

THE

# BEACON

ISSUE #20

INDORAMA  
VENTURES

AUGUST 2018



Indorama  
Ventures  
Celebrates  
Record-Breaking  
Half Year



The Netherlands:  
Where Recycling is  
Truly Fashionable



This Year's World Cup  
Aims to Be a Champion  
at Recycling



Dear Readers,

This year's World Cup has come and gone, briefly uniting fans around the globe in a shared appreciation for our human diversity – and of course, love of football. This issue of The Beacon celebrates both of these values, taking readers on a tour of Indorama Ventures activity in countries like Mexico, Thailand, Egypt, the Netherlands, and many others. Thanks to a new set of acquisitions and exciting joint venture projects, Indorama Ventures is more fully global than ever before.

We also share a surprising story about the increasing dedication that FIFA and the World Cup have to environmental responsibility. From recycled jerseys to recycled stadiums, football is joining the rest of the world in promoting sustainable values amid the grand spectacle of the sport.

Indorama Ventures applauds these initiatives, and is participating in several of its own, including a design competition using recycled materials. The company has also received awards and recognition for its environmental commitments worldwide, as well as excellent early results from the employee development program described in this issue.

This issue also looks at the big picture for the company, including its record-breaking earnings report, and how it manages a workforce that is spread out all over the globe. We hope you enjoy The Beacon – and as always, send us an email with any comments or suggestions you may have.

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## RECOGNIZED FOR OUTSTANDING INNOVATION IN RECYCLABLE MATERIAL



The Washington-based Association of Plastic Recyclers (APR) has recognized PolyClear® EBM PET 5507 that it can be fully recycled with clear PET according to its Critical Guidance Protocol for plastic recycling. PolyClear® EBM PET 5507, a PET for extrusion blow molding container had been developed by Indorama Ventures in close cooperation with CKS Packaging, Inc., to design and produce an 89-ounce container with integrated handle for the Coca-Cola Company's Simply Juice brand that is fully recyclable with clear standard PET.

The clear bottle contains several design innovations, including a conveniently large handle and a special adhesive on the label which can easily be removed for increased efficiency during the recycling process. The bottle's design element has also proven popular with consumers, who appreciate its helpful handle and distinctive appearance.

The Simply Orange juice container made from PolyClear® EBM PET 5507 of Indorama Ventures was exhibited at the 2018 APR Plastics Recycling Showcase, an event geared toward promoting and celebrating positive developments in the plastic collection and recycling industry, as a great example for innovation in the packaging industry that was executed with the ability to recycle in mind.

APR Executive Director Steve Alexander praised "the tremendous innovation happening across the packaging and equipment platforms that support the growth of plastics recycling," as part of the continuing effort "to continue promoting new technologies that provide additional pathways to sustainability."

# INDORAMA VENTURES

## CELEBRATES RECORD-BREAKING HALF YEAR

Increased production volume and margins across all segments of Indorama Ventures' global holdings have resulted in unprecedented earnings by the company. Financial results for the first half of 2018 showed an increase in EBITDA to \$742 million (a rise of 57% YoY), profits of \$443 million (109% higher YoY), and the company's best ever earnings per share over the last twelve months (THB 5.02; up 94% YoY) – all new records for Indorama Ventures.

These better-than-expected results have led to increased confidence within the company, causing a significant upward revision in performance estimates for the coming year. At the start of 2018, Indorama Ventures predicted a 45% increase in its core EBITDA from 2017 to 2019. Improved supply and demand outlooks, along with the company's string of successful acquisitions and positive earnings reports, have led to a new prediction: A 2019 core EBITDA estimate of \$1.75 billion, or 74% over 2017 levels.

Other factors underpinning these higher expectations include the stable and positive performance of Indorama Ventures' necessities business and its higher-margin HVA products. The company recently added 1.1 million tonnes of capacity in PET through acquisitions in Brazil and Egypt, while adding another 1.1 million tonnes of PTA capacity through an acquisition in Portugal and an expansion in the Netherlands. These production increases are part of an expected 43% increase in capacity from 2017 to 2019, at a time when market demand is rising.

Commenting on the financial report, Group CEO of Indorama Ventures Alope Lohia, credited the company's robust strategy, combined with "the dedication of our employees and the desire to create sustainable growth in value for all our stakeholders." He added: "Based on our solid first-half performance and strong 2H2018 expectations, we have raised our guidance for our core EBITDA to increase by 75% on 2017 performance to \$1.75 billion in 2019."





# NEW ACQUISITIONS AND JOINT VENTURES BOOST IVL'S GLOBAL POTENTIAL

With seven significant acquisitions and joint ventures announced so far this year, Indorama Ventures has diversified its holdings significantly, expanding its reach ever further into global markets. The company aims to incorporate each of these new operations over the coming year, continuing a period of expansion that has seen its presence grow in every major region of the world.

Recent acquisitions include that of M&G Polimeros Brazil S.A. in Ipojuca, Brazil, representing the company's first expansion into South American markets. With a capacity of 550,000 tonnes per annum, its plant is the largest PET facility in Brazil. The strategically located plant benefits from virtual integration with a manufacturer of Purified Terephthalic Acid (PTA), a key feedstock of PET.

Another acquisition brought Israeli manufacturer Avgol Industries into the Indorama Ventures network, along with its production sites in Israel, the United States, Russia, China and India. The company holds a 10% market share in nonwovens for hygiene applications, and more than doubles Indorama Ventures' high value-added personal hygiene portfolio.

Indorama Ventures has also entered into an agreement to acquire Kordárna Plus, Europe's largest producer of tire cord fabrics. The company has 786 employees, with a combined production capacity of 57,000 tonnes per annum. It has strategically located production sites in Czech Republic and Slovakia, resulting in an excellent level of supply chain efficiency.

Most recently, Indorama Ventures announced its acquisition of France-based Sorepla Industrie S.A., one of the largest recyclers of plastics in Europe. With production lines dedicated to rPET, rHDPE, and food-grade pellets, Sorepla's combined capacity is 52,000 tonnes per annum of high-quality materials. Its location near the IVL subsidiary Wellman France Recyclage will allow the two entities to work synergistically. The resulting improvement in efficiency will present an excellent opportunity to meet the expected 7% CAGR in Western Europe's demand for food-grade rPET – a demand that currently outstrips supply.

As for the company's joint venture projects, one was announced in January between Indorama Ventures and the South Korean polyester fiber producer Huvis. Together they will build and operate a Low-Melting Fiber (LMF) plant with an annual capacity of 60,000 tonnes in the USA. LMF is used as a binder fiber in HVA composites, particularly for the automotive industry, and sales of these materials is currently growing at a rate of 8% per year.

A separate joint venture is underway between Indorama Ventures, Alpek, S.A.B. de C.V. and Far Eastern Investment (Holding) Ltd., resulting in the creation of Corpus Christi Polymers LLC ("CC Polymers"), which will operate the integrated PTA-PET plant currently under construction in Corpus Christi, Texas. The plant will be capable of producing 1.1 million and 1.3 million metric tonnes per year of PET and PTA, respectively, making it the largest single line vertically integrated PTA-PET production facility in the world and the largest PTA plant in the Americas.

The most recent joint venture announcement brought Indorama Ventures together again with its Indian partner Dhunseri Petrochem Ltd., in order to acquire its Egyptian Indian Polyester Company S.A.E. (EIPET) PET facility located in Ain Sokhna free trade zone. The plant has a manufacturing capacity of 540,000 tonnes per annum. The agreement provides Indorama Ventures with a continuous supply of recyclable PET, adding an estimated 300 new jobs to the Egyptian economy.



For couples in personal relationships, happiness is the ingredient that often leads to engagement and long-term commitment. In a business environment, however, a much more complex interplay exists between these three concepts. For business leaders seeking to inspire a long-term professional commitment from their best employees, a key lesson needs to be learned: Pursue engagement first and foremost, and the happiness and commitment will soon follow.

The concept of engagement, of course, carries a very particular meaning in the corporate world. It describes a real dedication to supporting the company in achieving its business goals. Corporate engagement motivates people to want to show up to their job every day and contribute towards their company's success. Such employees end up staying longer, and working harder and more carefully, than their unengaged counterparts.

Achieving this level of emotional commitment requires insight into the underlying needs of employees. According to Gallup's Engagement Measurement Model, employee engagement is the sum of four distinct categories, each of which relates to the essential feeling among workers that their efforts are deeply valued and appreciated.

The first can be described as basic needs, such as a general understanding of the requirements of the job, as well as the resources to perform it well. Employees should understand the vision, mission, and core values of the company. Moreover, they must see these stated beliefs in action with their own eyes, with their leaders setting the example.

During the course of their employment, every employee needs to feel they are contributing measurably to the organization and being recognized for their efforts. Superiors should make a point of highlighting the value of employees' work, and often complimenting them on a job well done.

A sense of community is also key, and comes from employees' knowledge that their opinions are respected by seniors and peers. Engaged employees feel as though they have a voice at their company. When they speak, people listen and respond thoughtfully, creating a welcome environment for cooperation and productivity.

Lastly, people want to work in an organization where professional development opportunities are available. That means the opportunity to attend symposiums, conferences, and trade shows. It also means the ability to get promoted, or at least interviewed for a position that carries more responsibility.

Employees who feel engaged in these ways will take a more active role in meetings and brainstorming sessions, while performing their own tasks with a greater amount of care. By contrast, meetings characterized by the leader doing nearly all of the talking, with mere quiet acquiescence from the employees, is a sign of poor engagement at any company.

Some employers, believing that happiness rather than engagement is the key to employee retention, may throw pizza parties, offer gym memberships, and add beanbag chairs to the office to keep their workers smiling. But none of these improve productivity, and all distract from focusing on the work tasks at hand, leading employees to take the company's own stated objectives less seriously.

Engagement – in the workplace, at least – is the catalyst for true satisfaction and long-term commitment. It costs little to achieve, and keeps the company-employee relationship strong, translating to a happier workforce and a healthier bottom line.



# SHADOW DEVELOPMENT: A SKILLS PROGRAM FOR STRONGER LEADERSHIP

FOCUS

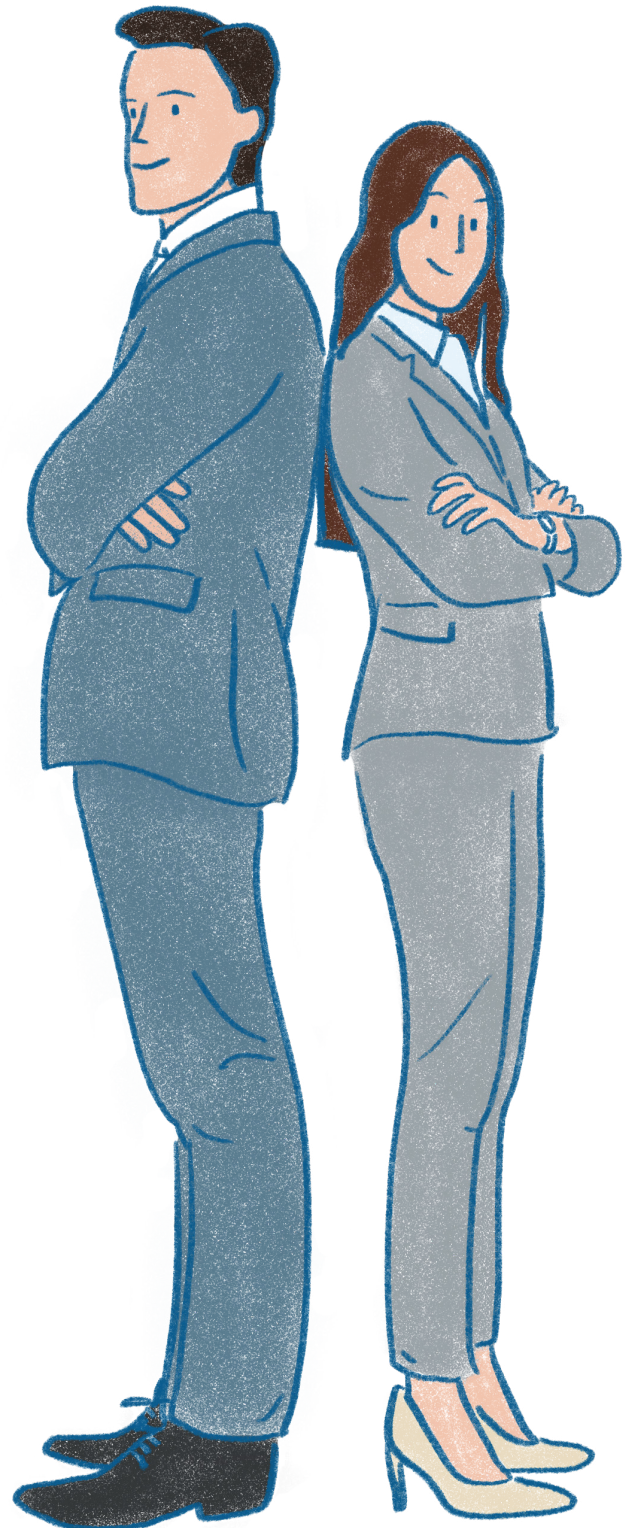
Corporate Communications

Last year, Indorama Ventures inaugurated a specialized training program called the Shadow Development Project. Behind this mysterious name is a fairly straightforward initiative: In the interests of raising the skill level of promising employees within the company, a select group of Thai nationals has begun learning the methods and techniques needed to lead their respective departments. Among other tasks, they now routinely 'shadow' their department heads as they attend meetings, negotiations, inspections, and business trips.

This program is aimed at producing an additional layer of expertise within each main department, so that in the absence of the regular manager (due to illness, travel, transfer, or eventual retirement), the shadow employee can step in and lead temporarily without loss of efficiency.

Continuous improvement is a key feature of the initiative, as the selected participants undergo training as well as coursework affiliated with Bangkok's Chulalongkorn University. The aim is not to test participants and reward the top performers – but rather to broaden the horizons of those who have spent years working at one position, and would benefit from a new understanding of the wider issues involved with management and leadership.

As the first year of participation comes to an end, those enrolled in the program will give presentations on their experiences, while preparing for a new set of challenges in the coming year.





# THE I-LEAD MANAGEMENT PROGRAM



Enjoying a day in the field:  
Indorama Petrochemicals (PTIP) Indonesia take  
a break from hands-on leadership training.

First meeting of i-Lead Asia team 2  
on 27th April 2018 at Head Office on 35th floor



A proud team  
of problem-solvers  
with their regional  
mentor at Auriga (USA).



i-Lead participants at  
Indorama Ventures Europe  
during a day of team-building  
exercises.



Ramesh Narsinghpura and Richard Jones participated in a wide-ranging discussion about potential trade and investment opportunities in Mexico.



Vice President Sekar Chandra at the ThaiStar Packaging Awards 2018. Indorama Ventures was the winner in the Packaging Material and Components, and Eco Package categories.



The Thai National Legislative Assembly on tour in Lithuania, where they visited an Indorama Ventures facility in April.



Indorama Ventures Poland received a certificate from the EU's Eco-Management and Audit Scheme (EMAS) for its environmental performance.



As lead arrangers of a recent debenture roadshow, Indorama Ventures joined major Thai banks in promotion of their debenture products.



Hong Kong's official Environmental Protection Department visited Indorama Ventures' IPI-N and Lopburi locations to gain an understanding of innovations in recycling.



# INDORAMA VENTURES IN MEXICO: A RECIPE FOR SUCCESS

In mid-May 2018, Indorama Ventures was invited to participate in a panel discussion arranged by the Mexican Chamber of Commerce. Head of Corporate Communications Richard Jones was the Indorama representative at the forum, giving an excellent summary of the values and priorities that have made our presence in Mexico a continuing success.

Indorama Ventures has been active in Mexico since 2011, with a total of three sites currently in operation. Queretaro is home to two of these, including a manufacturer of PET resin and polyester yarns named Indorama Ventures Polymers Mexico, as well as a producer of technical yarns named Performance Fibers Operations Mexico. The other plant is in Jalisco, focusing on the manufacture of recycled products.



Mexico's skilled labor workforce, strong government support and outstanding infrastructure provide a strong, business-friendly basis to work from. As home to the country's second-largest city (Guadalajara), Jalisco State is one of the four largest economies in Mexico, representing 6.62% of the country's total GDP. Guadalajara itself is known as Mexico's Silicon Valley, with a good security environment that also features essential transport links such as railroads, major highways and an international airport. Queretaro is similarly well-connected in addition to being culturally diverse, and was ranked by the Financial Times as one of the top places to do business in the Americas for 2015 and 2016.

These structural achievements offer an immense help to business, but as Mr. Jones stressed in his discussion, they are only half the story. To succeed in international environments, a focused and well-prepared workforce is indispensable, along with responsible leadership at both a local and global level – and the right set of communicative skills to maintain cohesion and coordination between teams separated by great distances.

As Mr. Jones illustrated in the discussion, Indorama Ventures' 1,200 Mexican employees represent an amazing cross-section of our global culture, from young millenials to veteran workers with international experience. What binds them is their commitment to a work culture that values personal and professional discipline, as well as quality, safety and environmental awareness. These values are instilled and reinforced through the establishment of clearly defined roles, responsibilities, and team goals. An emphasis on English language learning allows organizations like Indorama Ventures Polymers Mexico and Performance Fibers Operations Mexico to remain on the same page throughout their operations, and share knowledge seamlessly and effectively.

Internal rewards systems, a target oriented focus and an active encouragement of creativity at every level of the organization have helped lead to a shared culture of hard work and productivity. For these values to find acceptance, they must also be embodied by those at the management level. Effort and dedication are infectious, and teams are much more willing to buy in to the vision of management when leadership is demonstrated by example.

Mr. Jones summarized the formula for success at Indorama Ventures' Mexican locations: People's collective potential can best be realized by putting the right people in the right roles, with the right skills and values. The beautiful environment of Mexico itself, along with the welcoming nature of its people, have made the country a most valued home for the Indorama network, as we look forward to many more successful years together.

# 'THE KEY TO SUCCESS IS LISTENING'

*A Conversation with Richard Jones*

We recently caught up with Richard Jones, Head of Corporate Communications, Sustainability, Investor Relations and Local HR at Indorama Ventures, for a discussion on human resources challenges. On every question – from differences between cultures and management styles, to the lessons learned from acquired properties, to the qualities that make a good employee – the answer was the same.

"Listening," said. And then came the examples.

"The local employees know their jobs, and don't need us to tell them," he said. "But we do have to find out what they need, and what they can offer the rest of the company."

Local staff have also been instrumental in educating Indorama Ventures' head office about how to achieve the maximum potential for the company's products. As Richard pointed out, these lessons are only available if you ask the right questions, listen carefully, and trust in other people's expertise.

After seeing the evidence across his nine years with Indorama, Richard's belief in the promise of effective teamwork runs deep. When interviewing candidates for positions within the company, the question he frequently returns to is: "Does this person have the ability to listen to other people? Do they have the emotional intelligence? Can they learn from people in other departments? Will they fit into the environment and the community that we have built?"

The realities of modern-day life add an extra challenge to the company's effort to maintain internal balance and cohesion. Richard refers to the younger members of the workforce as the "fast-moving generation", often searching for novelty in the tasks they are assigned. This trend requires some adjustments on the part of the company, but they are ones Richard is happy to encourage.



"Younger people want mental stimulation," he says, "so we give them variety, growth, training, and development skills. The HR goal is to challenge people. Effort must be rewarded, and variety must be part of the reward. Our Shadow Development Project is a part of that."

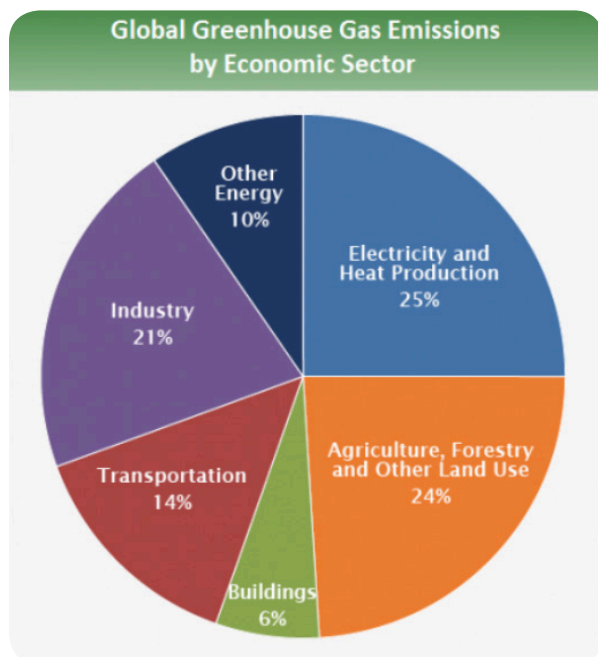
His current focus is on finding even better ways to listen to the needs of the company's workforce. Better, more consistent assessment programs and employee engagement surveys will help Indorama Ventures communicate better with its internal teams. Psychometric testing during the application process can identify the type of position that would best suit each prospective employee, leading to increased satisfaction for all concerned.

"Reduce your assumptions, and open your mind to the unique perspective that the other person brings," Richard says. Judging by the continued success of Indorama Ventures' diverse network, he may be onto something.

# PUTTING A

Recent reports from the IPCC (Intergovernmental Panel on Climate Change) and others warn about the dangerous effects of climate change on agriculture, water resources, ecosystems, and human health if countries do not take preventive action. A warming of just 2°C – perhaps just 20 to 30 years away – could lead to widespread food shortages, unprecedented heat-waves, and more intense storms.

The major sources of greenhouse gas emissions globally by economic sector are:



Source: <https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data>

At the Paris Climate Conference in 2015 (COP 21), most countries agreed to reach net zero greenhouse emissions by the second half of this century, to help prevent the onset of runaway climate change. This target creates an opportunity for businesses to move in tandem toward creating a low-carbon future as soon as possible. **Carbon pricing** is one method of reaching this goal.



# PRICE ON POLLUTION



Harsha Reddy

Head of Global  
Sustainability

**Carbon pricing** is an 'environmental tax' imposed by the government on companies that are emitting greenhouse gases into the atmosphere over the permitted limits. It is a mechanism for incentivizing companies to operate more sustainably.

Carbon prices can be imposed in two ways:

First, '**Carbon Tax**' is a tax which government levies on the distribution, sale or use of fossil fuels, based on their carbon content. This has the effect of increasing the cost of those fuels and the goods or services created with them, encouraging business and people to switch to greener production and consumption.

Second, '**Cap-and-Trade**' or '**Emission Trading System (ETS)**' is a government-mandated, market-based quota system under which total allowable emissions (permits) are set in advance ("capped"). It allows companies to trade emissions allowances under an overall cap or limit. The companies can trade permits between one another, or purchase credits traded in the market to account for emissions over the allowable limits.

While the objective of both mechanisms is to lower emissions, the main difference is that with ETS the market sets the price of carbon, and with carbon tax the government sets it.

Two or more countries can link their cap and trade markets by accepting carbon permits from each other. The effect of this practice is to equalize the price between the two markets, increasing efficiency.

To serve its purpose, the carbon price set by a tax or cap-and-trade scheme must be sufficiently high to encourage polluters to change their behavior and reduce pollution in accordance with national targets.

## IT PAYS TO BE AHEAD OF THE CURVE

Many big investors have been gradually changing their practices to reflect a heightened awareness of the need for environmental protection. It is increasingly common for investors to focus on businesses that follow the principles of sustainable development, and this trend can accelerate rapidly with the adoption of carbon pricing.

As the effects of global warming increase in intensity, so will the sense of urgency toward building a sustainable future. For that reason, it is important to discuss ways that companies can prepare for a low-carbon world – and why it may make financial sense to reduce carbon emissions even before such reductions become mandated by law.



# HOW COMPANIES CAN

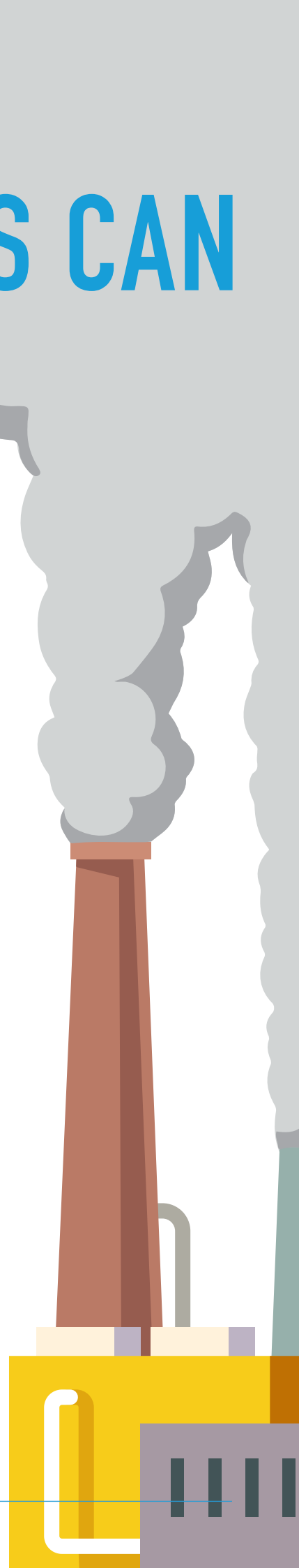
Carbon pricing initiatives are among the most practical ideas for reducing pollution through a series of incentives for business. Nevertheless, by putting a value on greenhouse gas emissions, carbon pricing indirectly increases the cost of goods produced and sold, reducing the EBITDA of manufacturers. Currently only a few countries are imposing carbon tax..

Companies in areas where carbon regulations are more strictly applied, such as Europe, face high exposure to risks. These include compliance costs as well as potential customer dissatisfaction towards businesses that fail to ensure carbon efficient processes along the supply chain. Pressure from investors, customers, and external stakeholders begins to grow, as companies caught in the middle are pulled in the direction of sustainable practices and continued profit at the same time.

Every manufacturer must ask itself how to strike the right balance between these two forces where they are in conflict. Possible mitigation measures include:

- Exclusive or increased use of renewable resources such as solar/wind/biomass energy, and bio-based raw materials
- Improving operational efficiency in plant operations
- Improving efficiency in upstream and downstream logistics management

Businesses can also anticipate the effects of carbon pricing through internal models, such as an Internal Cost of Carbon and Shadow Pricing.







# ADJUST TO A LOW-CARBON WORLD

## INTERNAL COST OF CARBON

Companies need to evaluate the financial and non-financial impact of cost of their emissions, and an Internal Cost of Carbon is one way of evaluating such risks. By this method, an assumed price is set and voluntarily added by the company itself into its business plan in order to internalize and evaluate the financial impact of its greenhouse gas emissions as they relate to future investments and operational costs.

A primary aim of this practice is to de-risk against any future carbon pricing legislation.

## SHADOW PRICING

Shadow pricing is another way of evaluating the potential impact of external carbon pricing on the profitability of a project at an assumed cost for carbon. Shadow pricing enables companies to test planned projects under a range of different scenarios, such as potential carbon prices, policies and caps.

## THE STEPS AHEAD

It is no longer an option for the companies to ignore the real costs of carbon. By responding quickly to new initiatives and incorporating carbon price into decision-making processes, companies can put themselves in an advantageous position to differentiate themselves from their competitors.

As an emerging possibility, Carbon pricing has a potential financial impact on business operations in every industry. There is no way to know what shape it may take in the future, or at what speed a low-carbon world will emerge, but many observers believe that the idea will be adopted at an increasingly fast pace as the threat of global warming becomes more difficult to ignore.

Carbon tax may be levied by more and more governments in the near future, requiring big changes in industry practices. Companies should take action now to prepare for a smooth transition to a cleaner and more responsible future for us all.

# OUR JOURNEY TO CIRCULAR ECONOMY

As the world's largest producer of PET, Indorama Ventures has established a recycling business to provide sustainable packaging to our customers worldwide.

We have the opportunity to play a leading role in bringing customers of recycled products into the product value chain and developing ways to include recyclability into all products. This is a very important priority for us and is included in our strategy to combat climate change.



Our recycling business has grown from just 4 tonnes in 2011 to over 350,000 tonnes in 2017.

11.5 Billion



From 2011-2017, around 11.5 billion post-consumer PET bottles have been recycled by Indorama Ventures.



Reduce  
Greenhouse  
Gas Emissions  
**30-70%**

Compared to virgin PET production, our recycling process consumes only 10% of the energy and is able to reduce greenhouse gas emissions by around 30-70%.

## MILESTONES



## THE PIONEERING INNOVATION

Our approach is not limited to our own (recycling) operations. We also take the entire supply chain into account, including what happens to our products after use. We are working closely with our partners to build state-of-the-art technology that contributes to tackling the global issue of waste, and also enables us to go beyond the role of a polymer manufacturer.

Indorama Ventures continues to explore ways to expand our recycling business, moving beyond our role as a polymer manufacturer. Our most recent collaboration with Unilever and Ioniqa in 2018 is truly pioneering and will allow the conversion of all post-consumer PET waste back into virgin PET and subsequently into high-quality food grade PET.

This technology is expected to break through the limitations of recycling colored PET, which has been problematic for the industry for a long time. We are confident the technology will pass the development stage and can be replicated on an industrial scale, providing a fully circular solution that will transform the industry. This "post-consumer use PET plastics economy" will help drive increased collection and reduce leakage of waste into the environment.

## SOREPLA INDUSTRIE S.A

Our recent acquisition of this French plastics recycling facility greatly expands the company's European recycling capability, while also enhancing its supply chain efficiency for recycled fiber. With a capacity of 52,000 tonnes per annum, Sorepla is one of the largest recyclers in Europe. Its 58 employees produce consistently high quality recycled PET material to meet customers' specific needs in packaging and fibers.

Recycled PET is widely used in food and beverage packaging as well as fiber applications. The demand for food-grade rPET in Western Europe is expected to increase at a CAGR of 7% from 2018-2021, and this acquisition will allow Indorama Ventures to serve the growing market.

# THE NETHERLANDS

## WHERE RECYCLING IS TRULY FASHIONABLE



With 26% of its land area below sea level, and only about 50% more than one meter above it, the Netherlands has some rather compelling reasons to focus on climate change. Dutch society has embraced the green movement in an enthusiastic way that few other countries have been able to manage – with results that are vibrant and inspiring.

Sustainability is cause for genuine celebration in the Netherlands, and these sentiments are given full expression during the annual Dutch Design Week, taking place in October. The city of Eindhoven hosts the nine-day event, where visitors (an estimated 300,000 attended last year's DDW) outnumber permanent residents (population: 220,000). Setting the tone for the occasion, the centerpiece of last year's event was a building called The People's Pavilion, made out of entirely recycled and reusable materials including PET bottles.

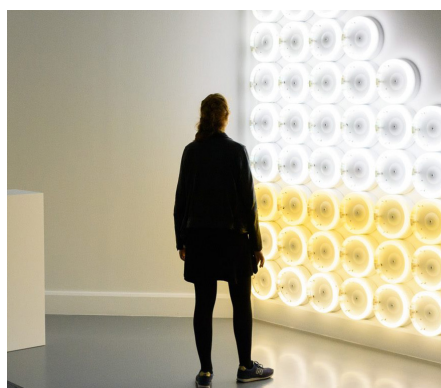
Dutch Design Week is a hugely popular showcase for the country's top designers to display their most cutting-edge innovations. As the largest design event in northern Europe, DDW puts the spotlight on future trends in design management, food design, spatial design, textiles, and several other categories of product.

Biodegradable waterproof paper raincoats, sausages made from oyster mushroom stems, hexagonal temporary housing units, and scores of other inventive ideas were on display at last year's event – with plenty more on

the way this October. The exhibition is focused more on creativity than sales, demonstrating that sustainable engineering concepts can lead to a colorful and imaginative future.

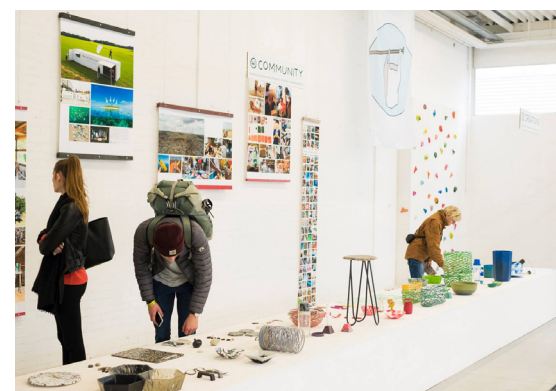
Indorama Ventures shares this inspiring vision, and hosts an annual design exhibition in Thailand with similar aims, called RECO. At RECO, participants each submit a total of three clothing designs that complement the event's theme of 'ECOHEART'. All of the designs must be made from at least 60% post-consumer PET and polyester materials, and IVL selects the 30 most promising entries among all participants for advancement to the next stage.

These 30 talented designers are then invited to join an exclusive eco-design workshop led by professionals in the design industry, where they will receive guidance and advice on their projects. Their subsequent efforts are then presented and judged, with prize money for the winners. The best completed project, as determined by IVL judges, will earn its creators a trip to the Netherlands for participation in Dutch Design Week.



Each of the above initiatives represents a continuing effort to raise public consciousness on environmental issues, and encourage ordinary people across society to take active roles in finding sustainable solutions to the needs of the modern world. Indorama Ventures has been at the forefront of such efforts toward sustainability, and its own factory in the Netherlands does its part to move us toward a more environmentally friendly world.

With so much talk of the need to recycle, and the responsibility we all share for leaving behind a clean world for future generations, it's easy to forget that such efforts can also be fun and inspiring. The RECO event itself was inspired by the kind of socially engaging approach to eco-friendly causes that has spread across Dutch society in recent decades. As more and more people around the world come to accept the value and enjoyment that comes from clean living, we all stand to benefit.



Photos from Dutch Design Week 2017

# THIS YEAR'S WORLD CUP AIMS TO BE **A CHAMPION** AT RECYCLING

For the longest time, worldwide sporting extravaganzas like the World Cup were virtually synonymous with wastefulness. Entire lavish stadiums would be built, to be used for only a few weeks and then neglected. Giant crowds of spectators would arrive, with little attention to the mountains of garbage they would leave behind. The underlying message, far from being an environmental one, was that shiny consumerism was the only goal that mattered.

Everything has changed this year due to joint initiatives from FIFA and host country Russia. FIFA imposed a special set of waste management requirements for the tournament, ensuring that waste generated by the crowds is divided into clearly marked categories for recycling, throughout each of the host cities. Recycling proficiency was also a factor in FIFA's preliminary draw to determine the host country, as well as in the effort to promote civic events through tons of reused World Cup decorations.

FIFA also continued its recent tradition of assigning team jerseys made of 100% recycled material to the athletes themselves. The special jerseys, made by Nike from recycled plastic bottles, were worn by the stars of Brazil, England, Portugal, and several other countries. Fans can buy their own recycled-material jerseys from Nike's official store online, with the same dry, lightweight and breathable characteristics as jerseys made from original fabrics.

For Russia's part, the country has actively set out to use the World Cup as an opportunity to educate its citizens – especially the youngest ones – on

the benefits of recycling. In addition to the standard efforts to clean the cities in advance of the tournament, Russia has also set up regular events at kindergartens, schools and universities to raise awareness regarding environmental issues.

Local TV channels broadcast short segments each day on how to separate waste into the proper categories, as hundreds of new recycling containers were installed in cities around the country to increase recyclable material collection. Private companies were enlisted to support the recycling initiatives, and to advise municipalities on how to manage waste more cleanly and efficiently.

As for the stadiums themselves, a fascinating concept is already being put into action for Qatar's forthcoming World Cup tournament in 2022. Since not all of the stadiums will be needed after the championship has ended, a new approach was necessary. The result is Ras Abu Aboud – a stadium constructed entirely out of used shipping containers.

From the seats themselves to the food stalls and bathrooms, all areas of the stadium will be assembled from these recycled containers. Temporary housing, for the spectators as well as for the staff that will make the 2022 World Cup possible, will also be made from the same types of materials. After the final whistle blows, the entire stadium and surrounding buildings can be dismantled, broken down and recycled once again – perhaps for the purpose of building new stadiums for future World Cup host countries.

Thanks to the new awareness of environmental issues around the world, the thrill of conspicuous consumption is at last giving way to the more sensible fashion trend of innovative sustainability. The younger generation – while wearing recycled fan jerseys and cheering in recycled stadiums – will thank us.



# EXOTIC AND ENIGMATIC, EGYPT CONTINUES TO ENCHANT TRAVELERS



Home to one of the world's oldest civilizations, Egypt today represents a delicate balance between ancient history and modern living. Visitors to sites such as Luxor, Aswan, Mt. Sinai, and the Pyramids of Giza are frequently amazed at how well preserved its cultural treasures remain, thanks to the country's dry desert air. Indeed, many parts of Egypt can feel like an open-air museum, preserving a record of humanity's artistic and architectural development over millennia of creative activity.

But step away from the historical wonders and the country suddenly feels alive, with energetic crowds bustling through the streets of Cairo throughout the day, colorful open markets in every community acting as centers for public life, and tea shops on nearly every corner where travelers can refresh themselves after hours of sightseeing.

The famous Tahrir Square, by the east bank of the Nile, is just the beginning of what Cairo has to offer. The Al-Azhar Mosque and surrounding Old Town are essential for visiting, while the large Coptic Christian community near the city center provides a living link to a rich tradition that is all but forgotten in the outside world.

It may surprise visitors to learn that recycling is a strong tradition in Cairo, stretching back several decades. An entire section of the city is run by the Zabaleen ("garbage people"), who collect, sort, and repurpose the city's garbage. Their community receives thousands of awestruck visitors each year, and has at its heart the largest church in the Middle East – an underground 'cave cathedral' whose structure is as remarkable as its surroundings.

To escape the hustle and bustle of Cairo, a visit to seaside Alexandria is a rewarding experience, as are scuba diving trips to the tranquil and upscale resort areas of Hurghada and Sharm el-Sheikh. An extended stay in the attractive coastal town of Dahab on the Sinai Peninsula can help you forget the stresses of the world outside, as you relax in restaurants overlooking the water, thinking of nothing but the warm breeze in your hair and the icy fruit shake in front of you.

As the gateway between Africa and the Middle East, Egypt also oversees the Suez Canal, connecting Europe to Asia by sea. That the country maintains its own unique cultural traditions even while playing this role as transport hub for four major regions of the world, is a testament to the strength of its national identity and the impressive character of its people.



Indorama Ventures is proud to establish a new presence in the country, courtesy of a recently announced joint venture with Indian partner Dhunseri Petrochem Ltd. The JV involves Indorama Ventures acquiring Dhunseri's Egyptian Indian Polyester Company S.A.E. (EIPET) PET facility strategically located in the Ain Sokhna free trade zone, alongside the Gulf of Suez.

With a manufacturing capacity of 540,000 tonnes per annum, the factory has already begun producing recyclable PET, and will soon begin receiving raw material from IVL Portugal for processing. The venture will create 300 new jobs, strengthen Indorama Ventures' supply chain in a key region of the world, and offer Egypt a measure of independence for its packaging needs. This is Indorama Ventures' first entry into Egypt, but such excellent prospects demonstrate that in this ancient and endlessly inventive country, there is still plenty of opportunity for new beginnings.







## Recycling Education

Indorama Ventures encourages young people to learn about recycling and begin separating waste. We created educational materials to support our goal of teaching kids to be responsible.

The materials consist of two illustrated books. In Volume 1: Amazing Plastic, readers learn about PET, the recyclable plastic, and its origin and characteristics in a fun and easy to understand format.

In Volume 2: Adventures in Plastic World, readers learn more about the story of PET, and how it is different from other types of plastic - as well as the importance of reducing and separating waste, and recycling.



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