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# BATC DEVELOPMENT BHD



## REMARKS BY GROUP EXECUTIVE CHAIRMAN



**Dato' Seri Mohd Safie M. Jaffri**  
**Group Executive Chairman**  
**BATC Development Bhd**

Energy security and independence are vital to national security and to the socio-economic development of any country. The rise and fall of a nation depends on the strength and sustainability of their energy resources. Unfortunately, the passionate pursuit of energy resources and the high level of dependence on fossil fuel have caused climate change and global warming which must be addressed immediately.

I call upon all leaders in the world to work towards a mutual agreement to coordinate and unify the clean energy and biofuel policies and ensure the market's stabilization in order to secure an efficient, economic and regular supply of clean energy and biofuel to the industry and consumers while securing a steady income to producers and a fair return on capital for those investing in this industry.

BIONAS is willing and able to issue investment to meet the demand of any country for biofuel projects in their respective countries. BIONAS takes proactive steps by collaborating our expertise and technology with any party to make climate action a reality.

## STATEMENT BY GROUP CHIEF EXECUTIVE OFFICER



**ZURINA AMNAN**  
**Group Chief Executive Officer**  
**BATC Development Bhd**

28<sup>th</sup> May 2015

To our stakeholders:

I am pleased to confirm that BATC Development Bhd reaffirms its support of the Ten Principles of the United Nations Global Compact in the areas of Human Rights, Labour, Environment and Anti-Corruption.

In this annual Communication on Progress, we describe our actions to continually improve the integration of the Global Compact and its principles into our business strategy, culture and daily operations. We also commit to share this information with our stakeholders using our primary channels of communication.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Zurina Amnan".

Zurina Amnan

## **INTERVIEW WITH ZURINA AMNAN**

**Published in Takshila Magazine, California Takshila University**



### **WHAT MADE YOU DECIDE TO FOCUS ON THE BIOFUEL INDUSTRY IN YOUR CAREER?**

The need to create new alternative energy sources due to uncertainty and high price of fossil fuels, also towards achieving a better and cleaner environment in line with the world's perspective on climate action.

No single organization or country can solve the problem of climate change and it would be foolish and arrogant to pretend otherwise. But we can make a difference by making a start and showing what is possible.

### **AS A WOMAN, DID YOU HAVE TO FACE MANY OBSTACLES IN YOUR AREA OF EXPERTISE?**

No, I am more respected and my words will be heard by others.

On the issue of climate change, women are more vulnerable and reducing further their ability to cope with environmental hazards as well as weakening the woman's status and role in the society.

Women in the developing world are largely responsible for food production and food provision, the impact of climate change on agriculture means that women are most seriously affected by climate change.





## **HOW DOES YOUR COMPANY SUPPORT COMMUNITIES IN MALAYSIA?**

Bionas has a unique concept in developing its plantations with emphasis on the importance of economic development of the poor farmers. We provide 100% financing on jatropha seeds to the poor farmers to plant 4 hectares per person. We ensure the buyback price is good and kept on increasing it up to USD 400 per ton at present.

Our program has uplifted the community from poverty to financial independence, from despair to respect and unemployment to business owners.

We have also improved the infrastructure by providing road access, water catchment and mini-hydro electric.

## **WHAT PERSONALITIES INSPIRE YOU IN YOUR WORK AND PERSONAL LIFE?**

My mentor, Bionas' group Executive Chairman, Dato' Seri Mohd Safie M. Jaffri. His vision and mission are very different than that of ordinary people. His prowess in executing it is highly remarkable.

## **WHERE DO YOU SEE YOUR COMPANY IN 3 YEARS FROM NOW?**

The leading biofuel company in the world, based in Silicon Valley, California.

## **WHERE DO YOU SEE YOURSELF IN 3 YEARS FROM NOW?**

Champion in combating climate change and poverty.

## **WHAT WOULD YOU RECOMMEND FOR YOUNG PEOPLE LOOKING FOR A CAREER IN YOUR INDUSTRY?**

To make an assessment based on the technology and the implementation concept of the company. Small and medium size companies with competitive advantage are better than the big companies that lack of the opportunity for you to stand out.

## **DO YOU HAVE ANY INSPIRATIONAL MESSAGES FOR OUR STUDENTS?**

Do not feel comfortable with the knowledge that you have. Real life in the outside world is not as easy as you might think. Only those who dare to take risks, strong and creative minds, perseverance, belief, confidence and good, will succeed.



## INTRODUCTION

Bionas Agropolitan Technology Corridor Development Berhad or better known as BATC Development Berhad under its tradename "BIONAS" was incorporated in 2004 and the project launched in 2007 with the objective of promoting Jatropha Curcas planting for fuel production as well as to generate wealth creation within the Malaysian Economy.

The Company's main unique selling proposition lies in its technology, supply chain, branding control, its price leading position, and the relative low entry cost of producing Jatropha biofuels by outsourcing a major portion of its supply chain costs and risks to existing yet idle multi-million dollar refineries, third party nursery partners and partnering land owners and farmers.

## VISION

BIONAS envisage developing new sustainable green economic activity which will enhance economic growth in rural areas and simultaneously eradicate poverty.

## MISSION

To become the leading producer of sustainable third generation renewable energy, which is environmentally friendly, does not contribute to deforestation, does not compete with food production while at the same time providing and improving socio-economic value to local communities.



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## FINANCIAL REPORT

Bionas has launched the Jatropha planting program for biofuel in Malaysia in 2007 with paid up capital of RM1.0 Million. In 2011, it's paid up capital was raised to RM100.0 Million. In 2009, the company has started venturing to other countries with more than 40 countries at present.

Not included the sales by its joint venture companies in other countries, Bionas' audited sales in 2008 was RM20.0 Million, 2009 at RM32.0 Million, 2010 at RM61.0 Million, 2011 at RM72 Million and 2012 at RM88 Million.

The sales for year 2008 to 2009 were from Jatropha seeds, seedlings, fertilizer and pressing mills; and the increased sales for year 2010 to 2012 were from 'samples' of biofuel additives.

After the products registration was approved by U.S Environmental Protection Agency (U.S EPA) on January 29, 2013, the company has secured a significant amount of commercial biofuel contracts in many countries and this will contribute to a drastic increase in sales volume for year 2013 to 2015 estimated to reach up to RM5.0 Billion.

The Company has developed eight (8) new clean energy and biofuel products for diesel, gasoline, heavyfuel, jetfuel , energy and power plant industries from various feed stocks including Jatropha, Algae, Canola, Rubber seed oil, Cotton seed oil and Used cooking oil.

Bionas clean energy and biofuel products are offered at the same price or lower than the international fossil fuel prices.

# ABOUT BIONAS

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**DATO' SERI MOHD SAFI'E M. JAFFRI, GROUP EXECUTIVE CHAIRMAN**

Dato' Seri Mohd Safi'e M Jaffri, Malaysian, is the Executive Chairman of Bionas Group of Companies.

Prior to Bionas, he has acted in the capacity of Executive Chairman and Chief Executive of several national and notable organizations within the technology, investment and property development sectors in Malaysia and Singapore. These include chairmanships in public companies listed on the Main Board of Malaysia and the property development groups in Singapore.

His vision has led Bionas to take a leading position in the biofuel sectors globally. His unique concept and methodology in developing the Jatropha plantation has not only positioned the company in the global business arena but also contributed in poverty eradication amongst rural community as one of the principle of socioeconomic empowerment.

His investment into Nano-Emulsion and Polarization in biofuel production has created a revolutionary technology to the biofuel industry providing solution to the governments in any country to streamline and implement their National Biofuel Policy. His leadership has resulted in outstanding performance of the company in many countries with good increment in annual profits.

The Company is now a Member of the Climate Technology Centre Network (CTCN), UNEP and the Business Participant of the UN Global Compact (UNGC) and one of the Signatories for Caring for Climate (a joint initiatives of UNGC, UNFCCC and UNEP).

For his remarkable efforts in green and clean energy, he has been acclaimed with award and recognition from California Takshila University for excellent work in promoting energy independency and Appreciation Letter from the United Nations Environment Programme (UNEP).



# ABOUT BIONAS

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**ZURINA AMNAN, GROUP CEO**

Zurina Amnan, Malaysian, is the Chief Executive Officer of BIONAS Group of Companies.

Zurina has been key in mapping out the Group's core strategies. She leads the operational supply chain, and business and corporate relations of the Group.

The Company's investment into Nano-Emulsion and Polarization technology in biofuel production has created a revolutionary in energy sector towards bio-energy sustainability and security. The production cost has reduced tremendously and the use of multi-feedstock has resulted to biofuels are offered at very competitive price.

She spent many years to prove the technology by conducting various tests of performance and emission in various climate conditions in many countries. Her leadership quality has extended the company's global presence to more than 40 countries.

Her passion towards bioenergy is expressed through her offer for technological collaboration to any countries in the world to streamline and implement their National Biofuel Policy.

# ABOUT BIONAS

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She became one of the Climate Change Leaders for her participation during the United Nations Environment Programme (UNEP) Governing Council Global Ministerial Environment Forum (GC/GMEF) 2011 in Nairobi. She was one of the speakers at the Jatropha World Summit 2008 in Bali Indonesia, the 1<sup>st</sup> Philippine International Bio Energy Conference 2012 in the Philippines, the World Biofuel Market Conference 2012 in Rotterdam, BIT's New Energy Forum 2012 in China, the 4<sup>th</sup> International Conference on Biofuel Standards 2013 organised by the U.S National Institute of Standard and Technology (NIST) in Washington DC, the World Science Forum 2013 in Brazil and ExpoNaval 2014 organised by Chilean Navy in Chile.

She has received a letter of invitation from the UN Secretary General Ban Ki-moon to attend the UN Climate Summit 2014 in New York on 23 September 2014 of which she was also invited by the UN Global Compact to chair one of the Round Table Discussions of the UN Private Sector Forum.

For her remarkable efforts in green and clean energy, he has been acclaimed with award and recognition from California Takshila University for excellent work in promoting energy independency and Appreciation Letter from the United Nations Environment Programme (UNEP).

# ABOUT BIONAS

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Letter from UN Secretary General Ban Ki-moon to Bionas Group Chief Executive Officer, Madam Zurina Amnan



THE SECRETARY-GENERAL

2 September 2014

Dear Ms. Amnan,

It is with great pleasure that I invite you to the Climate Summit I will host at United Nations Headquarters in New York on 23 September 2014.

Climate change, and our response to it, will be the defining issue of our time. Action today will define our ability to achieve the vision laid out in the Charter of the United Nations, from establishing the conditions for peace and justice, to ensuring dignity and equality for all people and nations, and promoting social progress and better standards of life for all. The health of our people, our economics and our planet depends upon it.

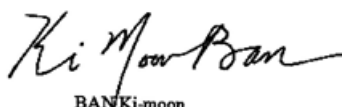
World leaders today have an unprecedented opportunity to reach a meaningful agreement and take actions on the ground that can put us on a path to sustainable prosperity. Governments have agreed to reach such a universal legal agreement in 2015. It is up to leaders from all levels of government, civil society and private sector, to scale up their actions and commitments to make this possible. This is the task before us at the Summit in September.

This is the first Summit I have hosted that brings together leaders from Government, private sector and civil society. In our increasingly interconnected world, vision and ambition must be advanced by a diverse and dynamic public-private partnership. Together, we can leverage our strengths, multiply our means, and shift the global climate trajectory. The Climate Summit will see the largest gathering to date of world leaders to catalyse climate action and to raise political ambition for a meaningful global legal agreement by 2015.

Ms. Zurina Amnan  
Group Chief Executive Officer  
BATC Development Bhd

I invite you to bring ambitious announcements and actions to the Summit and look forward to seeing you in September as we endeavour to provide prosperity, equity and security for this and future generations.

Yours sincerely,

  
BAN Ki-moon

# ABOUT BIONAS

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Bionas is a Business Participant of the UN Global Compact and one of the Signatories for Caring for Climate.

## Caring for Climate



March, 2014

Dear Dato' Seri Mohd Safie M. Jaffri,

We wish to thank you and to recognize your vision and leadership in endorsing the *Caring for Climate* initiative. In addition to your valuable participation to the UN Global Compact, BATC Development Bhd is now part of the largest global business movement to address climate change, endorsed by over 350 companies from 60 countries.

The climate change crisis has risen to the top of the international agenda with growing public concern. Companies, local governments and countries have already recognized and are capitalizing on the benefits of moving towards low carbon, climate resilient and green economy pathways. With *Caring for Climate*, the UN Global Compact, the UN Environment Programme (UNEP) and the secretariat of the UN Framework Convention on Climate Change (UNFCCC) seek to (i) mobilize businesses on a global scale to take a stand for a low-carbon and climate resilient economy through their processes, products and services; as well as (ii) inform the climate change global policy agenda in order to contribute to progress in the intergovernmental climate change process.

*Caring for Climate* offers ongoing engagement opportunities for signatories, in particular through events, publications and collaborative action platforms. Further information on upcoming engagement opportunities can be found on the initiative's website at [www.caringforclimate.org](http://www.caringforclimate.org).

We welcome BATC Development Bhd to the *Caring for Climate* initiative and look forward to working with you.

Sincerely,

**Georg Kell**  
Executive Director  
UN Global Compact Office

**Christiana Figueres**  
Executive Secretary  
UN Framework on Climate Change

**Sylvie Lemmet**  
Director  
UNEP DTI

Dato' Seri Mohd Safie M. Jaffri  
Group Executive Chairman  
BATC Development Bhd

# ABOUT BIONAS

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Bionas becomes the first Private Sector Member to join the Climate Technology Centre and Network (CTCN).



23 April 2014

Re: Application for CTCN Membership  
Applicant Reference: N0011  
CTCN Reference: 2014/Membership06/BATC Dev. Bhd.

Dear Ms. Aminuddin,

Thank you for your application for the CTCN membership. We have completed our assessment of your application.

I am pleased to inform you that the BATC Development Bhd. has been granted the CTCN membership.

As detailed in the information note, which can be accessed on our website at ([http://www.unep.org/climatechange/ctcn/Portals/50212/Guideline\\_CTN\\_membership%20application.pdf](http://www.unep.org/climatechange/ctcn/Portals/50212/Guideline_CTN_membership%20application.pdf)), CTCN members are invited to play a meaningful role in information sharing and capacity building, to provide as appropriate, technical assistance in response to country requests (response projects), and participate in outreach and networking activities.

I look forward to working in close collaboration with the BATC Development Bhd. toward serving the interests of the developing countries by providing high quality and diverse expertise in the transfer of climate technologies.

Yours sincerely,

Jukka Uosukainen  
CTCN Director

Ms. Norazlina Aminuddin  
BATC Development Bhd.  
No 87-1 1<sup>st</sup> Floor, Jalan Raja Mahmud  
Off Jalan Raja Abdullah  
Kampung Baru, 50300  
Kuala Lumpur  
Malaysia

Climate Technology Centre and Network  
UN City, Marmorvej 51, 2100 Copenhagen, Denmark  
UNEP CTCN webpage: [www.unep.org/climatechange/ctcn](http://www.unep.org/climatechange/ctcn)  
Email: [ctcn@unep.org](mailto:ctcn@unep.org)





# ABOUT BIONAS

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Bionas becomes the first Private Sector Member to join the Climate Technology Centre and Network (CTCN).

 <b>CTCN</b> CLIMATE TECHNOLOGY CENTRE & NETWORK		<b>The Climate Technology Network (CTN) Membership Application Assessment (New Application)</b>	
<b>Application Data</b>			
To be completed by officer completing Part I Submission completeness			
Reference	N0011	Applicant Organization	BATC Development Bhd.
Contact person	Dato' Seri Mohd Safie'M. Jaffi Ms Norazlina Aminuddin	Contact email	<a href="mailto:safie@bionas.com.my">safie@bionas.com.my</a> <a href="mailto:norazlina@bionas.com.my">norazlina@bionas.com.my</a>
Type of institution	Private Sector Organization		
Country of Registration	Malaysia		
Date of receipt of application	24 February 2014 (initial submission)/ 14 April 2014 (additional information)		
Assessment due date	As the additional information was provided on 14 April, later than the assessment due date, the assessment period was extended.		
Note	As the additional information was provided		
<b>Technical Appraisal</b>			
To be completed by officer completing Part II Substantive assessment			
Recommendation	Grant membership <input checked="" type="checkbox"/>	Decline membership <input type="checkbox"/>	
Thematic area of expertise	Mitigation <input checked="" type="checkbox"/>	Adaptation <input type="checkbox"/>	
Mitigation sectors	Energy, Transport (biofuel)		
Adaptation sectors	N/A		
Service areas	Investment, Technology development and transfer, Collaboration in innovation, Capacity building, Knowledge sharing		
Geographical scope	Asia, LAC, Africa		
Summary of assessment	<p>BATC Development Bhd was incorporated in 2004. Since 2007, the organization has invested in plantation and processing of Jatropha and blending, storage and distribution of Jatropha based biofuel for industry and transport extensively in Southeast Asia and also in LAC and African countries. The organization has established Joint Ventures in 40 countries internationally for cultivation, processing and/or storage and distribution of the products. The organization produces eight additives/biofuel products transport, power generation and industrial applications with certified quality.</p> <p>The financial stability was demonstrated by statements for fiscal years 2010, 2011 and 2012.</p> <p>The organization commits to the mission of the CTCN and to abide by the CTCN code of conduct.</p>		
Date of recommendation	17 April 2014		
Recommendation by	Yuko Nagata, Interim Network Manager		
<b>Final Decision</b>			
To be completed by the Director of the CTCN or delegated officer			
Final decision	Grant membership <input checked="" type="checkbox"/>	Decline membership <input type="checkbox"/>	
Comments			
Date of decision	23 April 2014		
Decision by	Jukka Uosukainen, Director CTCN		
Signature			



# JATROPHA AGROPOLITAN BUSINESS CLUSTER DEVELOPMENT

Many people are becoming aware of the importance of preserving our resources and taking care of the environment. One of the most pressing concerns of the green movement is the need to reduce dependency on carbon-laden fossil fuels as a source of energy. This has motivated many researchers, companies and organizations to explore renewable alternatives.

BIONAS is one of them. Numerous efforts to find alternative oil fuel derived from plants have been carried out since that led to the discovery of the *Jatropha curcas* plants which are naturally endowed with multitudinous uses and unique properties.

*Jatropha Curcas* plants have the following unique qualities:

- Oil yield, approx. 33%
- Thrives well in tropical climates such as Malaysia.
- Fast growth; produces fruits after 6 months of cultivation.
- Low maintenance - the use of pesticides and other polluting substances are not necessary, due to the pesticidal and fungicidal properties of the plant.
- Life expectancy of more than 45 years.
- One *jatropha* fruit contains 2-4 seeds that are processed into oil, which will then be used to produce biofuels.
- Small-sized and shady shrubs which makes it easy to harvest.
- An acre of land is capable of accommodating cultivation of 800 plants. Per acre yield of 3.6 metric tons of fruits annually in the first three years and multiply after the third year.

## COMPARISON WITH OTHER VEGETABLE OILS

*Jatropha* is an attractive option and has the potential to become major biofuel, as it grows on very marginal land in tropical regions and it does not compete with farming crops such as corn, soya beans, peanut, cane and rapeseed, which were used in United States and Europe as feed stocks for biofuels.

That makes it potentially a better option than plants such as palm oil, which is currently a source of biofuel worldwide, but leads to substantial rainforest destruction.

*Jatropha* is also toxic so there is no conflict with food production.

# BIONAS JATROPHA PLANTATION PROGRAM

During the last seven years, Bionas was able to build up expertise and grand experience in successful Jatropha plantation for the highest internationally recorded yields, as well as develop its own biofuel production technologies, which render the Bionas biofuel produced very cost-effective, compared to the processes the rest of the world has tried to utilize and failed.

Today, Bionas is the only successfully business story in the field of biofuel production using Jatropha. The company has presence in many countries and has grown its business to include over one million acres of Jatropha plantation in Southeast Asia alone.

More countries are seeking partnerships with Bionas to become part of Bionas Jatropha Plantation Program as the company guarantees through individually signed contracts with the involved farmers the best guarantee buy back of Jatropha seeds harvest at a gratifying price compared with international prices.

This is in addition to farmers receiving training and crucial know-how and best practices that has acquired in the field, and which is a must-have factor to the success of this project.

It is obvious that signing contracts with the impoverished farmers will bring the sense of partnership and ownership into these farmers and hence ensuring high success rate for the project.





# JATROPHA PLANTATION

There are many challenges in Jatropha plantation and Biofuel program worldwide. Among the challenges were:

- Labour Intensive – Harvesting need to be done on daily basis. Only fruits which are yellow and black can be collected.
- Low yield/ production – lack of knowledge and technology effecting the production..
- Unavailability of Feedstock – Average buyback market price of Jatropha harvests (seeds) worldwide is at US\$100 – US\$150 per ton and not attractive to the farmers.
- Land for Jatropha cultivation – lease, rent or buy.
- Bio –diesel production via “Transesterification” which normally uses methanol derives from petroleum sources and energy intensive. Turning Jatropha bio-diesel to meet EN14214 with minus 21C pour point requires the said methyl ester to be fractionated twice and this process is very energy intensive and very costly.

Bionas, however, came up with a solution to face the challenges.

The company gives away free Jatropha seeds for ten acres per person/farmer to gain access for free land and free workers with guarantee buy back of harvests at US\$260 - US\$400 per ton. This initiative has increased the number of farmers planting on their own lands which guarantee the sustainability supply of feedstock to Bionas.

Bionas capability to buy back the harvests at high price due to very cost effective biofuels production via polarization and nano-emulsion technology with no investment for a new set up of refinery and making use of the existing infrastructures, blending and storage facilities at existing refineries, port and airport.

## KEY SUCCESS FACTORS

**POLARIZATION & NANO EMULSION TECHNOLOGY IN BIOFUEL PRODUCTION (NT)**

**FREE INDEPENDENT WORKERS WITH ACCESS TO FREE LAND (EO)**

**GOOD BUY BACK PRICE OF HARVEST (EE)**

**=> Novel Technologies (NT) – Equal Opportunities (EO) – Ensured Equity (EE) NEXUS**



# JATROPHA PLANTATION

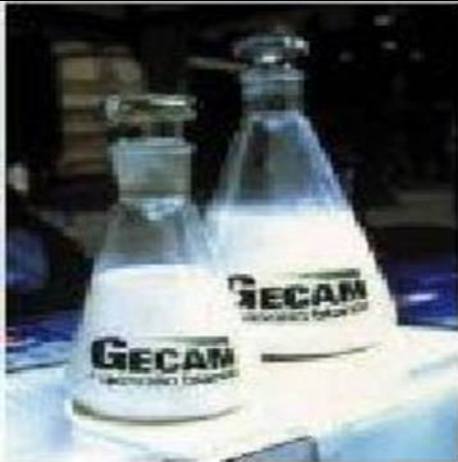
Bionas is intended to create sustainable income for the farmers by generating small enterprises. This will be achieved through:

1. For each of the 100 households involved in this business opportunity, permanent settlement in higher areas will be possible through the development of a complete agropolitan community.
2. The targeted population of farmers will be capacitated in the area of Jatropha plantation experiences and best practices that Bionas has accumulated through the years.
3. Each household will enjoy a sustainable annual income of about US\$5,480 (US\$4,900 from selling produced Jatropha seeds and US\$580 for total agricultural waste produced on 5 acres).
4. Establishing a biofuel production facility within the Jatropha plantations, the rural population targeted will also have access to modern clean fuel that they contribute in producing.
5. The targeted population will enjoy their new permanent stay in the agropolitan business cluster that will be gradually build within the plantations to include schools, hospital, recreation facilities, project housing, research institute together with other sources of income such as from vegetable growing, breeding of cattle, sheep, poultry and fish.





## BIONAS TECHNOLOGIES



Above: Other companies emulsified fuel.  
Left: Bionas Bio-fuel.

Many companies and organizations know the benefits of *Jatropha Curcas* but only few of them succeed in using it to produce biofuel.

Most of them had to face several obstacles that stopping the technology from develop while others had to depend on transesterification process before they can sell it to users.

Different story occurred to Bionas. Their technology breakthrough in 2007 and the applied of Nano-Emulsion and Polarization technology has become the key success to the company growth, which only requires the blending and storage facilities to mix bio-additives with fossil fuels with no further investments on refinery and infrastructures.

With this technology, Bionas managed to make minimum savings of US\$50 million on transesterification refinery and this saving is channelled back to the farmers by offering good price for their harvest.



# NANO-EMULSION TECHNOLOGY

Nano-emulsion technology is a chemical process of blending water, Bionas additive and fossil fuel which in-turn reacts and mix to form stable bonds with each other.

With the technology, water droplets suspended in the fuel thousand times smaller than traditional emulsions. This makes stable over time, temperature and pressure.

The exposed surface of a nano-emulsion facing other components such as oxygen and fuel is one million times larger than that of an emulsion.

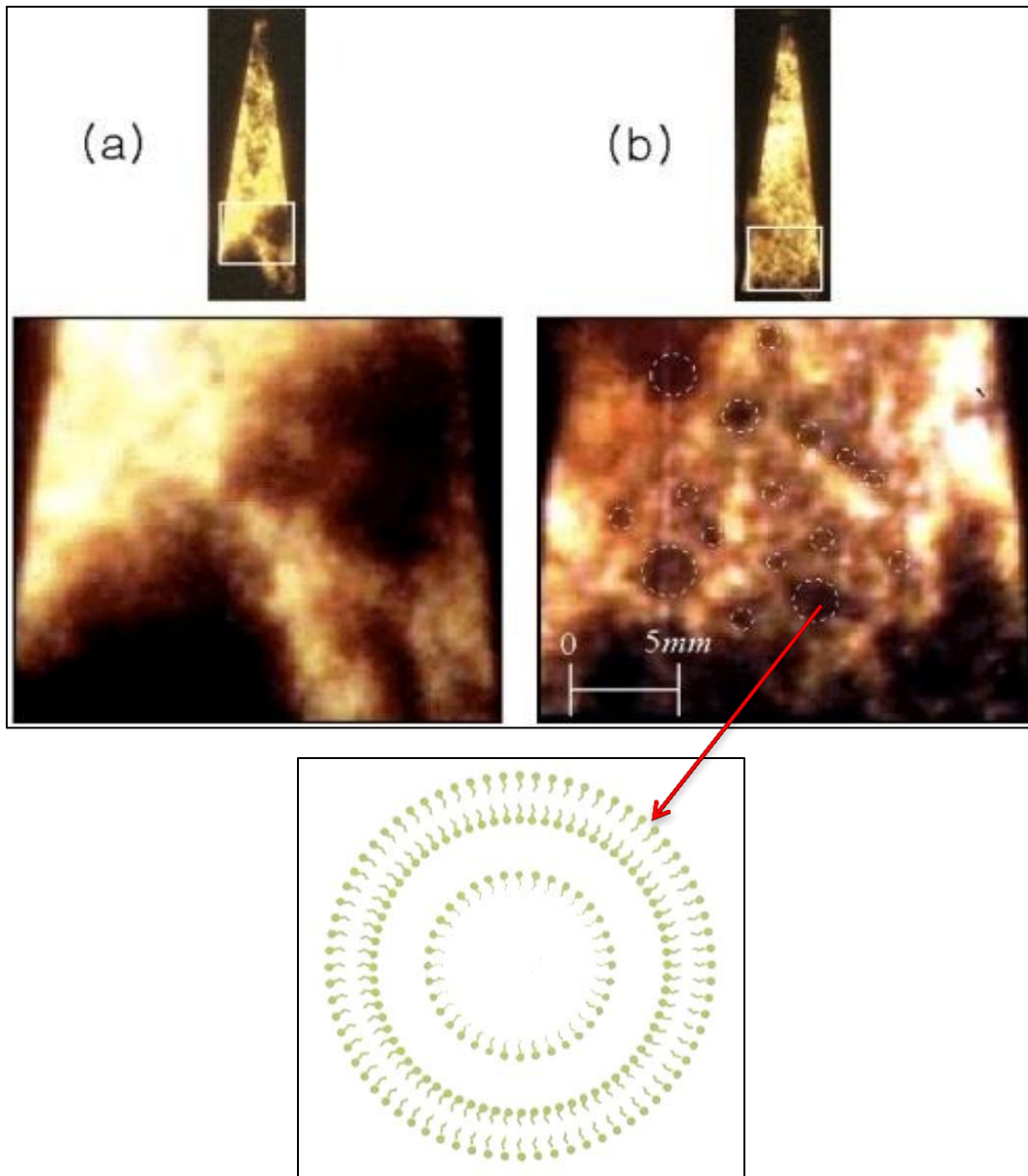
A nano-emulsion is stable so that the danger of entry of liquid water to the engine components is null and void.

Water in fuel/diesel/petrol yields the following effects:

1. Water vaporization increases fuel dispersion in the form of smaller droplets.
2. Contact surface between fuel and air is increased.
3. Combustion is more efficient.
4. The explosion of excess water into steam and the splitting of water into  $H_2$  and  $O_2$  will increase power and fuel economy.
5. Reduces combustion temperature peak.(lowers  $NO_x$ )
6. Particulate formation is reduced (lowers PM)
7. Lower emissions: Up to 25%  $NO_x$  reduction, up to 60% PM reduction, up to 95% smoke reduction, up to 97%  $CO_2$  reduction.
8. Better lubricity.
9. Increased thermal efficiency.

The emulsified diesel/fuel is the only emission-control fuel technology that simultaneously lowers both PM and  $NO_x$  with no free water.

# NANO EMULSION



Nano-emulsion Structure

Pictures above shows that how the engine works and the burning takes place.

Picture (a) shows incomplete combustion with the normal fuel

Picture (b) shows more complete combustion with the use of biofuel using Nano-Emulsion technology

# POLARIZATION TECHNOLOGY

Polarization Technology allows for alignment and displacement of positive and negative ions of elements and this is achieved under high pressure and highly magnetic environment.

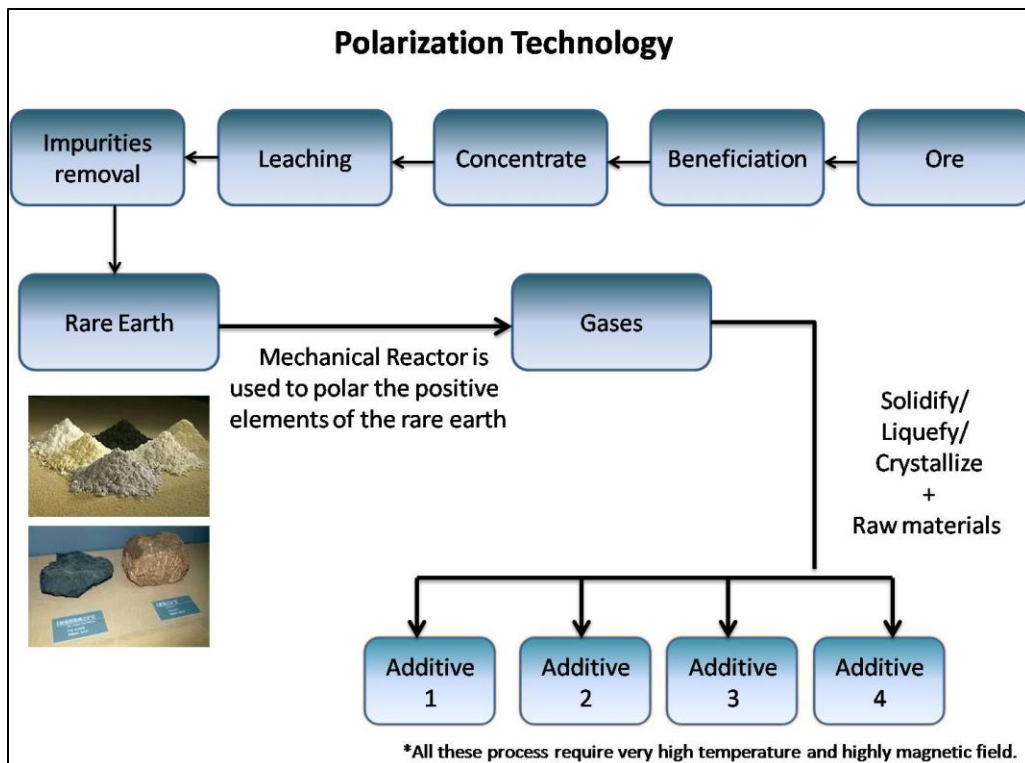
## HOW DOES POLARIZATION WORK?

If molecules do not consist of only atoms of the same kind, the distribution of charges around an atom in the molecules leans to positive or negative.

When molecular vibration induce relative displacements of the atoms, the centers of positive and negative charges might be in different locations. These center positions are affected by the symmetry of the displacements.

When the centers do not correspond, polarizations arise in molecules. This is achieved under high pressure and highly magnetic environment. This further allows for the elements to form stable bonds with each other.

This technological breakthrough enables the production of new types of additives that when it is blended with fossil fuels and other elements creates a stable mix of a 3<sup>rd</sup> generation renewable fuels.





# BIONAS PRODUCTS

1. B20 Bio Petrol (Nano-Emulsion Technology)
2. M30 Bio-Petrol (Polarization Technology)
3. Drop In Super Bio-Jet Fuel (Polarization Technology)
4. Bio Super Lube (Polarization Technology)
5. B25 Bio-Heavy Fuel (Nano-Emulsion & Polarization Technology)
6. B10-B30 Bio-Diesel (Nano-Emulsion & Polarization Technology)
7. BEES Bio Energy Emission Solution (Polarization Technology)
8. Bio-Booster Tablet (Polarization Technology)



**NANO-EMULSION & POLARIZATION TECHNOLOGY**

The way to sustainability




 <b>SUPER</b> BIO - DIESEL	 <b>M30</b> BIO - PETROL / GASOLINE	 <b>B25</b> BIO - HEAVY FUEL	 <b>TABLET</b> BIO - BOOSTER	 <b>BEES</b> BIO - ENERGY EMISSION SOLUTION	 <b>SUPER</b> BIO - JET FUEL	 <b>BIO</b> SUPERLUBE
<p>— Diesel based engines and heavy industrial machinery</p> <p>— Blending Ratio 99.5% Diesel 0.5% Bionas Additive</p> <p>— Advantages</p> <ul style="list-style-type: none"> <li>- Saves fuel up to 30%</li> <li>- Reduce Emission up to 85%</li> <li>- Increases engine performance</li> <li>- Increases engine acceleration</li> <li>- Less Maintenance</li> <li>- Environmental friendly</li> </ul>	<p>— Petrol / Gasoline based engines</p> <p>— Blending Ratio 70% Petrol / Gasoline 30% Bionas Additive</p> <p>— Advantages</p> <ul style="list-style-type: none"> <li>- Saves fuel up to 30%</li> <li>- Reduce Emission up to 97%</li> <li>- Increases engine performance</li> <li>- Increases engine acceleration</li> <li>- Less Maintenance</li> <li>- Environmental friendly</li> </ul>	<p>— Shipping &amp; Heavy Industry</p> <p>— Blending Ratio 75% Heavy Fuel Oil and 25% Bionas Additive</p> <p>— Advantages</p> <ul style="list-style-type: none"> <li>- Saves fuel up to 25%</li> <li>- Reduce Emission up to 95%</li> <li>- Increases engine performance</li> <li>- Less Vibration</li> <li>- Increases engine power</li> <li>- Less Maintenance</li> <li>- Environmental friendly</li> </ul>	<p>— Petrol / Gasoline &amp; Diesel based engines</p> <p>— Blending Ratio 1 Tablet per 50 liters of diesel or petrol / gasoline</p> <p>— Drop in Technology Latest technology of Polarization</p> <p>— Advantages</p> <ul style="list-style-type: none"> <li>- Saves fuel up to 30%</li> <li>- Reduce Emission up to 95%</li> <li>- Increases engine performance</li> <li>- Increases engine acceleration</li> <li>- Less Maintenance</li> <li>- Environmental friendly</li> </ul>	<p>— Coal Enhancer</p> <p>— Blending Ratio Add 1 liter of BEES into 1000 liters of water Then spray it on top of the combustion air intake to vaporize BEES</p> <p>— Advantages</p> <ul style="list-style-type: none"> <li>- Coal savings rate between 20% - 25%</li> <li>- Suitable for different kinds of coals and boilers</li> <li>- Reduces smog, sulphur dioxide and poisonous material up to 50%</li> <li>- Increases burner wall temperature by 100 - 200 degree</li> <li>- Reduction in NO<sub>x</sub> &amp; SO<sub>x</sub> emission by 20% - 50%</li> <li>- Less Maintenance</li> <li>- Environmental friendly</li> </ul>	<p>— Aviation Industry</p> <p>— Blending Ratio 99% Jet A1 Fuel 1% Bionas Additive</p> <p>— Drop in Technology Latest technology of Polarization</p> <p>— Advantages</p> <ul style="list-style-type: none"> <li>- Saves fuel up to 22%</li> <li>- Reduce Emission up to 85%</li> <li>- Increases engine performance</li> <li>- 75% lower vibration</li> <li>- 12 degree lower engine oil temperature</li> <li>- Environmental friendly</li> </ul>	<p>— Engine oil for engine / machinery</p> <p>— Blending Ratio 95% Lubricant / Engine Oil 5% Bionas Additive</p> <p>— Advantages</p> <ul style="list-style-type: none"> <li>- Increases engine performance by 20,000 Km</li> <li>- Extra engine power</li> <li>- Smoother and quieter drive proven with decibel meter</li> <li>- Reduce friction and therefore lower parts maintenance</li> <li>- Environmental friendly</li> </ul>

[www.bionas-usa.com.my](http://www.bionas-usa.com.my)
[www.bionas.com.my](http://www.bionas.com.my)

For more information  
zurina@bionas.com.my (CEO)







# BIONAS PRODUCTS REGISTRATION, CERTIFICATION & TEST REPORTS

The Company's products registration with U.S. Environmental  
Protection Agency (EPA).



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JAN 29 2013

Bio Oil National Corporation  
Ms. Zurina Amnan  
Group Chief Executive Officer  
1525 Long Beach Blvd.  
Long Beach, CA 90813

OFFICE OF  
AIR AND RADIATION

Dear Ms. Amnan:

Pursuant to your September 6, 2012 notifications, the following fuel additives have been registered per 40 CFR 79.23 (our internal identification number precedes the name):

267620001	Additive M30 Petrol
267620002	Additive B10 - B30 Bio-Diesel
267620003	Bio-Booster Tablet
267620004	Bio-Booster Liquid

Note that per 40 CFR 79.21(f) you would be required to notify us in writing if certain information in your notification were to change. In addition, note, that with your notification, you have provided assurances that you will not represent, directly or indirectly, in any notice, circular, letter, or other written communication, or any written, oral or pictorial notice or other announcement in any publication or by radio or television, that registration constitutes endorsement, certification, or approval by any agency of the United States.

Please call (202) 343-9648 if you have any questions.

Sincerely,

Byron J. Bunker  
Director  
Compliance Division

Internet Address (URL) • <http://www.epa.gov>

Recycled/Recyclable • Printed with Vegetable Oil Based Inks on 100% Postconsumer, Process Chlorine Free Recycled Paper



Certificate of Fuel Additive Registration from Department of Energy,  
Ministry of Energy, Philippines to Bionas Philippines Corporation



REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF ENERGY

### ***Certificate of Fuel Additive Registration***

This is to certify that the Department of Energy has duly registered **B30 & M30**, a Diesel/Gasoline Fuel Additive to **BIONAS PHILIPPINES CORPORATION** as Trader of said additive in accordance with the provisions of Section 27, Chapter 3 of R. A. 8749 otherwise known as "The Philippine Clean Air Act of 1999".

This Registration can be revoked anytime for non-compliance with the Department's reportorial requirements and failure to adhere with other conditions prescribed by the Department.

Issued this 31<sup>st</sup> day of October 20 13, at the Department of Energy,  
Energy Center, Fort Bonifacio, Taguig City, Metro Manila.

  
**CARLOS JERICO L. PETILLA**  
*Secretary*

**Control No. : CFAR 13-08-206/FCF-T**





Permanent Registration for M30 Bio-Petrol and B30 Bio-Diesel issued  
by the Ministry of Energy, Philippines for  
Bionas Philippines Corporation



Republic of the Philippines  
**DEPARTMENT OF ENERGY**

Dr. Sharif Adzhar H. Sarahadil  
Chairman & CEO  
Bionas Philippines Corporation  
Bgy. East Poblacion, Salug  
Zamboanga del Norte

Dear Dr. Sarahadil:

This refers to your application for registration of B30 & M30 fuel additive which you intend to market to your clients.

In view of the substantial compliance and merits of your application, and without prejudice to other requirements of the Department of Energy pursuant to the provisions of Section 27, Chapter 3 of R. A. 8749 (*The Philippine Clean Air Act of 1999*), **B30 & M30** fuel additive is hereby granted Permanent Registration under your company name with **CFAR No. 13-08-206/FCF-T** effective from the date of issuance indicated herein.

This Permanent Registration is subject to your compliance of the following conditions:

- 1) Consistency with the guaranteed performance of the product;
- 2) B30 & M30 should only be used as an additive and not for any other purposes; and,
- 3) Submission of and full compliance with the quarterly reportorial requirements (Schedule VII-A).

Non-compliance to any of the above conditions shall automatically result to the revocation of said Permanent Registration.

This registration should not in any way be construed as an endorsement of the product nor be used for advertisement and commercial purposes.

Very truly yours,

**CARLOS JERICO L. PETILLA**  
Secretary



Republic of the Philippines  
DEPARTMENT OF ENERGY

IN REPLYING PLS CITE:

SOE-JLP-13006034







## Test result by PUSPAKOM (Malaysian Government Vehicle Inspection Agency) with 94% Emission Reduction.

**LAPORAN PEMERIKSAAN KENDERAAN**

NO. KEPUTUSAN: A 259768

NO. 3 JLN. GICEND HULU 28/33  
HICOM IND. EST SECTOR C 48488 S. ALAM SELANGOR

NO. PENDAFTARAN	BUN9428	NO. CASIS TRELER	
NO. ENJINMOTOR #	FD45-831811	BUATAN	KOSAN
NO. CASIS #	PHD418967851813	MODEL	H418
NO. TRELER		TAKAN DIPERBUAT	2887
STATUS PEMUNYA	SVAROKAT	KADAR LAM (PM)	0.88
KELUPAIAN ENJINMOTOR 6517		TARIKH PEMERIKSAAN AKHIR	
BAHAN BAKAR	DIESEL KJLJW	KOD PUSAT AKHIR	
KATEGORI KENDERAAN	PERKHIDMATAN AWAM-BAS PEKERJA	TARIKH PEMERIKSAAN	03-JAN-2014 DATE
JENIS BAHAN	BAS	JENIS PEMERIKSAAN	BERKALA
TARIKH PENDAFTARAN		KOD PUSAT	854 PUSPAKOM SHAH ALAM
BERAT TANPA MUATAN	5580	KOD PEMERIKSA	2721, 2721, 2721
BERAT DENGAN MUATAN	7580	SUL 71	
WARUK	PUTIH	MUKATAN TEMPAT DUDUK	29
ODOMETER	215628	ABSLSPV	Tidak

**LAPORAN PEMERIKSAAN KENDERAAN**

NO. KEPUTUSAN: A 259815

NO. 3 JLN. GICEND HULU 28/33  
HICOM IND. EST SECTOR C 48488 S. ALAM SELANGOR

NO. PENDAFTARAN	BUN9428	NO. CASIS TRELER	
NO. ENJINMOTOR #	FD45-831811	BUATAN	KOSAN
NO. CASIS #	PHD418967851813	MODEL	H418
NO. TRELER		TAKAN DIPERBUAT	2887
STATUS PEMUNYA	SVAROKAT	KADAR LAM (PM)	0.88
KELUPAIAN ENJINMOTOR 6517		TARIKH PEMERIKSAAN AKHIR	
BAHAN BAKAR	DIESEL KJLJW	KOD PUSAT AKHIR	
KATEGORI KENDERAAN	PERKHIDMATAN AWAM-BAS PEKERJA	TARIKH PEMERIKSAAN	04-JAN-2014 DATE
JENIS BAHAN	BAS	JENIS PEMERIKSAAN	BERKALA BERKALA
TARIKH PENDAFTARAN		KOD PUSAT	854 PUSPAKOM SHAH ALAM
BERAT TANPA MUATAN	5580	KOD PEMERIKSA	1283
BERAT DENGAN MUATAN	7580	SUL 71	
WARUK	PUTIH	MUKATAN TEMPAT DUDUK	29
ODOMETER	215628	ABSLSPV	Tidak

### BEFORE USING BIO-BOOSTER TABLETS

Berkuatkuasa 1 Julai 2014, "Brake Inhibitor" untuk gandar belakang akan diaktifkan sebagai lisa atau gagal.  
Silu pastikan trak gandar belakang terkendali dan disenggara dengan baik sebelum ujian berlaku.

KETUA LORONG: 1941

KENDERAAN				TRELER			
BAHAGIAN ATAS	DELICOR SBI (A) #	BREK #	L R I P	BAHAGIAN ATAS	BREK #	BAHAGIAN BAWAH	
L	L : 1.7 x/ha	L	50 58 18 A2 45 57 21 -- A3 -- -- -- --				
METER LAJU	ANAS BUNYI	ASAP #	X 78 #	METER TEKSI	PENCINOR UGAMA	NOVILFO	
SUSPENSI	L R A1 -- -- A2 -- --	LAMPU PUNCAK	BAHAGIAN BAWAH				

PEMERIKSAAN BERKALA DOKUMEN  
SEBELUM ATAU PADA 02-FEB-2014

PETUNJUK  
# : Ujian trak diaktifkan mengikut SBI  
NO. BUKET: 1700-198 MAMPA No. 006  
A1: Gandar 1, A2: Gandar 2, A3: Gandar 3, A4: Gandar 4  
L: LK, R: Kanan, I: Inhibitor, P: Brake Tangan

\*\* PUSPA /03-JAN-2014 /15:38:38 /508182/105/LRO BERAT 4/LRO BERAT 5/258768/1148855894 \*\*\*\*\*

PERHATIAN UNTUK PEMILIK  
TARIKH PEMERIKSAAN SBI BERKALA

### AFTER USING BIO-BOOSTER TABLETS

Berkuatkuasa 1 Julai 2014, "Brake Inhibitor" untuk gandar belakang akan diaktifkan sebagai lisa atau gagal.  
Silu pastikan trak gandar belakang terkendali dan disenggara dengan baik sebelum ujian berlaku.

KETUA LORONG: 1339

KENDERAAN				TRELER			
BAHAGIAN ATAS	DELICOR SBI (A) #	BREK #	L R I P	BAHAGIAN ATAS	BREK #	BAHAGIAN BAWAH	
L	L : 1.7 x/ha	L	50 58 18 A2 45 57 21 -- A3 -- -- -- --				
METER LAJU	ANAS BUNYI	ASAP #	L 4 #	METER TEKSI	PENCINOR UGAMA	NOVILFO	
SUSPENSI	L R A1 -- -- A2 -- --	LAMPU PUNCAK	BAHAGIAN BAWAH				

PEMERIKSAAN BERKALA DOKUMEN  
SEBELUM ATAU PADA 02-FEB-2014

PETUNJUK  
# : Ujian trak diaktifkan mengikut SBI  
NO. BUKET: 1700-198 MAMPA No. 006  
A1: Gandar 1, A2: Gandar 2, A3: Gandar 3, A4: Gandar 4  
L: LK, R: Kanan, I: Inhibitor, P: Brake Tangan

\*\* PUSPA /04-JAN-2014 /18:38:13 /508551/34/LRO BERAT 4/LRO BERAT 4/259815/11488551367 \*\*\*\*\*

PERHATIAN UNTUK PEMILIK  
TARIKH PEMERIKSAAN SBI BERKALA



Product: Bionas Bio-Booster Tablet  
Emission Test on Commercial Bus

Before: 70%  
After : 4%



Test result in the Philippines with **ZERO EMISSION**, using Bionas M30 Bio-Petrol.

### PERFORMANCE TESTING OF BIOFUEL BIONAS PRODUCTS

#### TESTIMONIAL FORM

Product's Name : M30 BIO PETROL  
 Date : January 29, 2014  
 Driver's Name : Jessie M. Ticon  
 Vehicle ID : 0287  
 Model : Barako Kawasaki  
 Type of Engine : Motor - Kawasaki  
 Testimonial Ref: Number : test bionas 01/30/2014

#### OBSERVATION DATA:

NO.	PARAMETERS	INITIAL	AFTER	REMARKS
1	MILEAGE(KM)			
2	FUEL QUANTITY (L)	3 liters		
3	EMISSIONS (observation)	0.20	0.00	100% Emission Reduction

Before  
 20;2/01/24 21:28  
 HC PPm 3164  
 CO % 0.20  
 CO<sub>2</sub> % 7.0  
 O<sub>2</sub> % 11.2  
 NO PPm 1  
 λ 1.64  
 RPM 0  
 T oil 37.1

\*\*\*\*\*  
 20;2/01/24 21:28  
 HC PPm 3164  
 CO % 0.20  
 CO<sub>2</sub> % 7.0  
 O<sub>2</sub> % 11.2  
 NO PPm 1  
 λ 1.64  
 RPM 0  
 T oil 37.1  
 \*\*\*\*\*

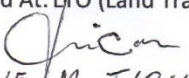
After  
 20;2/01/24 23:12  
 HC PPm 42  
 CO % 0.00  
 CO<sub>2</sub> % 0.0  
 O<sub>2</sub> % 20.7  
 NO PPm 0  
 λ 0.00  
 RPM 0  
 T oil 36.1

\*\*\*\*\*  
 20;2/01/24 23:12  
 HC PPm 42  
 CO % 0.00  
 CO<sub>2</sub> % 0.0  
 O<sub>2</sub> % 20.7  
 NO PPm 0  
 λ 0.00  
 RPM 0  
 T oil 36.1  
 \*\*\*\*\*

#### COMMENTS:

I am Jessie M. Ticon a tricycle driver. The product of the BIONAS Company is the best. 100% zero (0) carbon result from the emission test. Thank you so much to the BIONAS Company.

Conducted At: LTO (Land Transportation Office), Tagbilaran City, Bohol, Philippines

  
 JESSIE M. TICON  
 Signature over Printed Name





## Certificate of Analysis on Bionas Bio-Booster Tablet



### NANOC SDN BHD (659613-D)

No. 78 Jalan Nova U5/N, Seksyen U5, Subang Bestari,  
40150 Shah Alam, Selangor, MALAYSIA  
Tel No : +603-7832 2011 Fax No : +603-7832 2311  
Email: our.contact@nanoc.com.my



### CERTIFICATE OF ANALYSIS

**Our Reference** : NC/14/O&G/PET/TRI/325/B1(1-2)  
**Page** : 1 of 2  
**Customer Address** : BATC DEVELOPMENT BHD  
 60-1, Jalan Usahawan 7  
 Wangsa Biz Avenue  
 Setapak, 53300 Kuala Lumpur  
**Tel No.** : 03-4142 2218  
**Fax No.** : 03-4142 2208  
**Attention To** : Ms. Azlina  
**Sample Description** : 1 Oil Samples  
**Sampling Date** : 29/05/2014  
**Sample Marking** : Oil  
**Laboratory ID** : NC/14/O&G/PET/TRI/325/B1(2)  
**Date Received** : 29/05/2014  
**Date Completed** : 27/06/2014

Sample 2 : Bionas Bio-Booster Tablet in Petrol Ron 95

No.	Test	Method	Units	Results	Quality Specification
				Sample 2 : Bionas Bio-Booster Tablet in Petrol Ron 95	Min/Max Limit
1	#Copper Corrosion	ASTM D 130	-	1a	N/A
3	#Sulphur	In House by XRF Method	wt %	ND (< 0.01)	N/A
4	#Lead, Pb	ASTM D5185	ppm	4.04	N/A
5	#Flash Point	ASTM D93	°C	38	N/A
6	#Density @ 15°C	In House by Gravimetric Method	g/ml	0.7652	N/A
7	#Pour Point	ASTM D97	°C	-27	N/A

**Remark: -**

ASTM : American Society For Testing and Materials

#Test Method :Not accredited

Approved by

Name: Junaitun Alfahrahim Jaafar  
 Department : Laboratory  
 Date: 27 June 2014

The above analysis is based solely on the sample submitted by customer.  
 The certificate shall not be reproduced except in full without the written approval of the laboratory.

End of Report



## Certificate of Analysis on Bionas SuperLube Additive



### NANOC SDN BHD (659613-D)

No. 78 Jalan Nova U5/N, Seksyen U5, Subang Bestari,  
40150 Shah Alam, Selangor, MALAYSIA  
Tel No : +603-7832 2011 Fax No : +603-7832 2311  
Email: our.contact@nanoc.com.my



MS ISO/IEC 17025  
TESTING  
SAMM NO. 413

### CERTIFICATE OF ANALYSIS

**Our Reference** : NC/14/O&G/PET/TRI/325/B1(1-2)  
**Page** : 1 of 2  
**Customer Address** : BATC DEVELOPMENT BHD  
 60-1, Jalan Usahawan 7  
 Wangsa Biz Avenue  
 Setapak, 53300 Kuala Lumpur  
**Tel No.** : 03-4142 2218  
**Fax No.** : 03-4142 2208  
**Attention To** : Ms. Azlina  
**Sample Description** : 1 Oil Samples  
**Sampling Date** : 29/05/2014  
**Sample Marking** : Oil  
**Laboratory ID** : NC/14/O&G/PET/TRI/325/B1(1)  
**Date Received** : 29/05/2014  
**Date Completed** : 27/06/2014

Sample 1 : Bionas Superlube Additive

No.	Test	Method	Units	Results	Quality Specification
				Sample 1 : Bionas Superlube Additive	Min/Max Limit
1	#Copper Corrosion	ASTM D 130	-	1a	N/A
2	#Rust Test:	ASTM D 665	PASS/FAIL		
	Distilled Water			PASS	N/A
	Sea Water			PASS	N/A
3	#Kinematic Viscosity @ 40°C	ASTM D445	cSt	84.56	N/A
4	#Kinematic Viscosity @ 100°C	ASTM D445	cSt	8.75	N/A
5	#Viscosity Index	ASTM D2270	-	72.00	N/A
6	#Total Acid Number	ASTM D664	mgKOH/g	0.66	N/A
7	#Total Base Number	ASTM D2896	mgKOH/g	3.21	N/A

**Remark: -**

ASTM : American Society For Testing and Materials

#Test Method : Not accredited

Approved by

Name: Junaitun Alfarahim Jaafar  
 Department : Laboratory  
 Date: 27 June 2014

The above analysis is based solely on the sample submitted by customer.

The certificate shall not be reproduced except in full without the written approval of the laboratory.

----- Continue -----

Tests conducted by Lloyd Aereo Boliviano S.A., Bolivia on Bionas Bio-Jet Fuel with 22% savings on fuel consumption.



**Test on Boeing 727-200**

22% savings on fuel consumption

75% lower vibration

85% emission reduction

12 °C lower engine oil temperature




**LLOYD AEREO BOLIVIANO S.A.**

GGCBB/0009/SI00/14

**PRUEBAS REALIZADAS PARA LA EMPRESA "BIONAS"**

CB 21-05-2014-hr 14,00-CBB-  
 Banco de Prueba de corrida de Motores  
 Prueba motor Aeronave 727-100  
 Motor P&W JT8D-9A  
 Serial Number 654908  
 Prueba 1 Fuel JP1 Normal

Temp. 26 °C.....	P/P 1,79
IDLE.....	
N1.....32.....	87
EGT.....370.....	460
N2.....56.....	91,5
F/F.....800.....	5100
Oil Temp.....99.....	72
Oil Press ....46.....	48


CB 21-05-2014-hr 15,00-CBB-  
 Banco de Prueba de corrida de Motores  
 Prueba motor Aeronave 727-100  
 Motor P&W JT8D-9A  
 Serial Number 654908  
 Prueba 2 Fuel JP1 con aditivo BIONAS jet fuel

Temp. 26 °C.....	P/P 1,79
IDLE.....	
N1.....32,5.....	88
EGT.....368.....	451
N2.....56.....	92
F/F.....800.....	5000
Oil Temp.....99.....	60
Oil Press ....46.....	48

**Nota.-** Solo se corrió el motor en Prueba de IDLE y Potencia Parcial.

**Personas Responsables:**

Tec. Freddy Mendoza Argote  
 Jefe Dpto. Mantenimiento

  
 Tec. Osvaldo Muñoz Valdivia  
 Jefe División Motores

Cochabamba, 21 de mayo del 2014

DIRECTORIO EJECUTIVO  
 GERENCIA GENERAL

Av. Guillermo Kyllmann # O-1691  
 Casilla 132  
 SITA: CBBGGLB  
 Telfs.: (591) (4) 425-1270/425-0736  
 Fax: (591) (4) 425-0766  
 Cochabamba - Bolivia

cc: MM, GG, MO, File, Cron

82609992







Tests conducted by Makassar State University, Makassar, Indonesia  
on Bionas Bio-Booster Tablet with 20-30% savings on fuel  
consumption.

**UNIVERSITAS NEGERI MAKASSAR**  
**TEST REPORT FOR BIONAS TABLET**

Specification	1		2		3		4	
Additive Product	Bionas Tablet		Bionas Tablet		Bionas Tablet		Bionas Tablet	
Inspection Date	1/20/2015		1/31/2015		2/7/2015		2/24/2015	
Type of Engine	Diesel Engine		Diesel Engine		Gasoline Engine		Gasoline Engine	
Engine Capacity	2800 CC		2500 CC		1500 CC		1500 CC	
Type of Pump	Injection pump inline		-		-		-	
Type of Governor	Governor Vacuum		-		-		-	
Fuel System	-		Common rial		Carburetor		Electronic Fuel Injection (EFI)	
Condition	car work without extra load		Long Distance Drive		car work without extra load		car work without extra load	
Inspection Items	Solar	Solar +	Solar	Solar +	Premium	Premium +	Premium	Premium +
	(Diesel Fuel)	Bionas Tablet	(Diesel Fuel)	Bionas Tablet	(Gasoline Fuel)	Bionas Tablet	(Gasoline Fuel)	Bionas Tablet
Fuel Consumption	194 km= 14 L	194 km=14 L		Saving 20 -30%		Same without Bionas Tablet		Saving 20 -30%
Power	-	+	-	+	-	+	-	+
Acceleration	-	+	-	+	-	+	-	+
Emission/Smoke	50%	18 - 37%	+	-	+	-	+	-
Engine Sound	+	-	+	-	+	-	+	-

Note:

**A. Inspection result rest**

- = Decline
- + = Increase

**B. Conclusion**

1. For diesel engine fuel consumption efficiency, it needs a treatment in the injection pump (manual)
2. For fuel system with carburetor, fuel consumption is the same without using bionas tablet.



Makassar, 31<sup>st</sup> March 2015  
Head of Performance Test

Haruna HL.  
Expert of Automotive Engineering





Tests conducted by Makassar State University, Makassar, Indonesia on Bionas Super Bio-Diesel 20-30% savings on fuel consumption.

**UNIVERSITAS NEGERI MAKASSAR  
TEST REPORT FOR BIONAS SUPER BIODIESEL ADDITIVE**

Specification	1		2	
Additive Product	Super Bio Diesel		Super Bio Diesel	
Inspection Date	2/13/2015		2/15/2015	
Type of Engine	Diesel Engine		Diesel Engine/Heavy Duty	
Engine Capacity	2800 CC		4000 CC	
Type of Pump	Injection pump inline		Injection pump inline	
Type of Governor	Governor Vacuum		Industrial	
Fuel System	-		-	
Condition	car work with load (Climbing)		Constant	
Inspection Items	Solar (Diesel Fuel)	Solar + Super Bio Diesel	Solar (Diesel Fuel)	Solar + Super Bio Diesel
Fuel Consumption	150 km= 14 L	150 km=10 L	17L/hour	14L/hour
Power	-	+	-	Same without Super Bio Diesel
Acceleration	-	+	-	+
Emission/Smoke	+	-	+	-
Engine Sound	+	-	+	-

Note:

**A. Inspection result rest**

- = Decline
- + = Increase

**B. Conclusions**

1. For diesel engine/heavy equipment, fuel consumption is more efficient, but the power of engine is the same without using super bio diesel additive

Makassar, 3<sup>rd</sup> March 2015

Head of Performance Test,

Haruna HL.

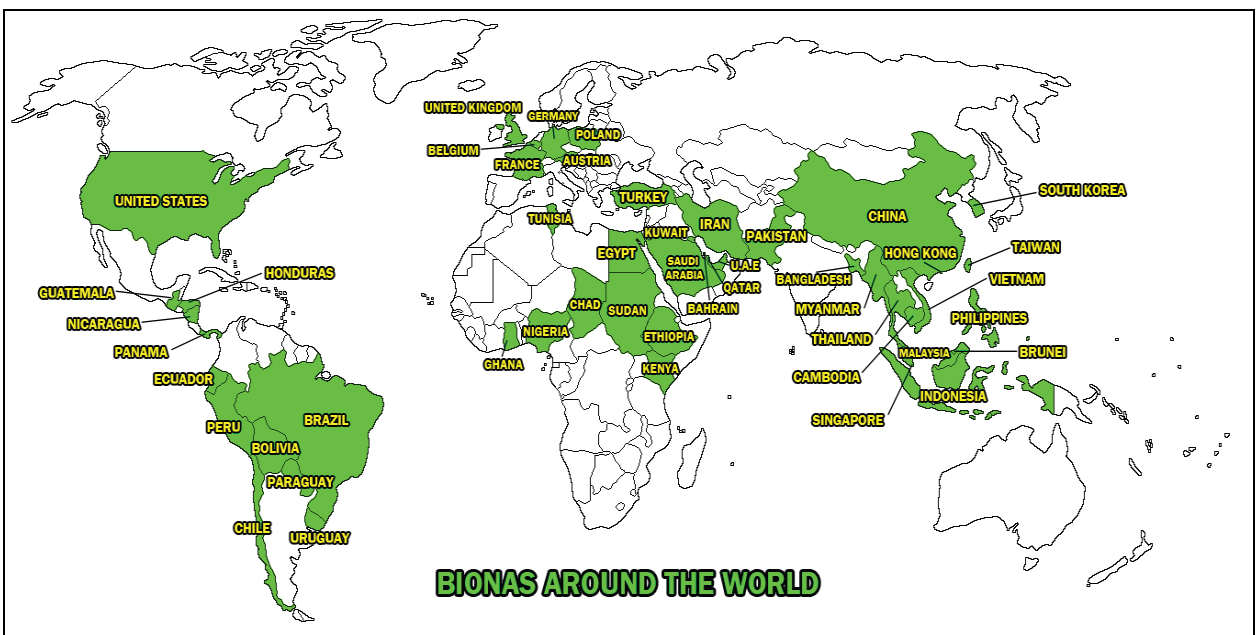
Expert of Automotive Engineering



## BIONAS ACTIVITIES 2014 - 2015

Starting with Malaysia 7 years ago, Bionas biofuel products today are sold in more than 40 countries around the world. The latest products registration with the U.S. Environment Protection Agency (EPA) has also led to Bionas opening an operations office in the United States and sales are currently in 5 different U.S. States.

- |                |                 |                  |                   |              |
|----------------|-----------------|------------------|-------------------|--------------|
| 1. Malaysia    | 10. Hong Kong   | 19. Saudi Arabia | 28. Austria       | 37. Panama   |
| 2. Indonesia   | 11. Taiwan      | 20. Qatar        | 29. Germany       | 38. Paraguay |
| 3. Philippines | 12. China       | 21. Kuwait       | 30. France        | 39. Uruguay  |
| 4. Thailand    | 13. South Korea | 22. Bahrain      | 31. Poland        | 40. Bolivia  |
| 5. Myanmar     | 14. Pakistan    | 23. UAE          | 32. United States | 41. Sudan    |
| 6. Vietnam     | 15. Bangladesh  | 24. U.K          | 33. Chile         | 42. Tunisia  |
| 7. Cambodia    | 16. Egypt       | 25. Belgium      | 34. Peru          | 43. Kenya    |
| 8. Singapore   | 17. Turkey      | 26. Switzerland  | 35. Ecuador       | 44. Nigeria  |
| 9. Brunei      | 18. Iran        | 27. Canada       | 36. Brazil        | 45. Ghana    |





# BIONAS ACTIVITIES

0038



**Kuala Lumpur, 26 January 2014** - The Launching of Bionas products was held at the Putra World Trade Centre (PWTC), Kula Lumpur, attended by The High Officials from The State Government and Agencies, Corporate and Private Sectors from Malaysia, Indonesia, Thailand, Vietnam, Cambodia and Taiwan. More than 500 guests also witnessed the launching of Book titled "Roadmap to World Go Green - The Experiential Learning of Bionas".

# BIONAS ACTIVITIES



**Kuala Lumpur, 28 January 2014** - The Signing of Memorandum of Agreement for the setting up of BIONAS-USIM Industrial Centre for Excellence was held at the University Sains Islam Malaysia (USIM). The centre is a technology training center with necessary facilities and equipment through which Bionas can transfer its Nano-Emulsion and polarization technology to produce 200,000 expertises to be stationed in many countries. Performance and Emission Tests were conducted by PUSPAKOM during this event with very positive results of up to 87% emission reduction and more engine power.



# BIONAS ACTIVITIES



**Bohol, Philippines 30 January 2014** - Launching of Bionas 1st Gas Station in the Philippines attended by the transport groups and the investors. The gas station will supply B30 Bio-Diesel and M30 Bio-Petrol to jeepneys, buses and taxis.



# BIONAS ACTIVITIES

0041



**Bohol, Philippines 31 January 2014** - Visit to Bionas Jatropha Seeds Buying Stations and Jatropha Plantations in Bohol.



# BIONAS ACTIVITIES



**Bohol, Philippines 31 January 2014** - Launching of Bionas Biofuel Program and Celebrating Bionas Jatropa Farmers Day in Bohol attended by the Mayor, Congressman's representative and more than 500 farmers.



# BIONAS ACTIVITIES



**Rizal Province, Philippines 1 February 2014** - Launching of Bionas 2nd Gas Station in the Philippines. The Gas Station will supply B30 Bio-Diesel and M30 Bio-Petrol to jeepneys, buses and taxis.

# BIONAS ACTIVITIES

0044



**Quezon City, Philippines 1 February 2014** - Launching of Bionas 3rd Gas Station in the Philippines. The Gas Station will supply B30 Bio-Diesel and M30 Bio-Petrol to jeepneys, buses and taxis.



# BIONAS ACTIVITIES

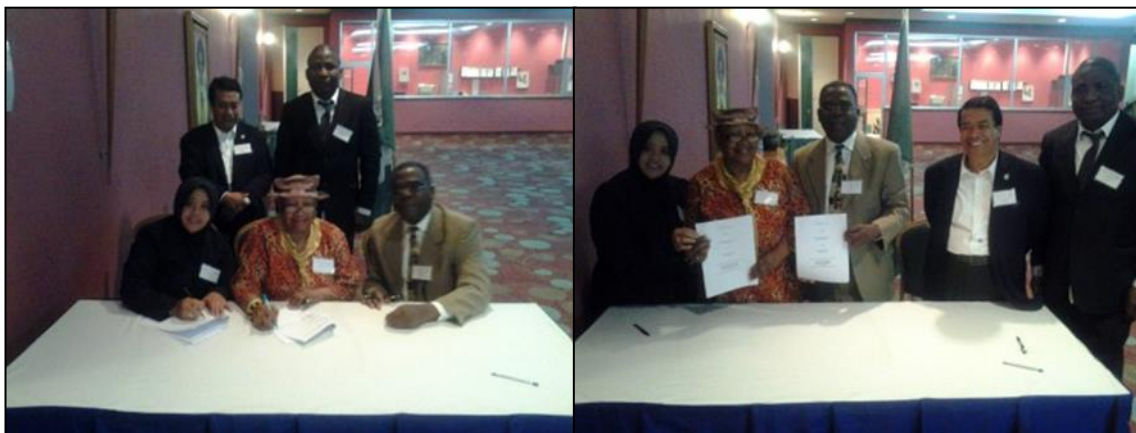
0045



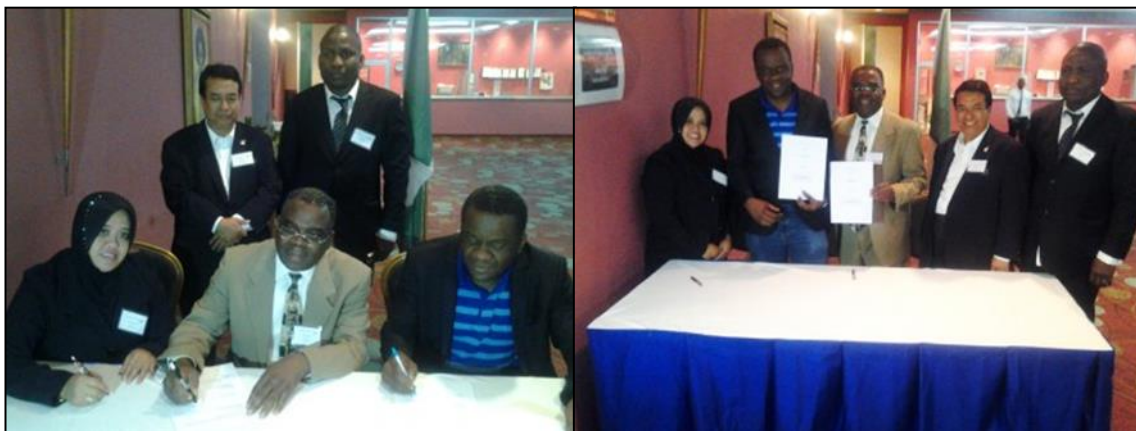
**Manila, Philippines 3 February 2014** - Meeting with Mr. Alfredo E. Pascual, President of the University of the Philippines together with the Chancellor of Los Banos Campus and its Director for the setting up of the Centre of Excellence for the Nano-Emulsion and Polarization technology.

# BIONAS ACTIVITIES

0046



**Abuja, 14 February 2014** - Signing of Joint Venture Agreement for Jatropha Plantation and Biofuel Production Program in Ghana.



**Abuja, 14 February 2014** - Signing of Joint Venture Agreement for Biofuel and Additive processing, blending, storage, marketing and distribution in Canada.

# BIONAS ACTIVITIES

0047



**Abuja, 14 February 2014** - Signing of Joint Venture Agreement for Biofuel and Additive processing, blending, storage, marketing and distribution in Dubai, UAE.



**Abuja, 14 February 2014** - Signing of Joint Venture Agreement for Biofuel and Additive processing, blending, storage, marketing and distribution in United Kingdom, France and Germany.



# BIONAS ACTIVITIES



**Abuja, 13-14 February 2014** - 2-Day Seminar on Jatropha Plantation and Biofuel Production Program attended by 100 participants from the government and private sectors representing 15 states in Nigeria as well as the representatives from other countries namely Ghana, Canada, U.K, France, Germany and U.A.E.



# BIONAS ACTIVITIES

0049



**Yangon, 22-23 February 2014** - A Joint Venture Agreement Signing Ceremony of Jatropha Plantation and Biofuel Production Program in Myanmar, witnessed by H.E Nyan Htun Aung, Union Minister, Ministry of Transport, Myanmar. Prior to the signing, a 2-day seminar and a number of live tests on vehicles using Bionas products was held at Parkroyal Hotel, Yangon.

# BIONAS ACTIVITIES

0050



**Kuala Lumpur, 27 February 2014** - Launching of the Green and Clean Energy products in conjunction with the Signing of the Agreement for the incorporation of 'Bionas Malaysia' between Bio Oil National Corporation, USA, and Malaysian Government Company, Pengeraja Management Sdn Bhd. Bionas Malaysia will provide solution to the Government in the issues of oil subsidy and oil price hike.



# BIONAS ACTIVITIES



**Zamboanga City, Philippines, 15 March 2014** - Bionas Go Green Mobile Filling Stations was launched in Zamboanga City. The operation of which Bionas lorries deliver to the 2,000L to 10,000L tanks established in the mining and milling sites as well trucking and transport group terminals. During this occasion, Bionas Philippines has signed three Agreements with CDO Transport Workers Organization to implement distribution for public utility vehicles in Cagayan de Oro City, the Midland Operators and Drivers Transport Organization which supplies to various industries, plants, trucking services and other clients in Mindanao and the ADC ACE Gas Company, an independent fuel distributor in the Philippines.

# BIONAS ACTIVITIES

0052



**Lima, Peru, 18 March 2014** - Meeting with Peruvian Airlines and turbine engine tests conducted on Bionas Super Bio-Jetfuel with good results of 18% savings on oil consumption with no difference in temperature (freeze point).



# BIONAS ACTIVITIES

0053



**Valparaiso, Chile, 19 March 2014** - Presentation at the University of Playa Ancha Valparaiso, Chile, followed by a meeting for the setting up of the 'Centre of Excellence' on Bionas Nano-Emulsion and Polarization technology to cater the countries in Latin America.

# BIONAS ACTIVITIES

0054



**Valparaiso, Chile, 19 March 2014** - Meeting with the Rear Admiral Cristian Ramos Perez, Chilean Navy. He is also the Director of Programs, Research and Development. The meeting was focused on Bionas' participation in EXPONAVAL 2014 to be held in Chile on 2-5 December 2014 and the proposed use of Bionas B25 Bio-Heavyfuel and Bio-Booster Tablets by the Navy.

# BIONAS ACTIVITIES

0055



**Valparaiso, Chile, 20 March 2014** - Meeting for partnership with PMC (Petroleos Marinos de Chile) a company owned by Glencore Xstrata for the blending, storage, supply and distribution of Bionas additives to the marine, mining and transport industries. Glencore Xstrata is one of the world's largest global diversified natural resource companies and is one of the biggest companies within the FTSE 100 Index. The Group's industrial and marketing activities are supported by a global network of more than 90 offices located in over 50 countries.



# BIONAS ACTIVITIES

0056



**Long Beach, California, 12 April 2014** - Signing of Joint venture Agreement for Biofuel and Additive processing, storage, marketing and distribution in California, USA.



# BIONAS ACTIVITIES



**Long Beach, California, 7 May 2014** - Signing of Joint Venture Agreement for Biofuel and Additive processing, storage, marketing and distribution in Singapore.

# BIONAS ACTIVITIES



**Long Beach, California, 7 May 2014** - Signing of Joint Venture Agreement for Biofuel and Additive processing, storage, marketing and distribution in South Korea.



# BIONAS ACTIVITIES

0059



**Santiago, Chile, 27 May 2014** - International Seminar on Sustainable Clean Energy and Biofuel Industry was held in Sheraton Santiago and Convention Center, attended by the Government and potential clients from the transport, shipping, aviation, mining, energy and oil & gas industries from Latin American countries. Also present the UN Global Compact, MATRADE and Malaysian Ambassador in Chile.



# BIONAS ACTIVITIES

0060



**Santiago, Chile, 28 May 2014** - Meeting with the Environment Minister, Mr Pablo Badenier Martinez together with the Executive Director of UN Global Compact Chile, Ms Margarita Ducci.

# BIONAS ACTIVITIES



**Cochabamba, Bolivia, 1 June 2014** – Signing of the Joint Venture Agreement for the additive and biofuel processing, storage, marketing and distribution, establishment of the Centre of Excellence/University and Jatropa Agropolitan Program in Bolivia. Bionas-Bolivia has signed an Agreement with Federacion Sindical de Trabajadores, Lloyd Aereo Boliviano (LAB) to promote and supply the green and clean energy fuel to the aviation industry. LAB has successfully tested Bionas Super Bio-Jetfuel on Boeing 727-200 with 22% savings on fuel consumption, 75% lower vibration, 85% emission reduction and 12° C lower engine oil temperature.



# BIONAS ACTIVITIES





# BIONAS ACTIVITIES



**Lima, Peru, 5 June 2014** - Signing of Joint Venture Agreement for Biofuel and Additive processing, storage, marketing and distribution in Peru.

# BIONAS ACTIVITIES

0064



**Lima, Peru, 5 June 2014** - Special presentation to the Government of Peru attended by the Ministry of Energy and Mining, Ministry of Environment, Peruvian Army, Peruvian Navy and PetroPeru.



# BIONAS ACTIVITIES



**Bohol, Phillipines 14 August 2014** - Switch On Ceremony of Press Mill and Launching of Jatropha Agropolitan & Biofuel Hub officiated by the Congressman Honorable Erico Aristotle Aumentado. Also present Mayor Sofronio Apat and Coordinators from Bohol, Leyte, Cebu and Iloilo.



# BIONAS ACTIVITIES

0066

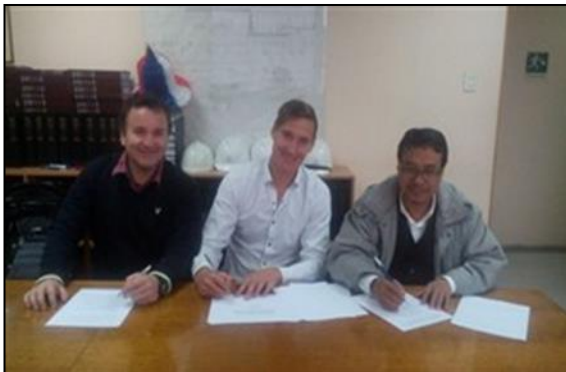


**Montevideo, Uruguay, 9 September 2014** - Meeting with Mr. Roberto Kreimerman, Minister of Industry, Energy & Mining and Ing. Agr. Olga Otegui from the National Directorate of Energy, Uruguay.



**Santiago, Chile, 12 September 2014** - Signing of Joint Venture Agreement for biofuel and additive processing, storage, marketing and distribution in Brazil.

# BIONAS ACTIVITIES



**Quintero, Valparaiso-Chile, 16 September 2014** - Blending of B25 additive with Heavy Fuel Oil (IFO 380) at Glencore facilities monitored by Petroleos Marino's De Chile Ltd. (PMC) and Energy Partners Chile Ltd. (EPC).





0068

# BIONAS ACTIVITIES



**UN Headquarters, New York, 23 September 2014** - Bionas group CEO was invited to chair one of the Round Table Discussions of the first segment of the UN Private Sector Forum participated by approximately 200 corporate CEOs, leaders from civil society and the UN.



# BIONAS ACTIVITIES



**Los Angeles, USA, 5 October 2014** - Bionas has launched the On-line Shopping site [www.bionas-usa.com](http://www.bionas-usa.com) in conjunction with Bionas Go Green Program which was held at Intercontinental Los Angeles Century City at Beverly Hills. Bionas USA team is led by an American, Singaporean and Korean.

# BIONAS ACTIVITIES



**Paris, France, 10-11 October 2014** - The World Summit of Regions for Climate (R20) - Road to Paris 2015 was held at the Palais d'Iena in Paris, brought together regions and local governments from every continent, as well as economic leaders, to work towards a new international agreement on climate change. *Picture of Bionas' Chairman with Ms Michele Sabban, President R20-Regions of Climate Action.*



# BIONAS ACTIVITIES

0071



**Paris, France, 11 October 2014** - Signing of Joint Venture Agreements for biofuel and additive processing, storage, marketing and distribution in France, Poland and Germany.



# BIONAS ACTIVITIES



**Kuala Lumpur, 12 November 2014** - Signing of Joint Venture Agreement for biofuel and additive processing, storage, marketing and distribution in China.

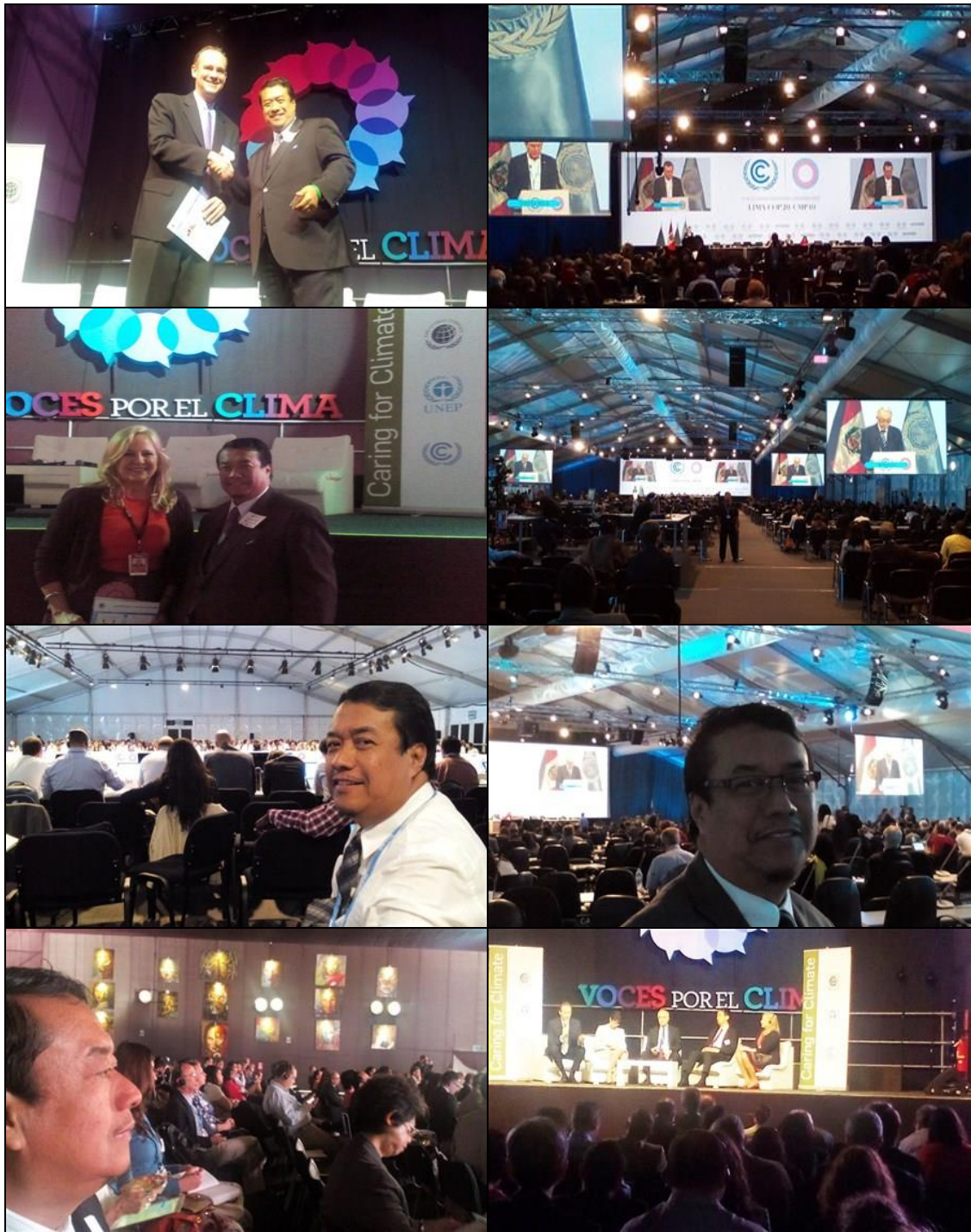
# BIONAS ACTIVITIES



**Valparaiso, Chile, 4 December 2014** - Bionas Group CEO has presented the Company's Technology of Nano-Emulsion and Polarization at ExpoNaval 2014 which was attended by more than 70 countries. Next to her were the speakers from Wartsila, Finland and MAN Diesel & Turbo SE, Germany. ExpoNaval 2014 was organised by the Chilean Navy (Armada de Chile).



# BIONAS ACTIVITIES



**Lima, Peru, 8-9 December 2014** - Caring for Climate Business Forum and High Level Meeting at COP20. The UN Secretary General Ban Ki-moon said 'All countries must be part of a solution, this is not a time for tinkering but transformation. The momentum for action is building'.



# BIONAS ACTIVITIES

0075



**Sao Paulo, Brazil, 12 December 2014** - Meeting with Mr Jose Anibal, Secretary of Mines & Energy; and Briefing on Bionas technology and products.

# BIONAS ACTIVITIES



**Jakarta, Indonesia, 18 December 2014** - Energy Savings Conference was held at the Gran Melia Hotel, Jakarta attended by the Government and private sectors mainly from the energy and power plants as well as the shipping and aviation industries.

# BIONAS ACTIVITIES

0077



**Kuala Lumpur, Malaysia, 20 January 2015** - Signing of Joint Venture Agreements for biofuel and additive processing, storage, marketing and distribution in Thailand & Brunei.



# BIONAS ACTIVITIES

0078



**Kuala Lumpur, Malaysia, 20 January 2015** - Signing of Joint Venture Agreements for biofuel and additive processing, storage, marketing and distribution in Dubai & Kingdom of Saudi Arabia.

# BIONAS ACTIVITIES



**Makassar, Indonesia, 23 January 2015** - Energy Saving Seminar & Technical Workshop was held at Makassar State University attended by more than 350 participants from the university and leading industry players in road transport, shipping, power plants and mining companies.



# BIONAS ACTIVITIES



**Jakarta, Indonesia, 28 January 2015** - Bionas' CEO, Madam Zurina Amnan presented Bionas' technology and products at the Biofuels World - BioMarket Asia at Le Meridien, Jakarta.



# BIONAS ACTIVITIES

0081



**Jakarta, Indonesia, 6 February 2015** - MOU signing ceremony for the proposed development of "World Clean Energy Hub" at Palangkaraya, Central Kalimantan, Indonesia, which will be implemented with the developments of the Green Smart City, Jatropha Agro-politan Business Cluster, Bionas bio-additives production and technology transfer as well as the e-Government system.

# BIONAS ACTIVITIES

0082



**Jakarta, Indonesia, 12 February 2015** - MOU signing ceremony for the proposed development of "World Clean Energy Hub" at Nusa Tenggara Timur (NTT), which will be implemented with the developments of the Green Smart City, Jatropha Agro-politan Business Cluster, Bionas bio-additives production and technology transfer as well as the e-Government system.



# BIONAS ACTIVITIES

0083



**Kuala Lumpur, Malaysia, 20 March 2015** - Signing of Joint Venture Agreement for biofuel and additive processing, storage, marketing and distribution in Malaysia.



# BIONAS ACTIVITIES

0084



**Kuala Lumpur, Malaysia, 24 April 2015** - Signing of Joint Venture Agreement for Jatropha Planting, biofuel and additive processing, storage, marketing and distribution in Egypt.

# BIONAS ACTIVITIES

0085



**Kuala Lumpur, Malaysia, 27 April 2015** - Signing of Joint Venture Agreement for Jatropha Planting, biofuel and additive processing, storage, marketing and distribution in Nigeria.

# BIONAS ACTIVITIES

0086



**Bangkok, Thailand, 30 April 2015** - Bionas Group CEO, Zurina Amnan became one of the panel speakers at the UNEP Climate Technology Centre & Network (CTCN) Regional Forum for Asia which was held at the United Nations Convention Centre, Bangkok, attended by the National Designated Entities (NDEs) from many countries.



# BIONAS ACTIVITIES



**Jakarta, Indonesia, 13-15 May 2015** - Both Bionas Group CEO, Zurina Amnan and Bionas Indonesia CEO, Hendry Widjaya presented at the Energy & Mining Investment Forum, which was launched by the Indonesia President, Joko Widodo.

# BIONAS ACTIVITIES

0088



**Kupang, NTT - Indonesia, 20 May 2015** - MOU Signing Ceremony for the development of Jatropha Agropolitan - Clean Energy Hub at Kupang Regency, Nusa Tenggara Timur (NTT). The press mill and additive production plant is expected to be launched within 2 months.



# BIONAS ACTION PLAN TOWARDS UNITED NATIONS CLIMATE CHANGE CONFERENCE (COP21) IN PARIS, 2015

## NANO-TECHNOLOGY INNOVATIVE APPLICATIONS FOR SUSTAINABLE GREEN ECONOMY AND CLIMATE CHANGE MITIGATION

COP 21 PARIS 2015 → ROADMAP WORLD GO GREEN



POVERTY ERADICATION	NON-FOOD MULTI FEEDSTOCK	ALTERNATIVE FUEL	NO FURTHER INVESTMENT ON INFRASTRUCTURE	TECHNOLOGY TRANSFER	BENEFITS TO CONSUMERS	REAL TIME RESULTS & BEYOND
Human capital and socioeconomic for poverty eradication	Non-food multi feedstock produced by greenbelt countries	The raw material / renewable fuel to produce clean energy are easily accessible in many countries	Collaboration with oil & gas industries for the production of clean energy using their existing infrastructure and network	Nano-Emulsion & Polarization Technology Transfer to all countries as solution to climate change & energy crisis	Consumers Save 15% - 20% on daily fuel consumption and less maintenance. Clean energy for health and better life	Emission reduction 80% - 87% and saving on fuel consumption 20% - 30%

**ROADMAP TO BE ADOPTED BY THE WORLD LEADERS OF CLEAN ENERGY FOR ACTION**





# WORLD GO GREEN ROADMAP

The pertaining issues in many countries in the world in relation to energy include:

1. The uncertainty and high price of fossil fuels due to tight oil produce/supply.
2. Oil dependencies from other nations.
3. The need to create new alternative energy sources.
4. The creation of new economy and creation of employment.

For these reasons, Bionas decided to capture the opportunity to offer reasonable solutions which will cover all of the pertaining issues in the world through a systematic expansion and competitive strategy – the Road Map to “World Go Green”.

- Human Capital and Socio-economic Development for Poverty Eradication
- Non-Food Multi Feedstock Produced by Greenbelt Countries
- Easy Access to Raw Materials for Biofuels/ Renewable Energy in all Countries
- Collaboration with Gas & Oil Industries for Production of Clean Energy using their existing Network & Infrastructure
- Global Technology Transfer & Knowledge Sharing Leading to the Build-up of Green Economies around the Globe
- Consumers save up to 30% on Fuel Consumption and Less Maintenance
- Emission Reduction by 70-90%
- Achieving Global Clean Energy (Sustainability and Security)
- Practical Model to Lead Global Climate Change Efforts post COP21, Paris 2015

# WORLD CLEAN ENERGY HUB



## BALI CLIMATE CHANGE CONFERENCE – DECEMBER 2007

The 13th session of the Conference of the Parties to the UNFCCC and the 3rd session of the Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol took place in Bali and were hosted by the Government of Indonesia. Also sitting were the twenty-seventh sessions of the Subsidiary Body for Implementation (SBI) and the Subsidiary Body for Scientific and Technological Advice (SBSTA) and the resumed fourth session of the Ad hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-KP).

The Bali Climate Change Conference brought together more than 10,000 participants, including representatives of over 180 countries together with observers from intergovernmental and non-governmental organizations and the media.

Governments adopted the Bali Road Map, a set of decisions that represented the various tracks that were seen as key to reaching a global climate deal.

## WORLD CLEAN ENERGY HUB

The Bali Road Map includes the Bali Action Plan, which launched a "new, comprehensive process to enable the full, effective and sustained implementation of the Convention through long-term cooperative action, now, up to and beyond 2012", with the aim of reaching an agreed outcome and adopting a decision at COP15 in Copenhagen. Governments divided the plan into five main categories: shared vision, mitigation, adaptation, technology and financing.

Other elements in the Bali Road Map included:

- A decision on deforestation and forest management;
- A decision on technology for developing countries;
- The establishment of the Adaptation Fund Board
- The review of the financial mechanism, going beyond the existing Global Environmental Facility.

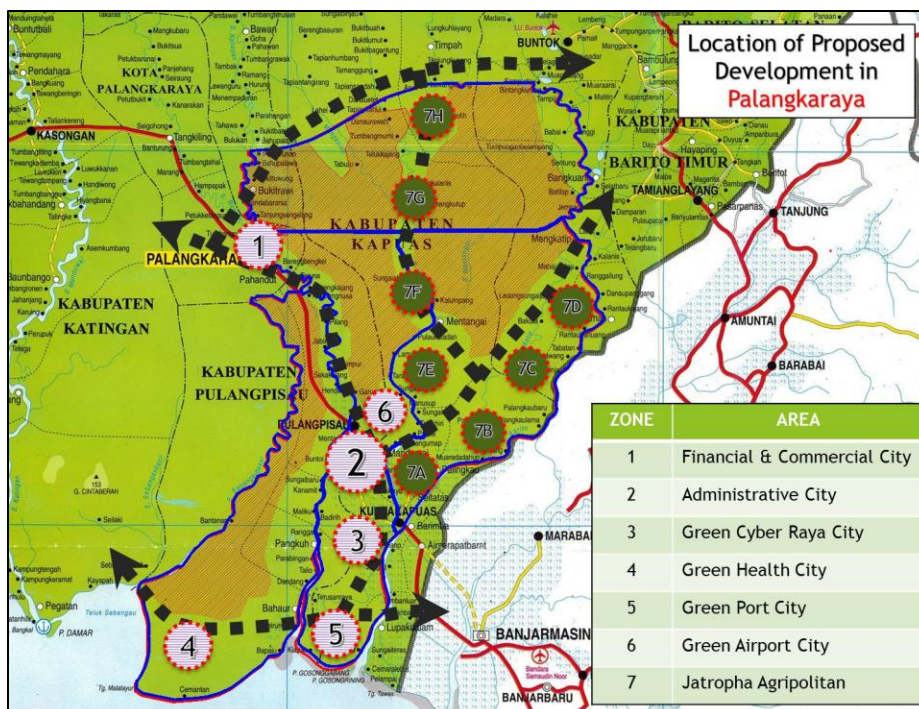
The Ad Hoc Working Group on Long-term Cooperative Action (AWG-LCA) was set up to conduct work under the Bali Action Plan. The Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-KP) was to work in parallel. The central task of the AWG-KP was to decide the emission reduction commitments of industrialized countries after the Kyoto Protocol's first commitment period expired in 2012.





## WHY BIONAS SELECTED INDONESIA?

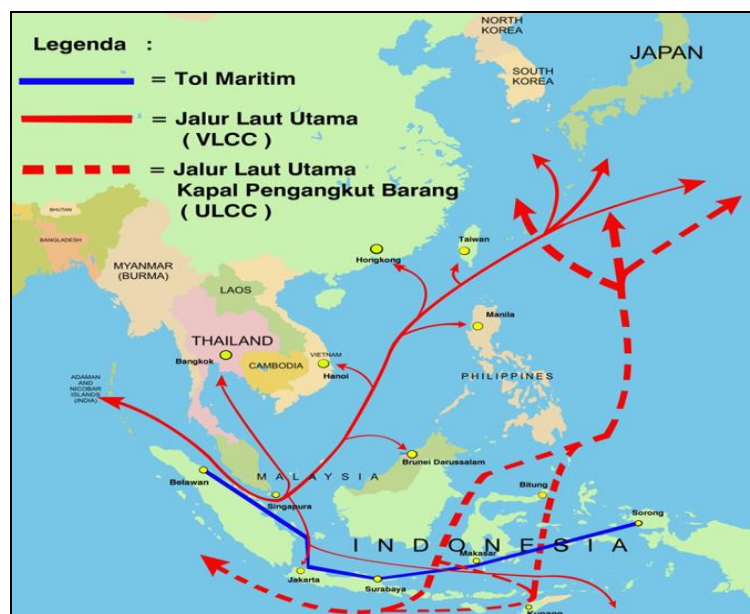
1. Most suitable climates with huge land areas for Jatropha. The farmers are reliable and guaranteed monthly income from selling Jatropha harvest to Bionas will contribute in poverty eradication.
2. Stability in politics with full support from the local and federal government.
3. More than 250 Million population guaranteed the buying power.
4. The third Asian economy after China and India, plays a prominent role in the world economy to the point that contribute to 50% of the growth of the global economy over the next five years, according to ASEAN.
5. Strategic location near Straits of Malacca with deep sea offering new routes for the global shipping lines.
6. Indonesia is next to Singapore and located strategically in between of 2 oceans (Hindi and Pacific oceans) and 2 continents (Asia and Australia) offering new logistic and distribution centre for the global trading businesses.
7. Central Kalimantan is mostly flat lands and safe from natural disaster, earthquake and tsunami etc.





# INDONESIA – WORLD CLEAN ENERGY HUB

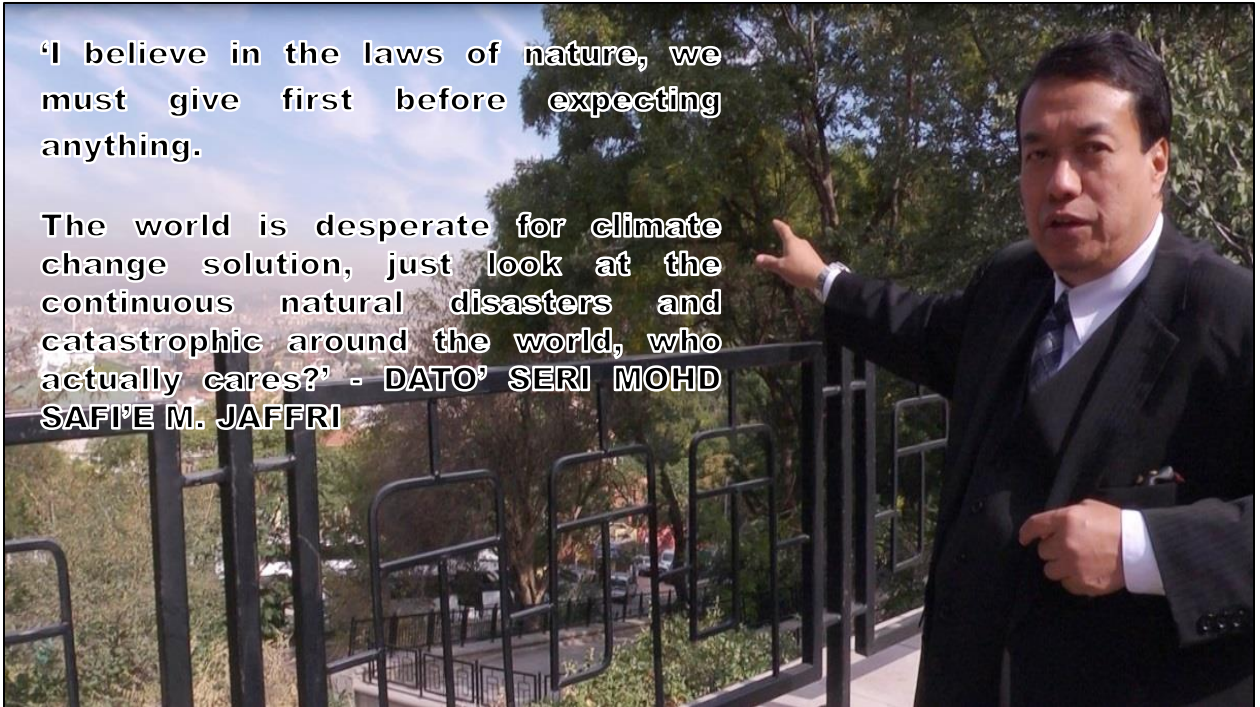
1. The biggest producer in the world of Jatropha Seeds and Crude Jatropha Oil (CJO) by 2018.
2. The biggest producer in the world of Jatropha briquette and pallette by 2018.
3. The biggest producer in the world of jatropha base bio-additives for diesel, gasoline, heavy fuel, jetfuel, lubricant and coal by 2020.
4. A reputable Industrial “Center for Excellence” producing professional experts, chemists and engineers feeding the global clean energy needs and requirements to mitigate climate change and global warming.
5. The model of Jatropha Agro-politan Business Clusters developing and transiting Indonesia to be a developed country by 2025.
6. The model of Green City developing and transiting Indonesia to be the World Clean Energy Hub by 2020.
7. The model of e-Government system developing and transiting Indonesia to be a developed country by 2025.



## BEHIND THE SUCCESS

'I believe in the laws of nature, we must give first before expecting anything.'

The world is desperate for climate change solution, just look at the continuous natural disasters and catastrophic around the world, who actually cares?' - DATO' SERI MOHD SAFI'E M. JAFFRI



'We must understand the need of the people, they are not capable to invest on anything but they have some lands for food crops. Give them the seeds, buy back at the right price, good price! Process the seeds in front of their eyes and produce the oil and additive locally for their benefits! This is the only way to bring them out of misery.' - ZURINA AMNAN

