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August-December 2015



INDORAMA VENTURES SHINES IN ECO RESPONSIBILITY WITH SOLAR ENERGY INVESTMENTS IN THAILAND

Solar plants Powering a Brighter Tomorrow IVL supports the relationship between Thailand and the Netherlands Developing organizational excellence by increasing efficiency and productivity

Sustainability a Game Changers



H.M. King Bhumibol has talents in many areas, such as technology, sports, arts and music. He started to play clarinet and saxophone while he was studying in Switzerland. He was taught to play classics and jazz.

His Majesty plays several instruments, including piano, trumpet, clarinet, cornet and many types of saxophones. He used to prefer brass instruments, along with the songs from famous big bands, especially Sidney Bechet, a band whose main instrument was soprano saxophone.

Besides his talent in playing instruments, His Majesty enjoys composition. He started to compose songs as suggested by his brother, King Ananda Mahidol (King Rama VIII). He composed Thai and English songs; with and without lyrics.

His Majesty chose to compose lyrics for his songs for people including His Royal Highness Prince Chakkrapan Pensiri, the Honorable Senee Pramote, the Honorable Prapan

Sanitwong and Professor Nopphakhun Thongyai. After composing some songs, the King usually gave them to the Government Public Relations Department Band and the Sun Thra Phon Band. Later, he composed the songs for many universities in Thailand.

On New Year's Eve of 1951, H.M. King Bhumibol planned to bless his people on New Year's Day. He encouraged close companions to compose the song called "Phon Pee-mai" (New Year's Blessings) and invited His Royal Highness Prince Chakkrapan Pensiri to play saxophone along with him. When the song was finished, he gave it to the Sun Thra Phon Band and Chulalongkorn University Band. The song then became very famous and is played every year during the New Year's festival.

H.M. King Bhumibol has composed 48 songs in Thai and English. These songs have been played in many styles, including classic, jazz and contemporary.

Group CEO New Year's Message

Dear Friends.

Happy New Year to you all! What an awesome year for Indorama Ventures! We celebrated our first 25 years and, looking back, we have seen both evolution and progress. Growth cannot occur if we keep repeating the same things, so we have taken steps to drive forward; successfully increasing our market presence and consolidating our position as the top player in the industry.

The global economic environment was challenging throughout 2015, however, our business model is very strong allowing us to overcome great challenges and continue to outperform. We will always turn challenges into opportunities to reach the next level.

I would like to express my gratitude to our customers, partners, board members and shareholders for the confidence and trust they have shown in us. It would not have been possible without wholehearted support, dedication and encouragement of our employees.

Very best wishes to you and your families for a prosperous 2016.

Group CEO Indorama Ventures PCL.

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Sustainability: Solar plants -Powering a Brighter Tomorrow





Solar farm, a ground mounted system

Solar roof project on the roof of the Indorama Holdings buildings and the PETFORM buildings.

Solar power is sustainable green energy that can protect our economy and the environment. Solar power has expanded in recent years to meet our domestic and industrial needs. It is produced by collecting sunlight and converting it into electricity. It is most often used in Thailand in remote locations and may either be installed on the ground or roof tops to save land area.

Sustainable energy is obtained from non-exhaustible resources, such that the provision of this form of energy serves the needs of the present without compromising the ability of future generations to meet their needs. Technologies that promote sustainable energy include renewable sources, such as hydroelectricity, solar energy, wind energy, wave power, geothermal energy, bioenergy and tidal power. The increasing demand for energy, the fluctuating price of oil and the growing concerns for our environment are some of factors that have forced us to focus more on the uses of alternative energy sources. Among a variety of renewable energy sources, solar energy is a sustainable alternative option that can be utilized in various ways and can be used for many applications. The solar radiation levels in Thailand are very good compared to

many other countries and hence there is a very good possibility of power generation in Thailand with solar farms. Today, Denmark is generating 140% of their total requirement from wind energy itself and excess energy is being exported to other European countries.

Our Group CEO Mr. Aloke Lohia initiated the installation of solar farm in 2010 by using a vacant 9.9 acre (25 rai) of land at our Lopburi complex. Our company believes that renewable energy is the future of the country and the future of industry. To us, sustainability is not a public relations strategy. It is our way of conducting business in response to the growing needs of the world; from increasing population, natural resource depletion and environmental degradation. To fulfill our commitment as a part of our corporate social responsibility, IVL decided to invest initially in a 2.4 megawatt solar farm at Lopburi. The company's strategy of investing into alternative energy was to ensure the sustainable development of its business. Thailand's Board of Investment (BOI) was also encouraging industries to do this by naming alternative energy as one of its main targets for support. This has enabled us to reduce the impact of carbon-based fuels on the environment.

We considered this project as a good way to contribute to the local community by generating green energy. This is one of the most significant corporate social responsibility projects that we have executed in Thailand so far and it helped us to learn how to apply alternative energy to our business in future.

The 2.4 MW solar farm plant was commissioned in August 2011 and has 10,300 modules of 235 Watts. The project was installed on 40,000 sq. m of land. The total power being generated is sold to the Provincial Electricity Authority (PEA) under their power purchase agreement. We have been generating approx. 3.9 Million KWH per year thus reducing the CO₂ emissions by 2,100 t CO₂ / year.

In October 2014, IVL commissioned a new 1 MW solar roof project with 4,545 modules of 220 Watts on the roof of the Indorama Holdings building as part of the government's renewable and alternative department plan. The power generated under this scheme is being sold to the PEA in Lopburi. This project was also completed under the new licenses issued for roof solar projects by the Government. This helps us further in reducing the CO₂ emissions by 975 t CO₂ / year. In June 2015 IVL expanded its solar roof projects by an additional 1.3 MW on the roofs of PETFORM blowing and closure plants with 5,340 modules of 220 Watts of power. The electricity generated by this project is being consumed in houses at our Lopburi complex. This helps us further in reducing our CO₂ emissions by 1,100 t CO₂ / year. This is the largest solar roof project in Thailand that is used for self-consumption.

With the above installations of both the solar farm and solar roof projects at Lopburi, We expect to produce 7.8 - 7.9 Million KWH per year using clean sustainable energy thus reducing the CO₂ emissions by 4,400 tonnes/year. This is approximately 10% of the total power consumption at the Lopburi Site.

Main Advantages of Solar energy for Sustainability

(a) Solar power does not create pollution when generating electricity. Environmentally, it is the cleanest form of energy. Solar energy is renewable (unlike gas, oil and coal) and sustainable, helping to protect our environment.

(b) It does not pollute our air by releasing carbon dioxide, nitrogen oxide, sulfur dioxide or mercury into the atmosphere like many traditional forms of electrical generation.

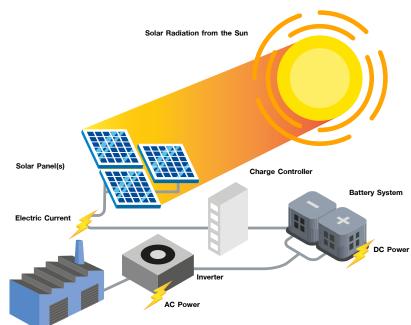
(c) Solar energy does not contribute to global warming, acid rain or smog. It actively contributes to the decrease of harmful greenhouse gas emissions.

(d) There is no on-going cost for the power it generates – as solar radiation is free everywhere. Once installed, there are no major recurring costs. Solar energy systems are virtually maintenance free and will last for decades.

(e) They operate silently, have no moving parts, do not release offensive smells and do not require you to add any fuel.



Bird's-eye view of IVL's solar plant projects in Lopburi. With a 5 MW solar farm at our site the total savings will be 4400 Tons of CO2 equivalent per year



Factor



ndorama Ventures expanded its business sustainability with a new 1.25 MW solar roof at its Lopburi site. Dr. Atchaka Sribunruang, Permanent Secretary, Ministry of Industry, Mr. Thanakom Jongjira, the Governor of Lopburi, Mr. Kriengkrai Tiennukul, Vice Secretary General of the Federation of Thai Industries, Mr. Somnuk Teangchatapun, Chairman of the Federation of Thai Industries of Lopburi Province and Indorama Ventures Executives have joined the project opening.

Indorama Ventures has successfully issued its first offshore currency bond in the Singapore market and is the first Thai company ever to receive an unconditional guarantee from Credit Guarantee & Investment Funds (CGIF), a trust fund of the Asian Development Bank (ADB). The bonds will bear an interest rate of 3.73% per annum, payable semi-annually in arrears and have a tenor of 10 years. The bond carries an AA issue rating from S&P. This occasion was a good reflection of the confidence in the company's reputation and the unconditional guarantee from the CGIF. The maiden bond issue in the Singapore market is a milestone in the debt market development of Thai companies. CIMB Bank Berhad and United Overseas Bank Ltd. acted as the Joint Lead Managers and Bookrunners for the transaction.

Indorama Ventures announced that Indorama Ventures Olefins LLC has signed a purchase and sale agreement (PSA) and acquired an ethylene cracker located in Lake Charles, Louisiana, USA. Through the acquisition, IVL is taking a 76% interest in the ethylene cracker, with the remaining 24% financial investment being made by Indorama Corporation. The Lake Charles cracker can process both ethane and propane feedstock to produce approximately 370,000 tonnes of ethylene and 30,000 tonnes of propylene per annum. Indorama Ventures is already a major producer of Purified Ethylene Oxide (PEO) and Mono Ethylene Glycol (MEG) in the USA, for which ethylene is the feedstock. Earlier in the year, IVL acquired a 600,000 tonnes per annum PTA plant in North America whereby IVL now has onshore integration in the three key continents it operates in.

Indorama Ventures PCL signed an agreement to purchase the Purified Isopthalic Acid (PIA), Polyethylene Terephthalate (PET) and Purified Terephthalic Acid (PTA) business of Cepsa Química S.A. ("CEPSA Spain"), a subsidiary of Compañía Española de Petróleos S.A.U. ("CEPSA") in Guadarranque-San Roque, Cadiz, Spain, subject to necessary legal approvals.



Indorama Ventures Public Company Limited announced its third quarter total revenue was THB 62,603 million, 2% lower yearon-year, while improving core net profit by 121% to THB 1,811 million due to an increase in volumes, a change in the portfolio mix to more high value-add products and a broader geographical footprint that helped core EBITDA rise 43% to THB 6,091 million. The Feedstock business remained muted in Q3 partially due to an unplanned outage at the company's Ethylene plant in the USA and a force majeure by a domestic raw material producer in Thailand. Nevertheless, the global PET business increased production by 9% compared to the third quarter of 2014 enabling core EBITDA to rise 37%. The Fibers and Yarns business increased its production by 8% compared to the same period last year and together with some positive foreign currency earnings translation, raised core EBITDA by 118%.



Indorama Ventures Public Company Limited recently welcomed a team of executives from PepsiCo to its Bangkok headquarters. PepsiCo presented IVL with a certificate recognizing it as a strategic supply partner.



Mr. Aloke Lohia gave an interview about the state of the petrochemical and textile industries in Thailand, opportunities in The AEC and his personal experience in Thailand on a TV programme called "The Insider". The show was produced in collaboration with the Government Spokeperson's Bureau, the Secretariat of the Prime Minister, the Public Relations Department and TBT World Channel

IVL Today



Congratulations to the team in Turkey for their hard work. Indorama Ventures Adana PET was recently recognized as one of the top 500 companies in Turkey.



Indorama Ventures Indonesia was named International Textile Firm of the Year 2014, in the category "Fibre Producer", by the World Textile Awards. Headquartered in London, Left Bank Partnership organises the World Textile Awards. The prizes are annually given to reward excellence across the entire textile industry.



Indorama Ventures PCL received a prize at the SET Sustainability Awards 2015, hosted by the Stock Exchange of Thailand (SET). Among other public companies in the same category, companies with a market value between 30,000 – 100,000 million baht, IVL won the prize for Thailand Sustainability Investment 2015. This prize is granted to the best company that passes the evaluation criteria based on environment, social and governance indicators (ESG).



Indorama Ventures PCL received the prize for Outstanding Investor Relations for companies with a market capitalization of between 30,000 – 100,000 million baht at the SET Awards 2015, hosted by the Stock Exchange of Thailand (SET). The prize is only granted to the best companies whose investor relations activities are considered outstanding.



Four subsidiaries of IVL received The National Outstanding Industrial Establishment of Labor Relations and Welfare Award 2015. The award was granted by the Department of Labor and Welfare, Ministry of Labor. Indorama Polyester Industries Pcl. (Rayong) won The Honorable Award for Excellent Establishment of Labor Relations and Welfare 2015 for the 11th consecutive year (2005-2015), Indorama Holdings Limited won for the tenth consecutive year (2006-2015). Indorama Polyester Industries Pcl. (Nakhon Pathom) won for the sixth consecutive year (2010-2015) and Indorama Petrochem Limited won for the fifth consecutive year (2011-2015).



Mr. Anivesh Tewari, representative of Indorama Polyester Industries Nakhon Pathom received Thailand Outstanding Company Award for Safety Occupational Health and Working Environment 2015. The awards were granted by the Minister of Labor



Indorama Holdings Limited received the "Good Governance Environment Award 2015". The award ceremony was organized by the Ministry of Industry.



Indorama Petrochem Limited, TPT Petrochemicals Pcl and Indorama Polyester Industries (Rayong) received an Eco Factory Certification plate from Dr. Atchaka Sriboonruang, Minister of Industry, during the Eco Innovation & Solution 2015 seminar. The event was organized by The Industrial Environment Institute, the Federation of Thai Industries (FTI).



Indorama Polyester Industries (Nakhon Pathom) Pcl, AsiaPet (Thailand) Limited, Indorama Polymers Pcl, Petform (Thailand) Limited and Indorama Petrochem Limited received the CSR-DIW Continuous Awards for 2015 for five consecutive years. TPT Petrochemicals Pcl received the CSR-DIW Continuous Awards for five consecutive years and Good Community Relation Award under CSR-DIW Continuous Project Award 2015 and Indorama Polyester Industries (Rayong) Pcl received the CSR-DIW Continuous Awards for 2015 for three years.





Indorama Petrochem Ltd. receive a Safe Workplace Certificate under the Ministry of Labor criteria on the occasion of Princess Maha Chakri Sirindhon's 60th Birthday Anniversary on 2nd April 2015. Mr. Somsak Suwannawijit, Governor of Rayong Province. Indorama Petrochem Ltd. received a Safe Workplace Certificate under the Ministry of Labor criteria on the occasion of Princess Maha Chakri Sirindhon's 60th Birthday Anniversary on April 2nd, 2015. It was presented by Mr. Somsak Suwannawijit, Governor of Rayong Province.



Indorama Ventures PTA Montréal L.P. just put in service a turbo-generator unit that helps reduce about 20% of the electrical consumption of the company. The turbine generates on average 6,700 kW from steam, equivalent to the consumption of 2000 houses.



AlphaPet won the prestigious award from FM Global for taking the longest strides in risk improvement.



Sound absorbing and suited for digital printing: Interior sun protection and acoustic textiles in Trevira CS



coustic elements based on textile materials are taking on more and more importance in interior furnishing – not only for use in open plan offices, but in public facilities as well, such as schools, nurseries, auditoria, foyers and restaurants. Alongside familiar elements like panels, partitions, canopies and wall pictures, interior sun protection that is sound absorbing can also help to improve the total acoustics of an area, especially when the fabric has a three-dimensional structure. This causes a dispersion of the sound waves on the surface of the textile, thus helping to create a better acoustic atmosphere indoors.

Not only the functional features of sound absorption and flame retardancy systems are important for sun protection systems, but also their design. Textiles provide a design element that can be adapted in a customised way to the available space. Vertical blinds, curtain panels, roller shutters, sliding panels: it is possible to integrate all these in terms of design into interior concepts, particularly using digital printing. Given the numerous colours available and the high brilliance of the articles, individually designed motifs on the smooth clear surfaces of sun screening textiles are becoming more and more popular.

The material of choice for these materials is the range of twocomponent Trevira polyester yarns containing one component which melts at a lower temperature. When combined with Trevira's permanently flame retardant polyester yarns, it is possible to create stiffened textiles for the application in a vast variety of materials, not only for interior sun protection. The latest creations introduced on the market are fabrics woven in a three-dimensional honeycomb-weave structure, which make ideal sound absorbing textiles with inherent safety.

Top: Permanently flame retardant fabric development made from texturized Trevira hybrid yarns with stiffening effect and 3-dimensional structure, suitable for interior sun screening and acoustic textiles. (©Hohmann)

Center: A fabric development by Hohmann made from flame retardant spundyed Trevira hybrid yarns, on display on the Indorama ventures booth at Thailand Industry Expo 2015.

Bottom: A fabric quality with digital print from the new Silencio collection by Pongs Technical Textiles (©Pongs Technical Textiles).

Photography for All

veryone has a camera, or phone, for photography. Here are some tips if you plan to send photos to the Beacon for publication. Most modern cameras take good images, you just need some tricks. Photos of people look best if they focus on the person, not items in the foreground or background; if taking pictures of an award winner, the best photo is the winner and his or her trophy, not the sign in the background because that information can be provided in the caption. Keep the subject's head close to the top edge of the photo and off center. Classical artists posed subjects in paintings and we can too using the 'Rule of Thirds' to position subjects. Many people position a subject in the center of the photo, which is perfect for passports and ID cards but boring for magazines. Instead, divide your photo into thirds, imagining two vertical and two horizontal lines dividing your picture into nine squares. Place the main subject on one of the vertical lines so she is off center. In landscapes, the horizon sits on the top or bottom horizontal line, not the center.

If snapping a small group, try putting

their faces into a reversed triangle (pointed down). Most classical artists positioned people and objects along the lines of triangles with their heads on the triangle points. Imagine a footpath at an angle of 60° rising up the picture bottom left to top right, then place the people along the triangle made by the path with the tallest person's head at the corner top right.

For large groups, try putting the tallest people in the back row at center and the shortest in the center front row. The natural oval shape that the heads line up on is perfect.





■ Indorama Ventures Head Office organized a training session on Social Impact Initiatives for its employees.



■ Indorama Ventures 's volunteers make patient folders for children with cleft lips and cleft palates who are awaiting corrective surgery. Indorama Ventures supports the Operation Smile Foundation because these operations are free for children.



Mr. Richard Jones, representing Indorama Ventures PCL (IVL) attended the FCCT photography contest. The event was presided over by H.E. Kobkarn Wattananvrangkul, the Minister of Tourism and Sports of Thailand. The photography contest is organized by the Foreign Correspondents Club of Thailand (FCCT) annually. It is the premier foreign correspondent's club in the region to give awards for the best photos of the year. As the largest sponsor of the competition, IVL's special prize in the category 'Environment' was granted this year for the first time.



■ Indorama Ventures employees at Bangkok headquarters participated in a voluntary CSR activity, 'Breast cancer: the danger we should be aware of'. The two sessions included a training class to educate staff about breast cancer, hosted by breast cancer nurse specialist from Chulalongkorn Hospital. There was a voluntary activity in which participants made special bras for patients recovering from breast cancer, hosted by volunteers from the Friends Helping Friends Foundation.





The representatives from "On Nuch 14 rai Community", an impoverished area of Bangkok together with NiseCorp, which assists people with low income, visited our waste recycle bank at Krok Yai Cha School in Rayong. The visit was arranged in order to teach the representatives from the groups how to make stools from plastic bottles as they are interested to use waste to create value-added products.



Business students from Zaman University in Cambodia visited Indorama Ventures Head Office to study about business operations.



■ Indorama Ventures Lopburi launched a Water Saving Campaign in order to support and comply with local government policy as Lopburi province has announced it was a drought-affected area. A guideline for water saving was distributed to all employees, and promotional tools for the campaigns were also used in the factories to encourage employees to use less water.



FiberVisions sponsored Club Orange, a youth basketball team, for the National Travel Basketball Association competition at Myrtle Beach, South Carolina.

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■ IVL arranged a general shareholders factory visit (group 2) at Indorama Polyester Industries Pcl (Rayong).



Auriga Polymers' employees donated 60,000 USD to the United Way, a major local charity organization.



AlphaPet Decatur, AL arranged Purple Belt Training in collaboration with FiberVisions, Auriga, and AlphaPet. 11 supervisors and floor leaders went through this two-day session training. Which will be utilized to start their individual Lean Kaizen projects at the Decatur site.



■ Indorama Ventures kicked off the RECO Young Designers Competition 2016 under the concept "Life is Play: Show your passion". The aim of the competition is to encourage young designers to create a design utilizing recycled materials.



Trevira organized Trevira CS China Day to meet Trevira CS Club members, Chinese architects and interior designers in order to educate them more about its products in Shanghai.



Representatives of TPT Petrochemicals employees visited floodaffected colleagues in order to donate bags of sand, water pumps, clay, food and drinks on September 18.



Connor Roodvoets, who is a student, came to observe R&D Engineer Mark Roodvoets at Auriga Polymers in October.



■ IVL's subsidiaries in Rayong arranged for a mobile health unit's services for the community at Wat Noen Kraprok, Rayong.



■ Indorama Ventures representatives, Mr. Richard Jones and Ms. Naweensuda Krabuanrat, visited Khao Hoon, a Thai business newspaper, on its 22nd anniversary.



Trevira arranged the Trevira CS Jobber Day in New York. In this event, fabric manufacturers from Europe presented their new collections to US fabric dealers.



■ 15 people from Auriga in Spartanburg, AlphaPet in Decatur, FiberVisions in Covington and Athens joined the Lean Six Sigma Green Belt training in September.



■ Ms. Naphassanan Phamutsirijirayu, representing IVL, joined a CSR activity hosted by Thai Beverage Industry Association, at Baan Tha Whee School in Kanchanaburi province, Thailand. Our company donated 70 bags for students.



Mr. Aaron Guillory and Chris Massaro from FiberVisions received an award from the Georgia Manufacturers Association for Team Operational Excellence. The award was given in appreciation of the Lean Project team.



■ TPT Employees participated Team Building Activities in Prachinburi province and Chonburi province. The aim was to promote employee relation the, company image, teamwork and better internal communication.



Indorama Ventures donate 100,000 THB to the Prince Mahidol Foundation



■ Indorama Polyester Industries (Nakhon Pathom) sponsored long boat racing, a traditional Thai event, and released fish in a local river. Ms. Prapai Palakawong Na Ayuttaya, HR senior manager and IVL employees joined the opening ceremony, which Mr. Chatchai Uthaipan, provincial governer of Nakhon Pathom presided over.



The Sustainability & Corporate Governance Policy Awareness Campaign (CGPAC) was conducted at IVI Tangerang Indonesia by Mr. Richard Jones and Mr. Harsha Reddy from Head office Bangkok.

They conducted a session to educate employees about sustainability and CGPAC.



New district-chief officer of Tha-wung, Mr. Prachya Papatang together with local government heads, military and police officers visited IVL-Lopburi to inspect the pollution treatment system.



■ IVL's employees from its headquarters and subsidiaries joined an activity, the 28th Standard Chartered Bangkok Marathon 2015.

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IVL supports the relationship between Thailand and the Netherlands

hailand and the Netherlands have had a cordial relationship for over 400 years since the coming of "Hollanders" to Ayutthaya at the beginning of 15th century. Today, the two countries still enjoy a close relationship. IVL with subsidiaries located around the world, including in the Netherlands. Always supports mutual understanding.

This year, Indorama Ventures Europe in Rotterdam as well as IVL's Bangkok headquarters, arranged an event to enhance bilateral relations.

To celebrate IVL's 25th anniversary, Indorama Ventures Europe in Rotterdam organized a Thai-Dutch fair on September 13, 2015 at the site in Europoort. Activities included a tour around the operating site, music and Thai food as well as demonstration by the fire brigade and a chemistry lab for kids. 400 local employees and their families joined the fair.

IVL Bangkok headquarters also organized a trip to Baan Hollanda Information Centre in Ayuttaya. Baan Hollanda was a gift from Her Majesty Queen Beatrix to King Bhumibol for the purpose of celebrating 400 years of friendly relations in 2004. A group of IVL's employees visited Baan Hollanda and learnt about the history between the two countries. Moreover, the information about Thai-Dutch relationship was published to educate our staff at head office.

IVL always promotes the relationship and understanding between Thailand and the Netherlands. Not only the benefits in doing business, but also the importance at the level of the individual and society over the long-term.



Fashion Design Thanyarat Baromwongpaisarn

Name:	Thanyarat Baromwongpaisarn
Age:	23
Institution:	Suan Sunandha Rajabhat University
Faculty:	Fine and Applied Arts
Dream Career:	Fashion Designer, Clothing Brand Owner

- Q: Why were you interested in joining RECO ?
- A: I'd like to gain new experience. I have never applied to a contest, that requires using recycled materials before. I found it challenging, so I applied.
- Q: How did you know about the contest ?
- A: I found information about the contest on Facebook.
- Q: Have you ever applied to any other designing contests whose concept was about conserving the environment or using recycled materials ?
- A: I have never applied for such a contest. This is the first one.
- Q: What was the inspiration of your work ?
- A: The inspiration of my work is imperfection. I used rust as a metaphor. Most irons and doors look similar at first, then they start to decay and rust takes place to create uniqueness and differences. It is seeing the value of the imperfection like the concept of recycling where you turn waste into value.
- Q: What material did you use to create your work? Why did you choose this material ?
- A: The main material was second hand polyester fabric. The decorations were knitting yarns and beads. I have personal liking for knitting yarns for their exotic textures, which makes the work become more interesting. Beads were waste, so I decorated them to make bulging textures on my work and resemble rust.
- Q: What did you gain from the contest ?
- A: I have gained knowledge from the workshop and self-development. I think each contest is the opportunity to develop my skill. The prize I was given was the result of my hard work. Moreover, I learned more about polyester.
- Q: Has your work gone through any further manufacturingprocesses for commercial production? Do you want to develop your work further ?
- A: I haven't developed my work yet but I planned to change it a bit on the design and decorations, so it becomes more ready to wear.
- Q: Have you ever worked on designing something after the contest ?
- A: I'm working as a freelance designer at the moment.
- Q: How do you see your future ?
- A: I'd like to gain as much experience as I can. I believe design students dream to have their own brands and see them grow. But before I reach that stage, I have a lot to learn.
- Q: Is there anything you'd like to pass on to the contestants next year ?
 - This contest is a very interesting because it is a design contest for the environment, which is a current world trend. The contest is also challenging and offers knowledge from the judges and the experts on fashion and materials. You will find a new perspective on designing and gain new knowledge, which can be used in the future.









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Product Design Jakkapong Jumnil

Name:	Jakkapong Jumnil
Age:	23
Institution:	Rajamangala University of Technology Krungthep
Faculty:	Science and Technology
Dream Career:	Designer

Q: Why were you interested in joining RECO ?

- A: I have heard about the competition since 2011 and would like to see my work in there. I participated in 2013 and made it to the final round. However, I didn't succeed. I think RECO is an opportunity to show my creativity and thoughts through my design, so I learned from my experience in the competition last year to create new work for this year.
- Q: How did you know about the contest ?
- A: I heard the news from the faculty where I'm studying.
- Q: Have you ever applied to any other designing contests whose concept was about conserving the environment or using recycled materials ?
- A: I have applied to design contest regarding environmental conservation and recycled materials. I like this kind of competitions because I get to design my work by turning daily life items into value.
- Q: What was the inspiration of your work ?
- A: My main inspiration of every work is the Thai wisdom. I think it is likable among the Thai audience, so I turned It into the inspiration of my work. I combined my favorite Thai wisdom skill with different materials.
- Q: What material did you use to create your work? Why did you choose this material ?
- A: The material I chose came from the design concept "Back to the Future". I tried to figure out what we have in the past. Personally, I like Thai wisdom so I chose to combine pottery with weaving skills. Instead of using natural fibers, I chose plastic wire made from waste PET bottles, which can be found easily nowadays. Once the materials, the concept and the skill are integrated, the new product was born. It can be used in daily life and can be developed while also retains the uniqueness of Thai wisdom.

Q: What did you gain from the contest ?

- A: I have gained a lot from the contest. This success is the door of opportunity to me. I got to exchange design ideas with other competitors and build friendships.
- Q: Has your work gone through any further manufacturing processes for commercial production? Do you want to develop your work further ?
- A: My intension is to develop this work, but I'm not quite ready yet. I think it would be really good to develop it because it will help build careers for people in the community and people who are into handicraft.
- Q: Have you ever worked on designing something after the contest ?
- A: I'm continuously improving my designing skills. I have learned about the techniques and the materials. I would like to create new products. You probably see some of my works in this style in the future.
- Q: How do you plan your future ?
- A: My liking for designing leads to many dreams. However, I'd like to make the best outcome of my knowledge and my experience by forwarding them to the new generation. Teacher is a career I like and I think it will be beneficial for developing my designs.
- Q: Is there anything you'd like to pass on to the contestants next year ?
- A: I'd like to tell them that the prize is just a part of the contest. The important thing I have gained was the opportunity to show my creativity. Everyone who wants to join the contest should try their best, seek to understand the concept, find the uniqueness of their work and create something new and different. Their work should be interesting and they will succeed.

INDORAMA









Developing organizational excellence by increasing efficiency and productivity

Today, under highly competitive market conditions, every company must focus on customers' demands and their services. Aiming for improvements in efficiency as well as customers' satisfaction, the implementation of organizational development plays an important role for a company to create a superior value over its competitors.

QCC or Quality Control Circles is a group activity on quality control. The employees individually develop themselves in the field they have responsibility for and gradually the collective results lead to the improvement of the entire organization. This process holistically relates to quality control, including materials, production process and productivity. Employees must analyze the causes of a problem and develop themselves in order to reduce the loss of materials, production cost, work time as well as to build up the quality standards of the company. Ultimately, the enhancement of work process and internal cooperation at every level drives a company to meet its mutual goals.

Indorama Ventures has always promoted QCC activities. Annually, the company organizes training courses and internal competitions concerning on quality control. A team which creates the best project in a competition will have an opportunity to represent the company in giving a presentation on their project on

international stage.

In 2015, two of IVL's subsidiary companies, Indorama Polyester (Nakhon Pathom) and Indorama Polyester Industries (Rayong), sent a representative team to present a project on a group activity on quality control. Both teams were awarded a prize by the International Convention on Quality Control Circles or ICQCC; the event was held this year in Gyeongnam, South Korea. Organized annually, the aim of ICQCC is to promote QC activities, to explore new idea as well as to share the different aspects of knowledge and experience on QC of the international participants.



"Polyteam", the representative team from Indorama Polyester (Nakhon Pathom) accepted the Silver Illumination for the QC activity on Ethylene Glycol refining from their Ester-2 column (improving EG quality from their Ester-2 column). The project can practically lessened the error from leakage of HTM by using electric heater. The result was the decrease of waste HTM oil from 10.72 tonnes to 7.75 tonnes and the reduction of the cost of coal energy used in the factory by approximately 2,490,347 baht per month or 29.8 million baht per year. "7 Karat", the representative team from Indorama Polyester Industries (Rayong) was granted a Gold Illumination prize for their project "Unevenness of Dyeing of a Staple Fiber Sample". The result of this project successfully reduced errors in the dyeing process, from 26 times in 15 months to only two times in two months. This was the first time the team participated in an international event. The achievement of the project was higher than expected, reaching 86 percent when the predicted target was at 80 percent.

SUSTAINABILITY, a Game Changer

WINNERS WILL HAVE MEMORIES, LOSERS WILL HAVE REASONS.

"Winners will have the memories of achievements and Losers will have reasons for failure". Both of them sail through under more or less the same circumstances or difficulties. But the only difference is that winners, with their strong commitment and mental strength, face difficulties, consider challenges as opportunities and overcome them.



Aloke Lohia : Group CEO Indorama Ventures PCL.



Harsha V Reddy Asst. Vice President Sustainability

I late, sustainability has placed itself on the agenda of board meetings in the world's best companies, including Indorama Ventures.

Is this new activity called sustainability really important to corporate success, and is it effective, is a question that many people ask. In fact, it has been proven that sustainability generates growth, improves efficiency, controls costs and manages risk. Sustainability by another name is about being efficient.

Will corporate sustainability be a challenge or an opportunity? Sustainability is about seeing opportunities where others only see challenges. It is important to examine everything, including challenges, and find a ray of opportunity.

Take the case of the leading photo film and photo paper manufacturing company of the 20th century that dominated the industry until digital technology invaded the film and paper industry. This company was in fact the first to invent the digital camera in 1975, but unfortunately their management discarded the idea, considered it a risk and assuming that it would ruin their business of photo film and paper manufacturing. The company eventually went into bankruptcy as a consequence of its delayed transition

to digital photography. Had the company viewed this as an opportunity within a challenge then it undoubtedly would have been in a different position today.

Understanding Sustainability

Sustainability is all about improving efficiency in every activity. In this challenging and competitive environment companies have to do more with less, deliver more output with less resource. However, limited resources don't have to limit our vision or ambition.

To explain the concept of sustainability simply, let's compare it to the importance of exercise in daily life

Why should we exercise regularly? The reason is simple, to improve or maintain our fitness; to remain healthy and to live longer without any, or at least fewer, health complications. Even without exercise we might still live a while but long-term survival is uncertain. This uncertainty is nothing but risk. Risk is the probability of an occurrence of an event that would cause damage. The damage would be significant and irrevocable. One should always plan to avoid or mitigate the occurrence of such event.

Similarly, corporate sustainability is corporate exercise, monitoring the performance of every activity on a regular basis, to cut down extra fat in a company's operations, improve its efficiency, look for opportunities and plan to face emerging risks.

Sustainability works and to substantiate this we refer to research undertaken by Harvard Business School and the London Business School on sustainability. They took 180 US-based companies, 90 with high sustainability practices and the other 90 with low sustainability practices. Companies that adopted sustainability practices and integrated environmental, social and governance issues as part of their strategy and business model in addition to their financial performance outperformed low-sustainability companies in terms of stock market returns, return on equity, return on assets, accounting measures etc., over the long term. They did this by attracting and retaining more committed employees, loyal customers and long-term investors. Over time, these companies also preserved their social license to operate. This is an invisible and invaluable asset for companies, something deeded to them by society. Failure to have a culture of sustainability is quickly becoming a source of competitive disadvantage. It is the key to creating value for shareholders and all other stakeholders over the long term, thus ensuring the sustainability of the company itself.

There are several companies more than a hundred years old whose secret to success and survival is their adoption of sustainability initiatives early in their journey. Companies don't get to a hundred and then start sustainable exercises; they do it from the beginning. Indorama Ventures celebrated its first 25 years of existence this year and everyone in the organization wishes to see the company grow to reach its centenary. To achieve this, it is time for us to realize the importance of, and build, sustainability into the corporate DNA so that efficiency becomes second nature to us.

The continuation to this article on sustainability will come in the next issue of The Beacon.

In the Vicinity of Vangon

DESCRIPTION OF

ndorama Ventures Public Company Limited established a new subsidiary company for the packaging business in Yangon, Myanmar and held a ground breaking ceremony on February 25, 2015. The company is named Indorama Ventures Packaging (Myanmar) Limited and is a production facility for PET preforms. Yangon is a former capital of Myanmar and the capital of Yangon region. It has a population of five millions, which makes it the largest city of the country.

Yangon was originally founded as Dagon by the Mon during the early 11th century. It was renamed Yangon in 1755 by King Alaungpaya after he conquered the city. In 1852, the British seized the city and transformed it into the commercial and political hub. They also reconstructed the city bounded to the south and west by the Yangon River and made it the capital of British Burma. It





became the capital of the Union of Burma in 1948 after the country regained its independence from the British Empire.

Since independence, the city has expanded a lot as the government built several satellite towns during 1950s – 1980s. Many indigenous groups left or were forced to leave the country during that period, followed by major antigovernment protests and the revolution. In 2006, the government decided to designate Naypyidaw as the new capital of the country. However, Yangon is still the most important commercial center of Myanmar.

Yangon is located in Lower Myanmar by Yangon River and Bago River and is 30 kilometers from the Gulf of Martaban. It has a tropical monsoon climate with half of the year spent on the rainy season from May to October and the other half from November to April on the dry season. The annual average temperature is 27 degrees Celsius while the annual average rainfall is 2,681 millimeters.

As a city with a rich Buddhist cultures, attractions in Yangon include famous pagodas, such as Shwedagon Pagoda, Sule Pagoda and Botahtuang Pagoda. Other attractions are Aung San Suu Kyi's House, Taukkyan War Cemetery, the National Museum of Myanmar and Kandawgyi Park. Yangon often hosts delightful festivals, including Thingyan Festival (Burmese New Year), Thandingyut Festival (the festival of lights) and Shwedagon Pagoda Festival.

Yangon is a hometown of Nick Drake, an English singer and musician and Aug San Suu Kyi, a politician, chairperson of the National League for Democracy (NLD) and the winner of Nobel Peace Prize in 1991.



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ProPak Myanmar 2015

ndorama Ventures Packaging (Myanmar) Limited participated in ProPak Myanmar, held from September 24 - 26, 2015, at Myanmar Event Park in Yangon. The event incorporated DrinkTechMyanmar 2015, which focuses on technology, machines and services for

rapidly expanding the soft drink and alcoholic beverage markets and PlasPakMyanmar 2015, which focuses on the plastics and the packaging industry. ProPak is the international processing and packaging exhibition for the food, drink and pharmaceutical industries with over 200 exhibitors from 23 countries, five international pavilions from China, France, Singapore, Taiwan and Thailand.

IVL's booth at the exhibition showcased the strength in the production of PET resins as well as in the downstream packaging production of preforms, closures and bottles. With regard to the recent installation of the production facility in Thilawa SEZ in Myanmar, this exhibition could be considered a platform which allowed IVL to introduce itself to potential customers in local packaging markets.

Thailand Industry Expo 2015



In the picture, IVL management team are seen welcoming Dr. Atchaka Sibunruang, Minister of Industry and Dr. Pichet Durongkaveroj, Minister of Science and Technology to the IVL exhibition booth. Indorama Ventures PCL, Bangkok headquarters, joined Thailand Industry Expo 2015 arranged by the Ministry of Industry Thailand at Impact Arena Muang Thong Thani on September 22 - 27, 2015. Covering an area of 60,000 square meters, the event was divided into two zones: the exhibition and trade fair zone and the business workshop zone. IVL as one of the leading companies in Thailand, was invited to organize a booth in the exhibition zone.

IVL's exhibition booth showed innovative production of PET and polyester. The highlight was its High Value Add products; the end products made from polyester using in automotive sector and the story of fire retardant textiles were displayed alongside the innovative PET products of our brands, FuTuRe-PET and OxyClear. The booth also provided knowledge about PET, polyester and the process of recycle facility. The DIY corner attracted people with activities giving ideas on how to create products from used plastic bottles. On this occasion, IVL gained an opportunity to present its world class profile not only to the company's customers but also to interested visitors.



GREEN ENERGY FACTORY FOR SUSTAINABILITY



Solar Roof Energy at Germany



Solar Energy at Thailand

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Wind Energy at Lithuania