to create real long-term value for people."

Given the downturn in commodity prices, the resurgence in resource nationalism and the rise in environmental concerns, these haven't been the easiest times for miners to create value. Nevertheless, by embracing the values of sustainability and transparency, leading companies in the sector have been able to create more resilient business models that can stand up to the stresses of today's difficult conditions. "As a company we are always looking to make a profit, but we also understand that in order for this to be sustainable, we have to bring something lasting to the communities where we work," says Michael Fahrbach, global head of sustainability at Glencore. "We know that we need to partner if we are to turn the economic opportunities of mining into realities."


For Anglo American, sustainable mining means caring for communities

Signaling its commitment to sustainable development, Glencore joined the ICMM in mid-2014 and later that year launched a pilot project to help it measure just how much value its investments create for society. The aim of this social value model is to develop a consistent approach across Glencore's global operations. With numbers from this scorecard in hand, the company's management can make a compelling case to stakeholders and outsiders, securing the social licenses to operate Glencore's various extractive businesses. Over the course of 2016, Glencore will roll out the new model across all its operations. "We already invest in building schools and hospitals for local communities, but that's not the whole story," Fahrbach says. "We also want to show how our everyday mining operations create jobs, develop infrastructure and educate people. It is important for mining companies to continuously inform people of their progress and to show them that they will continue to manage sustainability for the benefit of all. Sustainability is one area where Glencore will not be cutting back." ■


Goldcorp's Marlin mine is creating new opportunities in Guatemala

MEETING THE **ENERGY CHALLENGE**

For WEF participants gathering in the glittering conference halls of Davos, it may be hard to imagine, but over 1 billion people around the world still do not have access to electric light. At night, one in seven of the population relies on highly polluting kerosene lamps and wood fires to provide the light they need for reading, working and even for basic healthcare. Improving access to light for this forgotten billion has become a rallying cry for leaders in sustainable energy innovation.

> **"We need to provide energy for 9 billion people by 2050 and this needs to be clean, sustainable energy with very low carbon emissions."**
> Charlotte Wolff-Bye, VP Sustainability, Statoil

"We want to tell the world not only that something needs to be done, but that something can be done," says Eric Rondolat, chief executive officer of Philips Lighting, which sponsored the UN International Year of Light in 2015. "The technological solution to this problem now exists—solar LED lanterns—and it is a solution which also makes economic sense."

Whereas families in Africa and elsewhere today can spend upwards of $50 a year on buying kerosene and wood for their fires, a basic solar LED lamp represents a one-off investment of $20. Solar LEDs provide more powerful light than candles and fires, they are safer, and they do not produce the smoke that condemns millions of people each year to an early death. Some models also contain USB ports for charging cell phones, which have become critical enablers of rural development. Philips is currently working with governments and NGOs to implement the technology, with the goal of ending light poverty by 2030. "If the relevant stakeholders work with us, we can achieve this, but we can't do it on our own," Rondolat says.

That's a recurring message from industry leaders at Davos. Policymakers need to work more closely with the private sector to support investments that are economically viable as well as environmentally and socially sustainable. "The world knows that it needs more energy but less carbon. It's a complex problem," says Charlotte Wolff-Bye, vice president of sustainability at Norway's Statoil. "We need an orderly transition that will incentivize the right investment in low carbon and the right innovation."

Statoil is a member of the Oil and Gas Climate Initiative (OGCI), which the industry established following the WEF meeting of 2014 to make the case for low-carbon energy solutions. "The industry is leading the way, but we need more political will and support," Wolff-Bye says. "Davos can play a critical part in enabling the dialogue that we need to catalyze real industrial action." ■