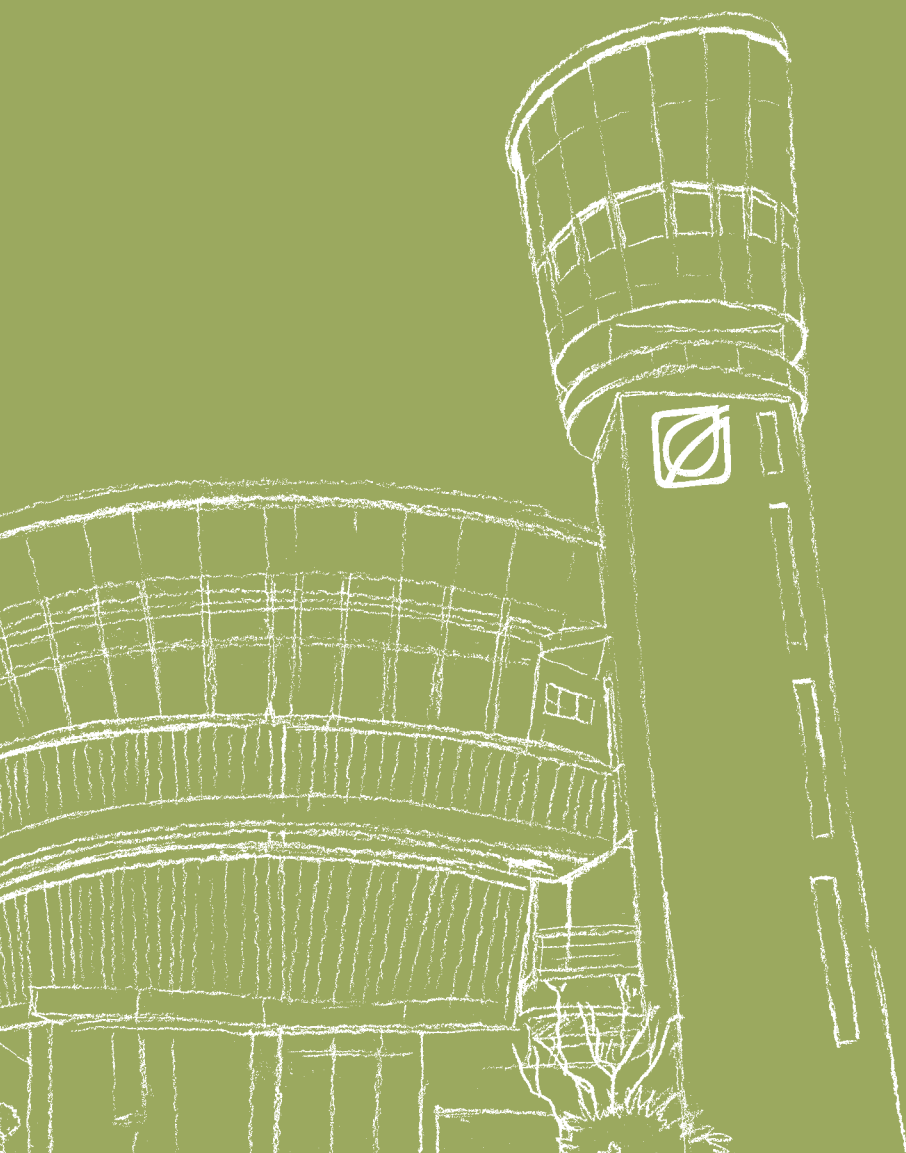


GREEN SOCIETY

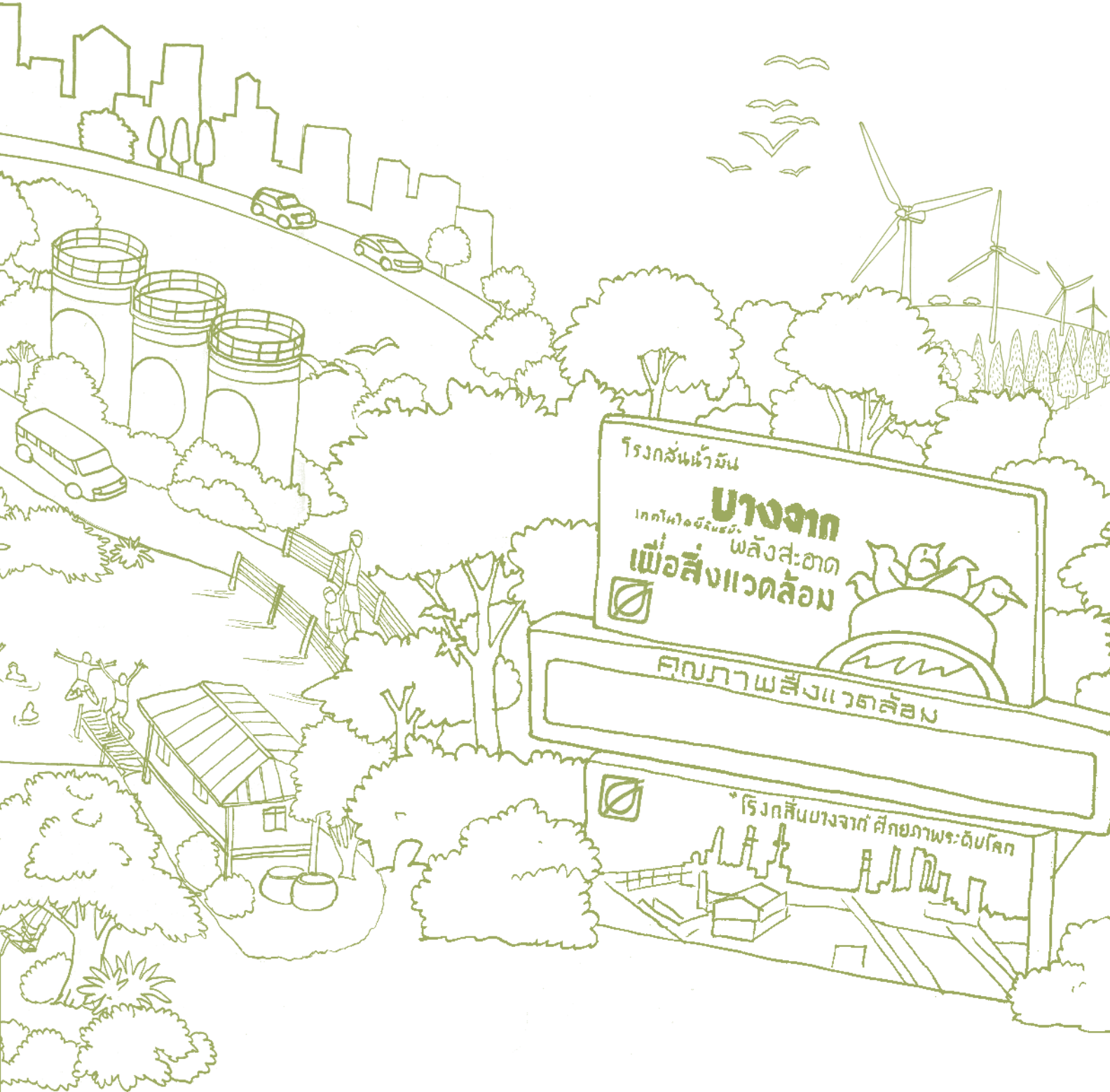








GREEN SOCIETY



Creatively conceiving green products: Way of a Green Society

Bangchak Green Society. That's what we yearn to become—our ultimate goal. Our ammunition? A business culture of 'developing sustainable business, while safeguarding the environment and society' and an employee culture of 'being virtuous, knowledgeable, and contributive to society' under an overarching corporate vision of **"Greenenergy Excellence"**. Constantly we keep innovating ourselves—energy production processes, alternative energy, corporate energy-saving, and green energy commodities. Our bottom line? A fine balance between the value and merit of communities, society, and the environment in tandem with sustainable business growth.



Contents

The background is a detailed line drawing of a sustainable agricultural landscape. In the foreground, there's a field with people working. One person is using a tool to plant or tend to the soil, while others are standing nearby. A sign in Thai script 'ปาล์มน้ำมัน' (Palm Oil) is visible. In the middle ground, there's a large solar panel array with the 'SUNNY BANGCHAK' logo. To the left, a car is parked. In the background, there are wind turbines, a small building, and rolling hills under a clear sky.

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- Corporate Governance
- Anti-corruption
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About this report

The background is a green-toned illustration. At the top, there are several wind turbines. Below them, a field of solar panels is visible. In the center-right, there is a large, dome-shaped structure labeled 'ALGAE DOME' with the word 'Algae' written in a stylized font on its side. The dome has a grid-like pattern on its top. To the left of the dome, there are some trees and a path. In the bottom left, there is a car. In the bottom right, there is a person riding a bicycle. In the middle left, there are some people, including a child holding a sign that says 'สำหรับน้ำดื่ม' (for drinking water).

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Message from the President

Perennially committed to developing its business for a balance between business value and social and environment value, Bangchak has integrated the approaches for sustainable management with the Sufficiency Economy philosophy for its conduct of business and joined the Collective Action Coalition Against Corruption (CAC) to underscore its intention for business transparency while constantly developing a quality management process under Thailand Quality Award (TQA) criteria.

Since winning the Green Industry Award (Level 4, Green Culture) in the year 2012, Bangchak has expanded its scope this year to further develop its environmental care to include its affiliates and business partners in the hope of creating a green society and winning a CSR-DIW Advanced Award (Level 5), implying network establishment of environmental preservation and social responsibility. We recognize that much is expected of us, given changes in society and climate, various natural disasters in Thailand, and tropical cyclones recently ravaging the Philippines, affirm that environmental issues effect the climate change and need to be solved immediately by the synergy of all network parties. Bangchak will staunchly develop its business and join in driving networks to establish a green society for the sustainability of all.

(Sign) *Vichien Usanachote*
Mr. Vichien Usanachote
President



Bangchak House Opening





Management Structure

The Bangchak Petroleum Public company limited

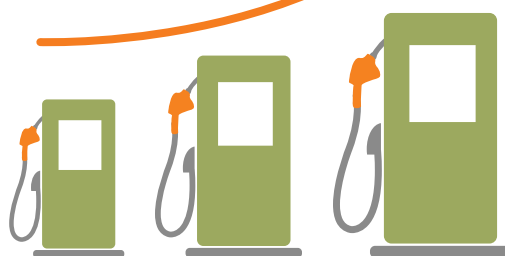
- Leading Thai petroleum company importing crude oil from the indigenous sources, operating an oil refinery and marketing the finished products
- Pursuant to a resolution passed by the Prem Tinsulanonda-led Cabinet since June 19, 1984
- Incorporated as a limited company under the Civil and Commercial Code on November 8, 1984
- Changed status to a Public Company Limited under the Public Company Limited Act on April 23, 1993, and listed on the Stock Exchange of Thailand (SET) on August 2, 1994
- The Company's registered capital as of December 31, 2013 is amounting to Baht 1,531 million, of which Baht 1,377 million was paid up.
- The address of the head office is 555/1 Energy Complex, 10th Floor, Building A, Vibhavadi Rangsit Road, Chatuchak, Bangkok

as of 31 December, 2013



1,029
employees

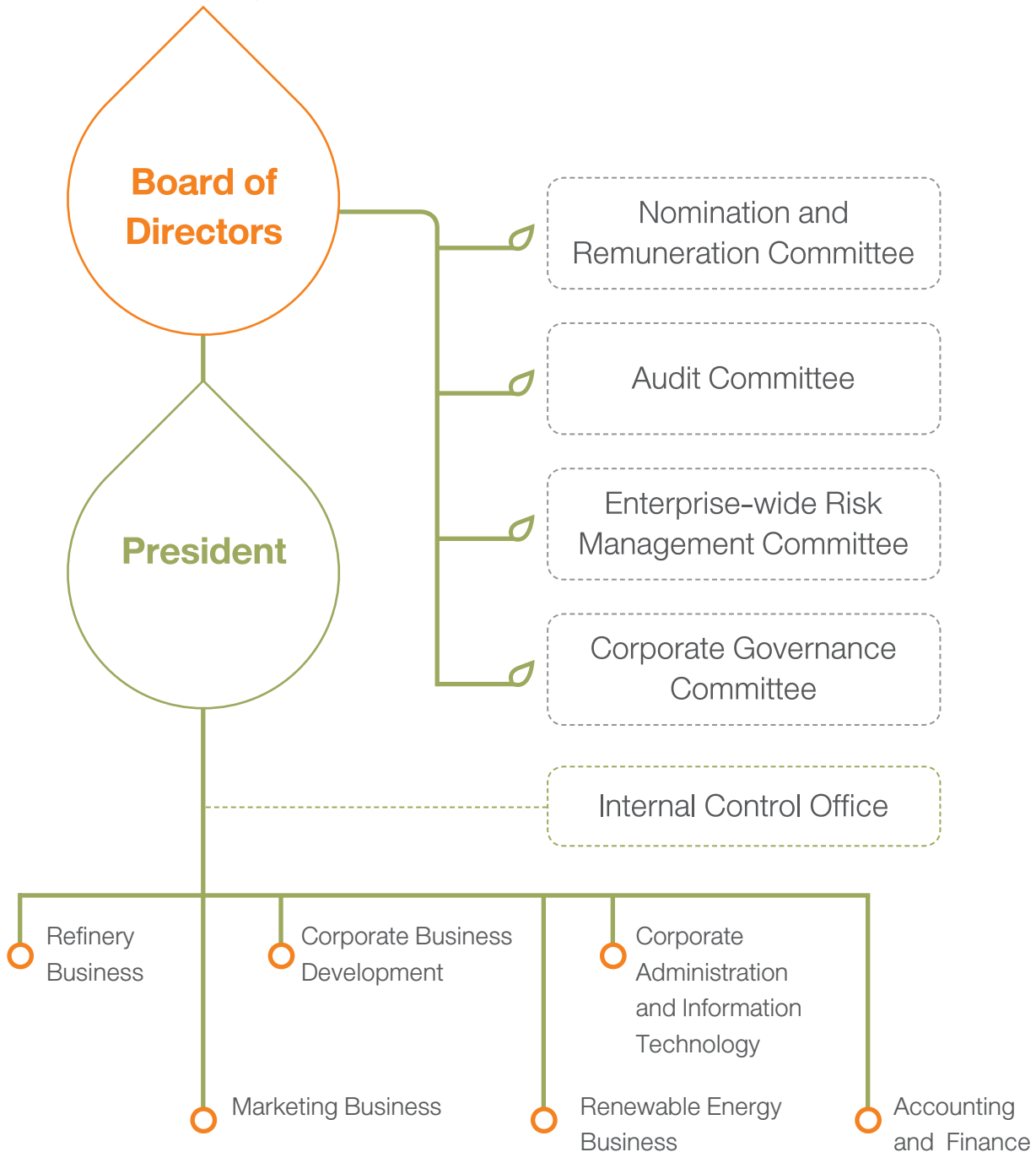
as of 31 December, 2013,
total revenue



186,150
million baht



Management Structure





Refinery Business

59%



Marketing Business

23%



Clean Energy Business

18%

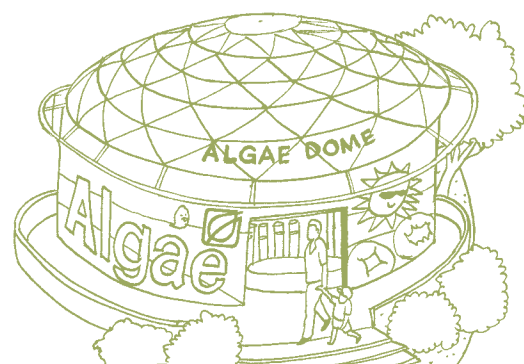
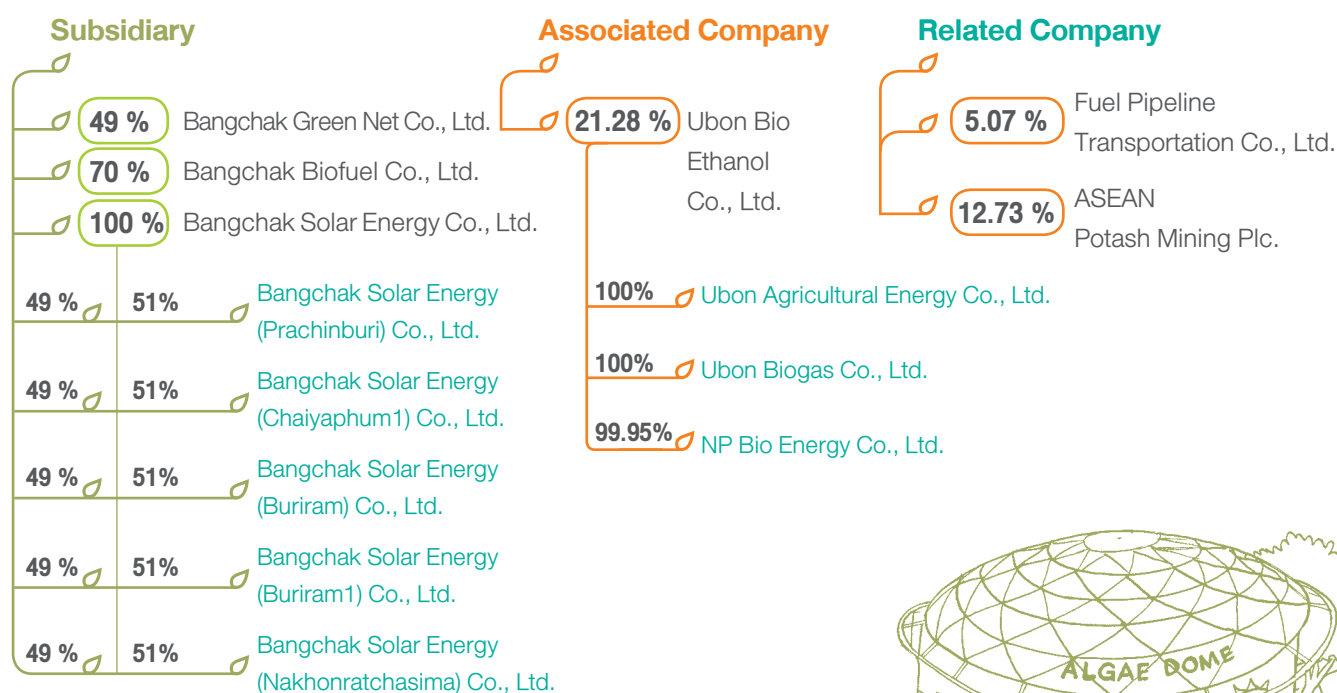
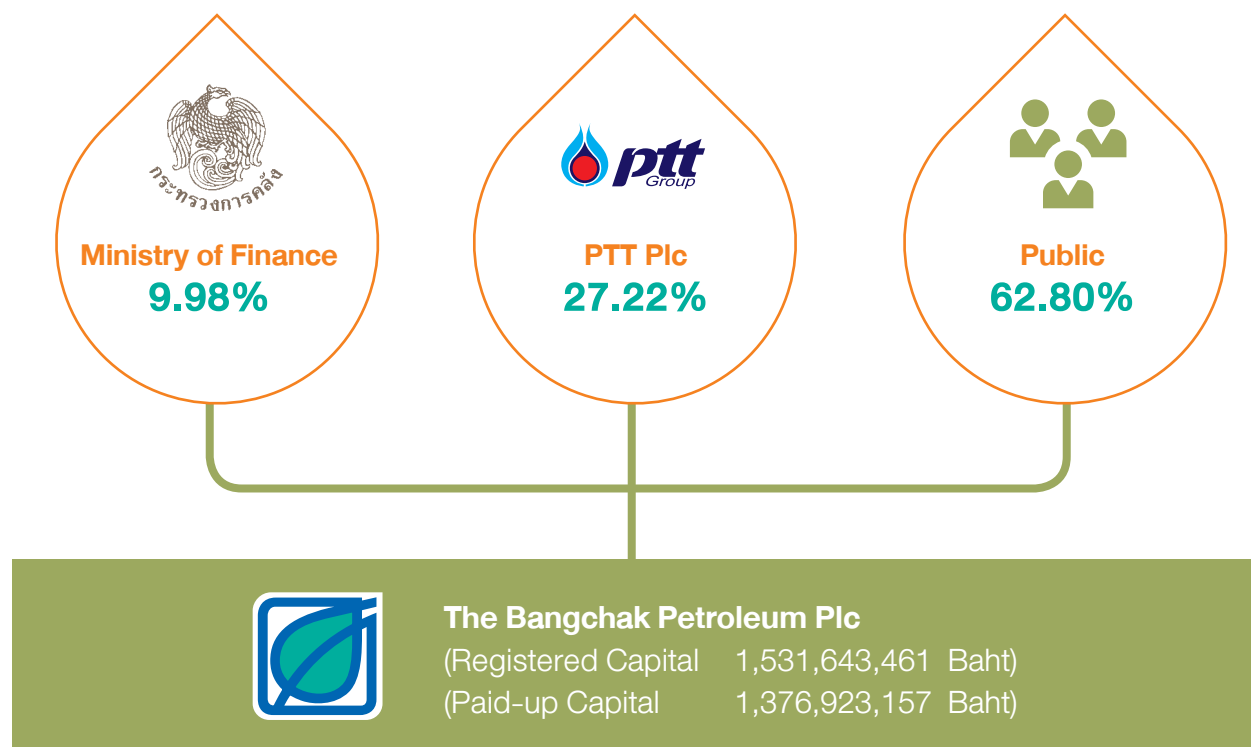


Clean Energy Business

Green Energy Business

* Proportion based on EBITDA

Equity Chart of Bangchak Petroleum Plc and Other Companies





Vision and Strategies for Conducting Sustainable Business



Vision : Greenery Excellence

Creating an energy business that is environmentally friendly for sustainable development



Value Statement :

B : Beyond Expectation
C : Continuing Development
P : Pursuing Sustainability



Business Culture :

Develop sustainable business, while safeguarding environment and society



Mission :

Shareholders / business partners / customers / creditors

Conduct business to steadily grow its returns in a fair manner

Society / Community / Environment

Promote a business culture that is responsible to the environment and society

Employees

Grow employees into professionals



Employee Culture :

To be respectable, knowledgeable, and helpful to others

Since 1985, Bangchak Petroleum has engaged itself in the energy business, always with the corporate culture of “**Greenery Excellence**” held in mind, with which Bangchak has incorporated the Sufficiency Economy philosophy, good governance, and social responsibility principles in a bid to achieve corporate goals with a commitment to striking a balance between business value and socio-environmental value together with sustainable business growth. The company has instituted risk management practices to diversify income to businesses with more stable income in tandem with environmental stewardship achieved through being a low-carbon company, extending to a green society with a green process in all refining stages. It sells green products (meaning alternative-energy forms sold through all service stations), practices green management and green procurement (meaning consumption of green products), while growing green society to incorporate affiliates, business partners, and stakeholders. In addition, Bangchak has introduced sustainable management as its key component, ranging from its strategic planning, where social and environmental KPIs are made operating goals on top of business ones (financial, customer, process, and people). These are then deployed to Bangchaks lines of businesses and sections to underscore the employee culture of “To be respectable, knowledgeable and helpful to others.”



Core strategies for sustainable business operation

1

Grow the business and diversify risks to businesses with secure income

The Company has defined business growth goals to grow sustainable value for its business by restructuring its revenue from refining business, which is highly volatile by nature of the refining business whether world market prices or refining margins that are subject to global and regional economic conditions which could in turn result in the Company's performance being also volatile. The Company has now restructured its revenue from 80 % to 50% (refining business) and increases its revenue in renewable energy business from 20% to 50% in 2020, includes solar-energy power generation, biodiesel production from palm oil and palm planting and ethanol production from energy plant.

2

Low Carbon Company

The Company recognizes that the oil refining business is an energy consuming industry. Therefore, the Company has set a goal of low carbon dioxide emission to minimize environmental impacts from its own refining business. Specifically, by 2015, the Company is to trim its carbon dioxide emission by some 50% from the business-as-usual baseline as a result of its development of clean energy businesses, including the production of diesel from algae, and efficient improvement of energy consumption and consumption of clean fuels in refining processes.

3

Socially and Environmentally Friendly Business Models

Aware that business operations that lack social and environmental activities are unsustainable, the Company is determined to do business in such a way that not only can it sustain continuous growth, but also simultaneously generate positive impacts on society and the environment. Such a model that the Company has been operating successfully is the cooperation of retail stations and agricultural cooperatives. The Company buys agricultural products from cooperatives in different communities and uses them for retail stations sales promotion to create jobs and revenue in support of the economic and social development of the communities. In the future, the Company, in cooperation with the Ministry of Agriculture and Cooperatives, the Ministry of Energy and the Bank for Agriculture and Agricultural Cooperatives, will initiate a conversion of abandoned orange farms to palm plantations for orange farmers in Rangsit consist with the government plan to promote renewable energy. In addition, its reduce land subsidence and flood problems in Bangkok.

4

Open, Transparent and Verifiable

The Company adheres to an open, transparent and verifiable policy in its operations. Operational data are transparently disclosed under good corporate governance and SET rules in the Annual Report, Sustainability Report, website and etc. Applying proactive environmental management, it discloses the actual data on quality of air and effluents around the refinery by posting such information at the entrance to the refinery and in surrounding communities.



Updates on development of sustainable business operation

Strategy	Plan and goal	Progress made and performance in 2013	2014 Goal
1. Grow the business and diversify risks to businesses with secure income (economic aspect)	1.1 Develop the solar-power plant business by 118 MW	1.1.1 Generated and Sold 32 MWs from the Projects at Bumnejarong District, Chaiyaphum Province and Bang Pahun District, Ayutthaya Province. (In Year 2012 generated and sold 38 MWs from Project at BangPain District, Ayutthaya Province.	1.1.1.1 Generate and sell solar-power 48 MWs from 3 projects: <ul style="list-style-type: none"> Group 1, 16 MWs from the projects at prokhonchai district and hnongkee district, Burirum province. Group 2, 16 MWs from the projects at bummejarong district, chaiyaphum province and dankhnntod district, Nakornrochaisima province. Group 3, 16 MWs from the project at kabinburi district, Prachinburi province
	1.2 Develop the ethanol business with a capacity of 400,000 liters/day	1.1.2 Generated and sold 48 MWs from the Projects at Burirum Province, NakhornRatchasima Province and Prachinburi Province. 1.2.1 Ubon Bio-Ethanol Co., Ltd. (UBE) produced and sell ethanol with 58% of Utilization Rate to the company	1.2.1.1 Continually produce with its full utilization to comply with the customer demand.
	1.3 Develop the biodiesel business with a capacity of 300,000 liters/day	1.3.1 Bangchak Biofuel Co.,Ltd. (BBF) produce with 95% of Utilization Rate and investigate technology for biodiesel capacity increasing to meet rising biodiesel demand	1.3.1.1 Start up the biodiesel capacity of 450,000 liters/day and estimate to sell by the year 2015
2. Become a Low Carbon company (environmental aspect)	2.1 Use clean natural gas instead of fuel oil	2.1.1 Replaced 72% of fuel oil consumption with natural gas, which was conform to the goal.	2.1.1.1 Replace all fuel oil consumption with natural gas
	2.2 Consumed clean natural gas rather than LPG as a raw material for the hydrogen unit	2.2.1 Displaced 87% of LPG consumption with natural gas	2.2.1.1 Replace all LPG consumption with natural gas
	2.3 Generate electricity and steam from co-gen with high efficiency (BUP)	2.3.1 Generate 70% and 72% of electricity and steam from co-gen capacity	2.3.1.1 Continually increase the electricity and steam from co-gen capacity and improve the power plant.
	2.4 Improve the refinery's energy efficiency	2.4.1 7 efficiency improvement projects saved 2.6% in energy consumption	2.4.1.1 Continually study about investment in a production efficiency improvement project
	2.5 Develop clean-energy businesses (as in (1))	2.5.1 Details as in (1)	2.5.1.1 Details as in (1)



Strategy	Plan and goal	Progress made and performance in 2013	2014 Goal
3. Develop business formats for society and environment (social & environmental aspects)	3.1 Develop business formats leading to national benefits to society and the environment	<p>3.1.1 Develop 39 service stations in cooperation with agricultural cooperatives and created jobs as well as income for cooperative members and communities</p> <p>3.1.2 Support organic farmers' groups by giving away organic jasmine brown rice as sales promotional items</p> <p>3.1.3 Launch Triple M: Modern, Management and Marketing training for community service station managers to groom them for change in economic, social, and technological circumstances</p> <p>3.1.4 To be the first in Asia to sell Euro 5-standard E20 gasohol with less than 10 ppm in sulphur content, a fivefold reduction from that under the Euro 4 standard, to ease combustion pollution</p> <p>3.1.5 Operated the Thailand Go Green project for the seventh year under the "Smart Dining, Living, and Consumption of Alternative Energy: Thai Ways toward Green Society" theme to cultivate awareness and knowledge of renewable energy among students nationwide. The year saw more than 486 participating schools.</p> <p>3.1.6 Support academicians' area use as research areas and in soil resource management to increase oil palm productivity in Rangsit, Nakhon Nayok province</p> <p>3.1.7 Apply the innovative concept of tailor-made fertilizers to suit soil conditions and climate and use only essential amounts of fertilizers, cut costs, and lower environmental impacts</p>	<p>3.1.1.1 Constantly develop/improv and expand 40 more service stations in cooperation with agricultural cooperatives</p> <p>3.1.2.1 Support farmers in the three southernmost provinces by giving away seedless Luk Yee Kuan (sweetened velvet tamarind) as sales promotional items</p> <p>3.1.3.1 Launch Triple M: Modern, Management and Marketing training for the second straight year</p> <p>3.1.4.1 Installed solar panels on service station roofs, with a goal of 150, to promote consumption of renewable natural energy and lower carbon dioxide emissions</p> <p>3.1.4.2 Expanded service stations selling E85 and E20</p> <p>3.1.5.1 Maintain the Thailand Go Green year 8 and 9 under the theme "Smart Dining, Living, and Consumption of Alternative Energy: Thai Ways toward Green Society"</p> <p>3.1.6.1 Begin harvesting oil palm fruits for commercial sale and turn it into an oil palm learning center. Get ready to build a crude palm oil extraction plant and buy the oil from local farmers</p>



Strategy	Plan and goal	Progress made and performance in 2013	2014 Goal
	3.2 Develop business formats leading to social and environmental benefits at the community level	<p>3.1.8 Apply the barcode system in collecting harvest data for greater management efficiency</p> <p>3.2.1 Develop new Projects between Bangchak and communities concerning health, biodiversity conservation project and to improve the teacher's potential.</p>	<p>3.2.1.1 Conducted projects of biodiversity conservation and improve the teacher potential.</p> <p>3.2.1.2 Support the Green Society project</p> <p>3.2.1.3 Share knowledge and support the Sufficiency Economy project</p>
4. Be open, transparent and verifiable (social aspect)	4.1 Disclose business information transparently to allow public scrutiny	<p>4.1.1 Disclose environmental and social operation data in the sustainability report</p> <p>4.1.2 Certify the sustainability report 2013 under the Global Reporting Initiative (GRI-G4) by third party and received the Sustainability Report Award 2012 from The Stock exchange of Thailand.</p> <p>4.1.3 Displayed on line environmental quality inspection system in front of the refinery, at the Piyaom Shopping Center, and in 3 communities around the Refinery, apart from linking them for display at the Department of Industrial Works</p>	<p>4.1.1.1 Continue such operation.</p> <p>4.1.2.1 Received the certification follow GRI-G4</p>



To educate employees about organizational management excellence in various aspects under TQA (Thailand Quality Award) criteria, Bangchak has issued innovative TQA Comics to ensure edutainment of useful knowledge.



Corporate Governance

The Company has had a written corporate governance policy since 2003 for its executives and employees to adhere to. In 2013, the policy has been deliberately improved (revision 10th) by adding Section 2 Anti-corruption, based on 6 principles, they are;

RESPONSIBILITY

ACCOUNTABILITY

TRANSPARENCY

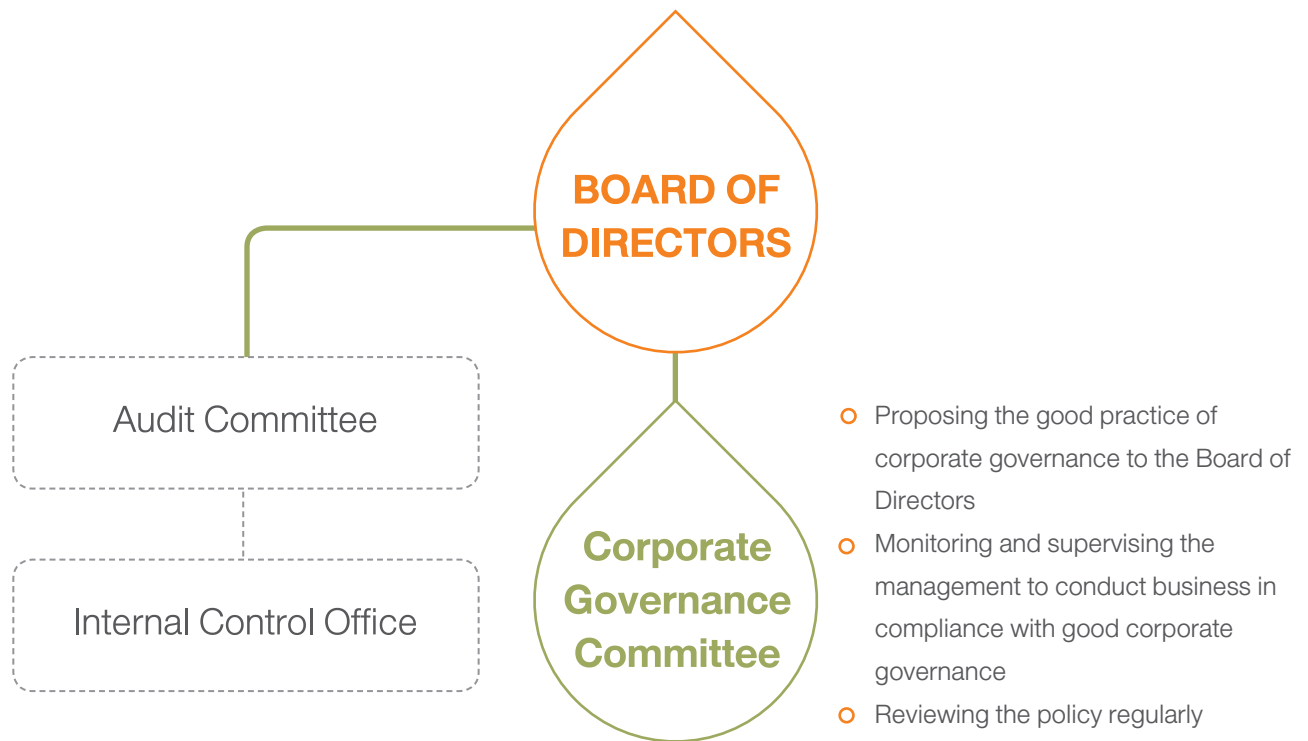
EQUITABLE TREATMENT

**VISION TO CREATE
LONG TERM VALUE**

ETHICS



Structure of Corporate Governance



“My investment decision hinged on several factors. Bangchak should exercise corporate governance and take part in social development.”

“

It's been some 5 years now that I invested in Bangchak. My investment decision hinged on several factors: business structure, performance, and future investment. Bangchak should exercise corporate governance and take part in social development. In my view, Bangchak doesn't simply maximize its profits, but gives something back to those around it. For instance, a cooperative service station develops society in the long term, not a handout to society. I've witnessed Bangchak's constant growth and development over the years. Service station improvement to make stations more colorful and lively. Related-business development in service stations that proves attractive. These make Bangchak a highly attractive investment choice. Besides, investment in clean energy and alternative energy is very promising and deserves support. In short, I'm confident in Bangchak's business sustainability and performance. ”

Ms. Thipawan Chatwanichkul
Shareholder



The main responsibility of Corporate Governance Committee is to oversee the Company's business practice in order to ensure it complies with the Corporate Governance Principles. It currently comprises 4 board members as appointed by the Board of Directors, while the Chairman of Committee is an independent director.

In 2013, the Committee held a total of five meetings to monitor performance under the plan for developing good corporate governance practices. Below are the essences of the meetings:

- Rights of Shareholders
- Equitable Treatment of Shareholders
- Role of Stakeholders
- Disclosure and Transparency
- Responsibilities of the Board
- Corporate Governance Policy
- Corporate Governance Distribution

Moreover, the Company prepared and communicated a Corporate Governance Policy for subsidiaries, also staged 2013 CG Day activities under the **"Bangchak ACT NOW: Joining Forces against Corruption"** theme for better understanding of Corporate Governance Policy, Section Anti-Corruption. (For details are disclosed in Annual report 2013 under the topic Corporate Governance)



"I envisage Bangchak's potential and secure growth in this business."

“

What made me decide to invest in Bangchak stocks is that in my view, Bangchak is truly responsible to society. Its CSR programs illustrate consistent care for the Communities around the refinery. Whats more, it has paid out consistently handsome dividends. Investment opportunities in the alternative-energy business make me envisage Bangchaks potential and secure growth in this business. ”

Mr. Wisith Pongwiratchai
Shareholder





Anti-corruption

Valuing corporate governance, which includes anti-corruption, Bangchak joined the associates of a nationwide anti-corruption network on two occasions.

- On November 9, 2010, it declared an intention to join a private-sector alliance in opposing Corruption at the National Meeting on Thailand's Private Sector Collective Action Coalition Against Corruption (CAC), hosted by the Thai Institute of Directors (IOD), Thai Chamber of Commerce, Thai Bankers Association, International Chamber of Commerce Thailand, and Thai Listed Companies Association.
- On September 1, 2011, it won acceptance to join the associates of the UN Global Compact, which consist of 10 principles encompassing human rights, labor, the environmental, and anti-corruption. The compact serves as an approach for voluntary business conduct.

The points below illustrated Bangchak's commitment to anti-corruption in this year.

- On August 27, 2013, Board meeting No. 9/2013 approved Bangchak's Anti-corruption Policy, endorsed by the Corporate Governance Committee at its 3/2013 meeting on August 20, 2013. This policy is part of the Corporate Governance Policy, Section 2 (Anti-corruption). It reiterated Bangchak's intention to conduct business in full compliance with applicable laws and regulations under corporate governance. All forms of fraud are not to be tolerated, and anti-corruption measures are defined.
- On October 8, 2013, Bangchak was among the 1 of the 22 companies of all 249 CAC member companies, certified as allies of the Thai private sector opposing fraud in Collective Action Coalition Against Corruption (CAC).
- On November 3, 2013, the Company organized CG Day 2013 activities under the Bangchak ACT NOW: Joining Forces against Corruption theme at Bangchak Refinery. Activities included an exhibition; sharing of anti-corruption experience with General Dapong Ratanasuwan, Chairman of the Corporate Governance Committee; and staff performing role plays for better understanding of Corporate Governance Policy, Section 2.





Risk Management

Volatility marked Thailand's economic, political, and oil price situations, as well as the Baht value this year, dealing a big blow to consumers supply and demand as well as the oil business. To tackle these challenges, Bangchak applied management tools for long-term risks, strategic risks, and the annual corporate risks along with continual monitoring of operations, which enabled it to execute all its operating plans as summarized below.

1. Economic risks

The Board, executives, analysts, and planners held a meeting to define business strategies in line with changing circumstances, future investment for growth, and to analyze risk factors affecting corporate goals, whether it is volatility in the oil price, Baht value and exchange rates, uncertainty of energy output and demand, or changes in public policy. Plans to tackle such changes and uncertainties were mapped out together with risk factors affecting new investment projects, including the 3E Project and the ethanol plant.

2. Social risks

- **Consumers' behavior**

Today's consumers are becoming more environment-conscious. With its Greenery Excellence corporate culture, Bangchak has therefore introduced green products in the gasohol group and Power D diesel. This year it introduced the E20 gasohol under the Euro 5 standard for the first time in Thailand and Asia to gear up for consumers' behavioral change. It also invested in a solar power generation project and another palm oil-based diesel plant, not to mention continued palm oil growing, unprecedented support to public policy on alternative-energy fuels, policy push to subsidize alternative-energy fuels to lower the burden on consumers, and reduction of raw-material imports to maintain the national trade balance.

- **Safety to communities and society**

Bangchak has applied ISO 22301 (Business Continuity Management) to ensure stakeholders of its continued operation even during crises, while managing to lower social and surrounding community impacts. Frequent political protests and rallies have affected employees' job performance and disrupted main communication routes. Bangchak therefore implemented its crisis management plan for blocked offices and communication routes, which enabled it to proceed with business and continue products deliveries, with little impact. As a precautionary move, Bangchak also conducted a drill under a plan for a severe epidemic affecting employees.

In addition, Bangchak has assessed risks and potential impacts arising from change in external circumstances and regularly applied lessons learned to amend business processes and regularly add to business continuity management plans. Still, out of its concern for the safety of communities and society, it continued staging regular activities to educate communities around the refinery, conducted emergency drills for schools and condominium residents, installed effective communication systems between communities and the refinery, and invited community representatives to observe its Level 3 emergency drills. Finally, Bangchak commissioned international experts to revise its operation, make changes to it, and upgrade safety standard inspection to boost community confidence.

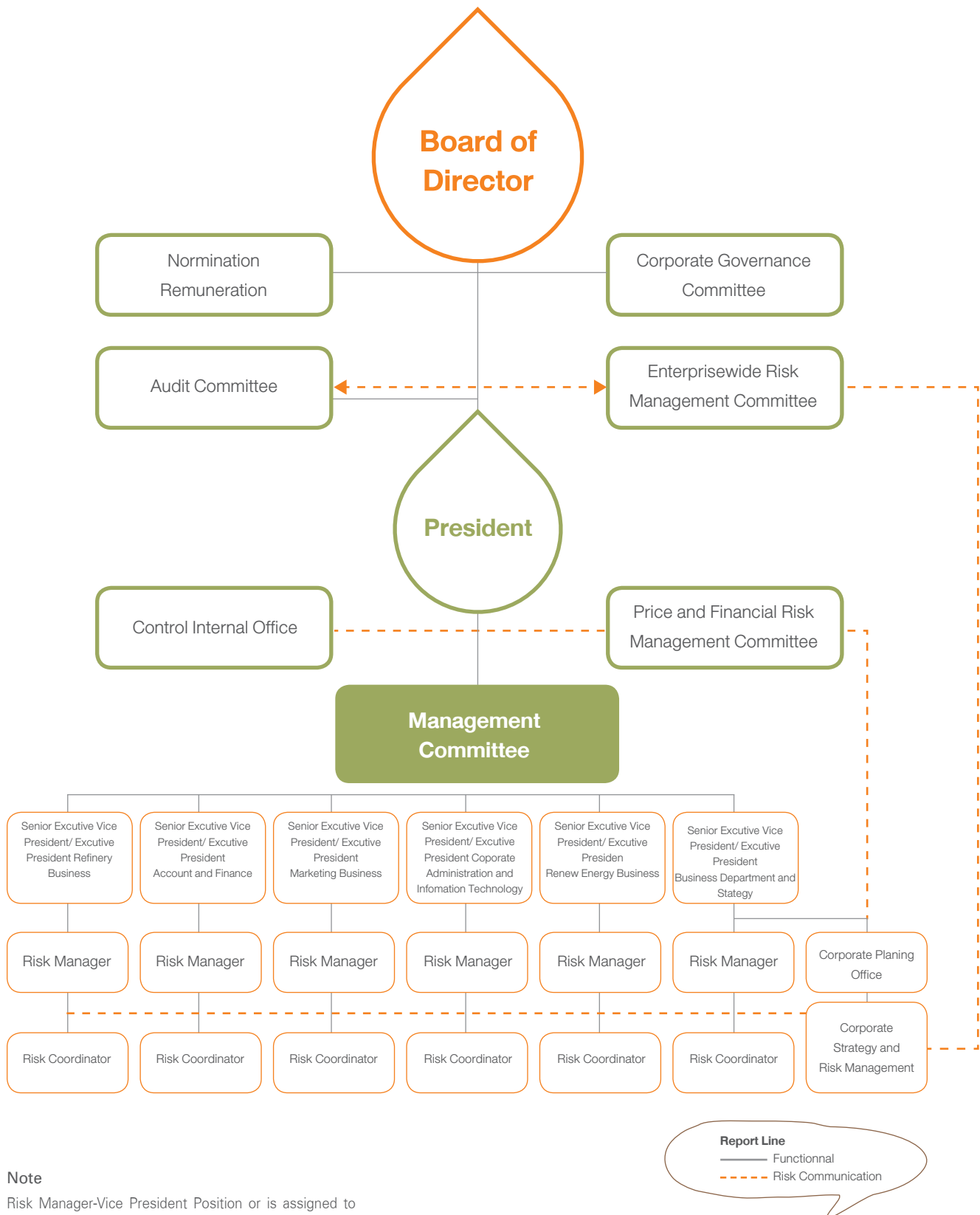
3. Environmental risks

Attracting considerable interest from society, environmental impacts are particularly sensitive, with potentially severe damage to business culprits, which is why Bangchak is always committed to environmental care by proactively pushing a policy of prevention and work efficiency improvement to cover all business risks, including

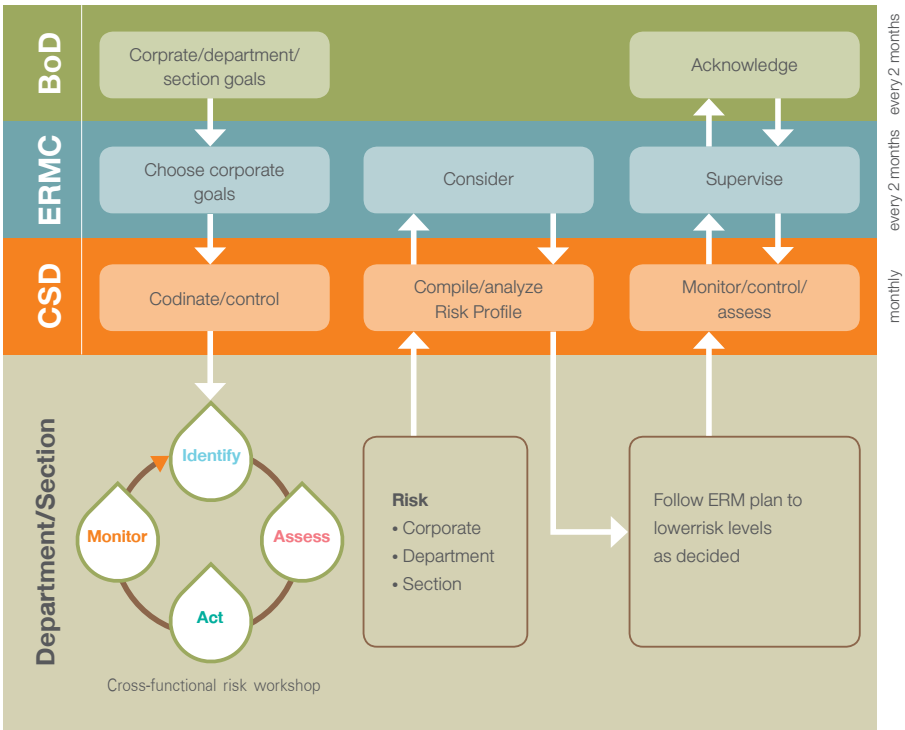
- Requiring double-hulled oil transport vessels
- Preparing/adding adequate oil-slick prevention and disposal tools for emergency use
- Conducting plan drills for oil spills with IESG to Lower potential impacts from oil spills during marine and river transport, And the public.
- Presenting and installing 30-meter booms for Bang NumPhueng Community to uses in miscellaneous.
- With PTT Group, assessing accident risk arising from marine and river transport between oil depots
- With the State Railway of Thailand, considering improvement of accident-prone rail track portions facing oil transport to Bangchak Refinery
- Participating in a drill under a plan to prevent and alleviate accidents during crude oil transport, staged by public agencies and the private sector in Ayutthaya Province



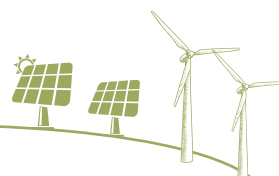
The Company implements its risk management system under the internationally accepted COSO Enterprise Risk Management (COSO ERM) and ISO 31000 standards to ensure goal achievement and preparedness for changing circumstances, as shown:



Enterprisewide Risk Management Process (ERM)



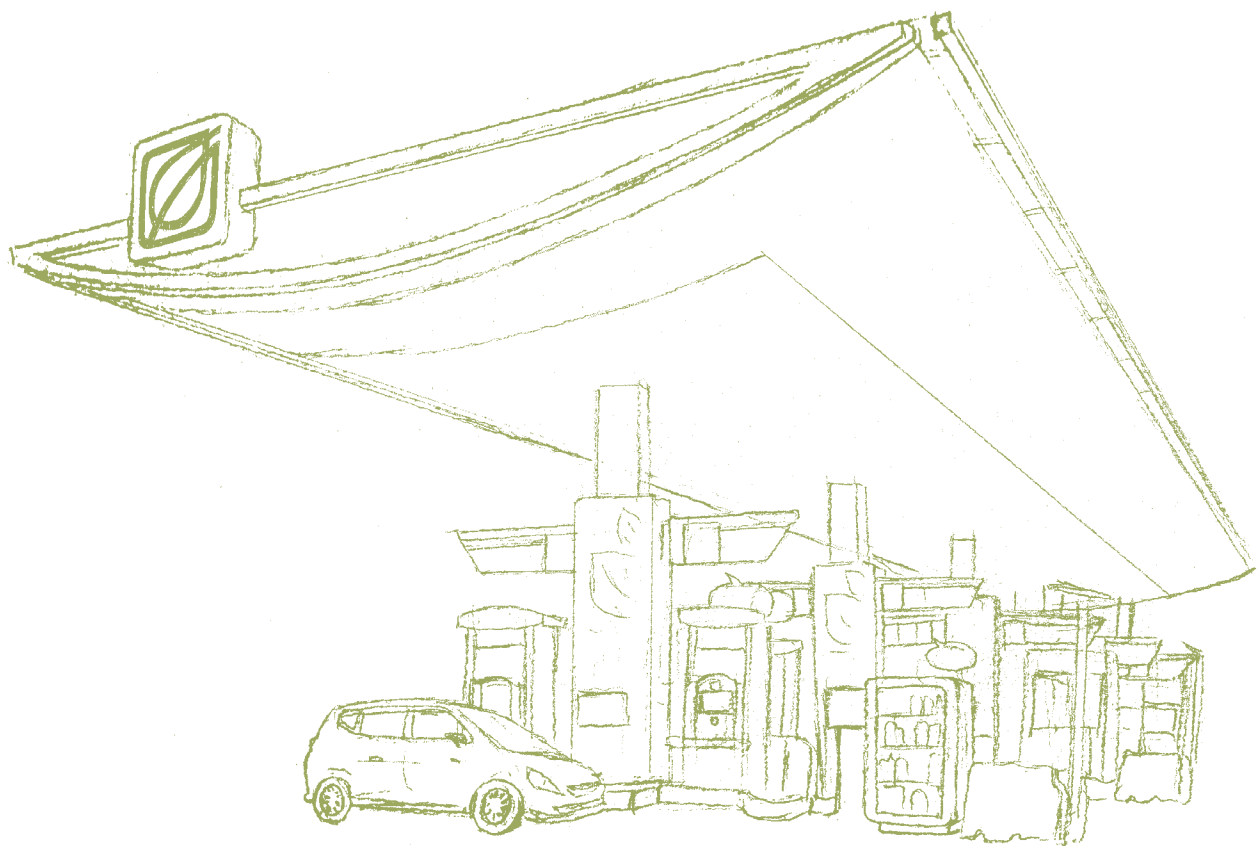
Adherence to The United Nations Global Compact



	10 universal principles	Implementation
Human rights	<ol style="list-style-type: none"> 1. Business should support and respect the protection of internationally proclaimed human rights; and 2. Make sure that they are not complicit in human rights abuses. 	<ul style="list-style-type: none"> • Define equitable respect for human rights in the corporate governance policy • Establish channels for whistle-blowing and complaints about violations of laws or ethics, To Internal Control office (E-mail : ico@bangchak.co.th) together with protective mechanisms for whistle-blowers
Labour	<ol style="list-style-type: none"> 3. Business should uphold the freedom of association and the effective recognition of the right to collective bargaining; 4. The elimination of all forms of forced and compulsory labour; 5. The effective abolition of child labour; and 6. The elimination of discrimination in respect of employment and occupation. 	<ul style="list-style-type: none"> • Support and establish a Bangchak Labor Union to <ol style="list-style-type: none"> 1. Seek and safeguard benefits concerning hiring conditions 2. Promote cordial relations between the employer and employees, as well as among employees themselves, to ensure peaceful and proper co-existence • Hire no involuntary labor, forced labor or child labor • Support competency development at the professional level; put the right man on the right job; treat employees fairly; establish decent and safe welfare and workplace environment; and provide compensation comparable to business peers
Environment	<ol style="list-style-type: none"> 7. Business should support a precautionary approach to environmental challenges; 8. Undertake initiatives to promote greater environmental responsibility; and 9. Encourage the development and diffusion of environmentally friendly technologies. 	<ul style="list-style-type: none"> • Define “Greenenergy Excellence” as the Company’s vision (that is, striving for an environmentally friendly energy business for sustainable development) • Define “Greenenergy Excellence” as the Company’s business culture • Provide accurate data, strive for understanding and listen to potential problems and impacts so that they may be promptly resolved, a basis for co-existence between plants and communities • Support public service activities through paying due regard for suitability and sustainable benefits • Be a leader in alternative-energy development, focusing on businesses that cut carbon dioxide emission • Promote the stakeholders such as Partners, communities and schools in environmental awareness. • Knowledge and experience sharing in environment topics to public.
Anti-corruption	<ol style="list-style-type: none"> 10. Businesses should work against corruption in all its forms, including extortion and bribery. 	<ul style="list-style-type: none"> • Define a business code of conduct for anti-corruption of all forms and guidelines against improper gift reception and giving, and for performing with honesty and integrity in compliance with legislation and regulations in its corporate governance policy. • Add section 2, Anti-corruption, in the Corporate Governance Policy which includes 3 principals, which are, Political neutrality and political assistance, Donation for charity and support fund and Entertainment, gifts, and other expenditure. • Organized CG Day 2013 activities under the “Bangchak ACT NOW: Joining Forces against Corruption” theme for better understanding of Corporate Governance Policy, Section Two.



Stakeholder Engagement





Stakeholder Engagement

The Company has defined its missions in 3 dimensions to grow sustainable value for stakeholders; they are conducting business to steadily grow its returns in a fair manner, promoting a business culture that is responsible to the environment and society, and growing employees into professionals. All dimensions have been participated in the various communication processes in order to realize stakeholders' expectations and respond correctly.

NO.	Stakeholders	Example of Stakeholders	Participation in the Communication Process
1.	Shareholders	<ul style="list-style-type: none"> - Major Shareholders - Minor Shareholders 	<p><u>Reporting</u> : Annual Report, Sustainability Report, Annual shareholder meeting (AGM), CG policy, IR Newsletter</p> <p><u>Meeting</u> : Company visit, Analyst meeting, Opportunity day, Roadshow Expo, Set in the city</p> <p><u>Communication Channel</u> : Website, Facebook, IR Newsletter</p>
2.	Employees	<ul style="list-style-type: none"> - Permanent Employees 	<p><u>Reporting</u> : Annual Report, Sustainability Report</p> <p><u>Meeting</u> : President meet employee, Employee committee</p> <p><u>Activity</u> : Seminar, Sport Club, Executive visit employee, Employee orientation, Employee birthday, Employee engagement activities, Employee Health promotion activities.</p> <p><u>Communication Channel</u> : Employee committee, Intranet, MS Outlook, KM Blog, Electronic-notice Board, 64 Next Station Radio, E-news, E-letter, E-learning, Web board, Website, Facebook, B-Voice e</p>
3.	Community and Society	<ul style="list-style-type: none"> - Nearby Community/Society - Remote Community/Society society 	<p><u>Activity</u> : Thai Traditional Events, Company visit, Community Relations Activities, Community Dialogue, Buying of used vegetable oil, Thailand Go Green project.</p> <p><u>Communication Channel</u> : Community radio, San Rob Rua Journal, Krob Krua Bai Mai Journal, Community visit, SMS, Call Center, Bangchak Information Center in shopping mall near the refinery, Online Air quality report on LED signboard in the community, Website, Facebook</p>





Expectation	Response
<ul style="list-style-type: none"> - Financial Stability - Return on investment - Transparency Management - Continuous growth 	<ul style="list-style-type: none"> - Stock dividend, - Margin form stock price - Corporate governance - Transparency - Shareholder equally treatment
<ul style="list-style-type: none"> - Potential development - Welfare improvement - Happy workplace 	<ul style="list-style-type: none"> - Career path - anually review and develop employee welfare - Employee development project i.e. Training, Cross functional Program, Job Rotation, KM, CoPs - Develop workplace environment - SHEE Promotion Program - Employee engagement activities
<ul style="list-style-type: none"> - Good environment, safety, - participate in social activity - Help to create Good living in the society. 	<ul style="list-style-type: none"> - Develop communicate to the community. - Disclosed information concerning environment quality - Arrange social activity accord with the group goal - evaluate the social activity. - Community participate with the community activity - Sell community product in the service station

NO.	Stakeholders	Example of Stakeholders	Participation in the Communication Process
4.	Suppliers/Contractors	<ul style="list-style-type: none"> - Contractors - transportation fuels; ships, cars, vessels - Joint Product Development - joint investment in new business 	<p><u>Meeting</u> : Annual Seminar, Meeting, Training i.e. Annual plan meeting with contractors and monthly KPIs meeting, Seminar concerning environmental law and release policy concerning social responsibility to the Supplier</p> <p><u>Activity</u> : contractor relationship engagement i.e. Give award to the supplier which produce Green product, join the CSR-DIW advance project.</p> <p><u>Communication Channel</u> : Call center, Announcement, E-mail, Website</p>
5.	Press Conference	<ul style="list-style-type: none"> - Televisions - Radios - Newspapers - electronic media 	<p><u>Meeting</u> : CEO Meeting</p> <p><u>Activity</u> : Press Tour, Company visit</p> <p><u>Communication Channel</u> : Press Release, Journal and Magazine, Exhibition, E-news, Website</p>
6.	Customers and Society	<ul style="list-style-type: none"> - Service Station Dealers - Co-op Service Station - Consumers 	<p><u>Reporting</u> : Annual report, Sustainability report, Entrepreneur manual, Customer relation management</p> <p><u>Meeting</u> : Dealer forum</p> <p><u>Communication Channel</u> : Green news letter, Product brochure, Call center, Announcement, E-mail, Website, Suggestion box, Facebook, Mobile application</p> <p>Product : GSH Club Card, Diesel club card, Member card activities</p>
7.	Competitors	<ul style="list-style-type: none"> - Other Oil Traders 	<p><u>Activity</u> : Events, Networking Activities, Website</p> <p><u>Communication Channel</u> : Website</p>
8.	Lenders	<ul style="list-style-type: none"> - Financial Institute - debenture holder 	<p><u>Meeting</u> : Analyst meeting, forum Reporting : Annual report, Sustainability report</p> <p><u>Activity</u> : Road show, Exhibition</p> <p><u>Communication Channel</u> : Website</p>
9.	Government	<ul style="list-style-type: none"> - District Office - Department - Ministry 	<p><u>Reporting</u> : Annual report, Sustainability report, Environmental Monitoring Report</p> <p><u>Activity</u> : Company visit</p> <p><u>Regulation</u> : Comply with Laws, Regulations, Corporate governance, Site/Area visit</p> <p><u>Communication Channel</u> : Provide accurate and timely information to related sectors, Website</p>

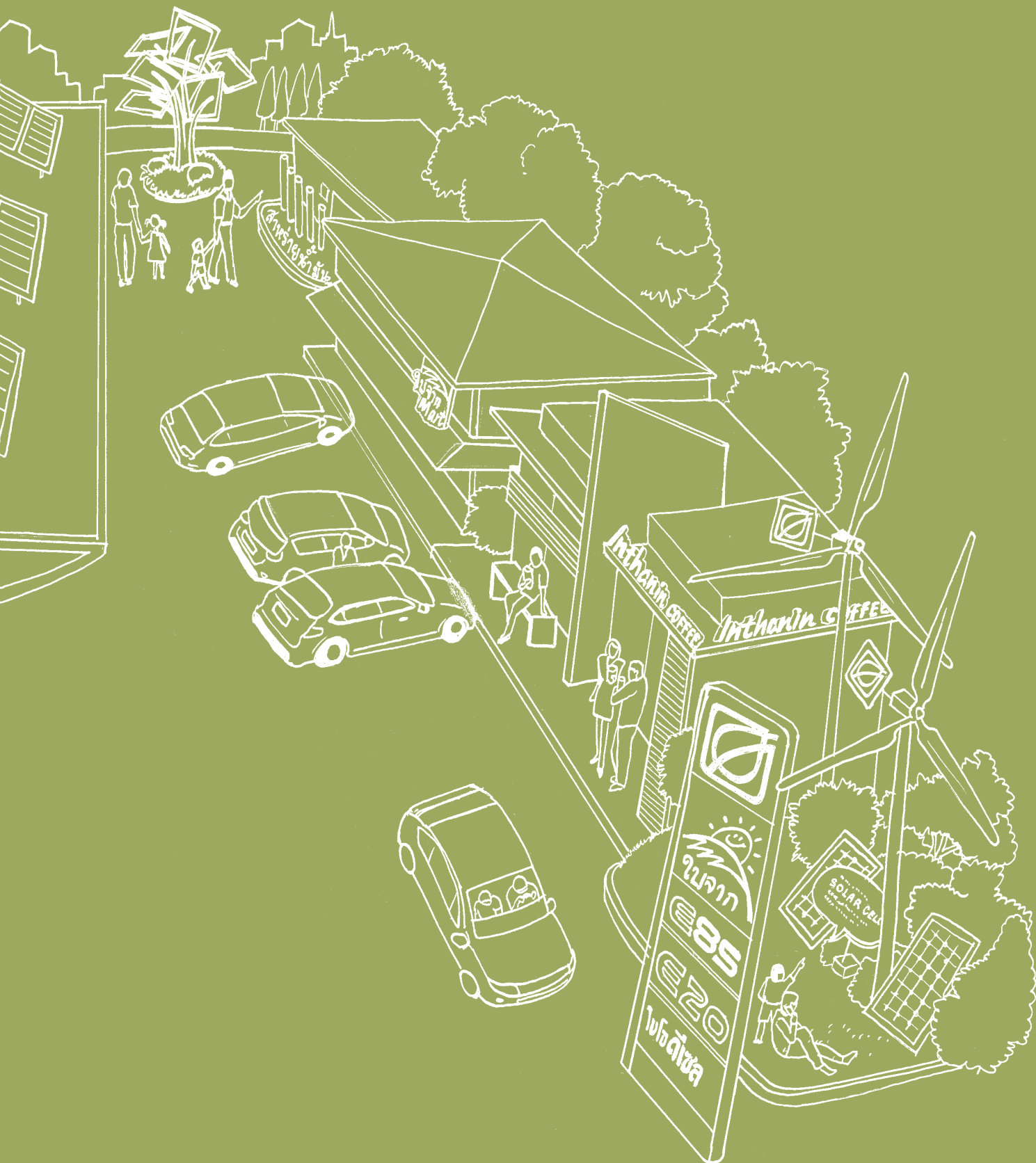


	Expectation	Response
	<ul style="list-style-type: none"> - Establish fair, transparent hiring and procurement processes - Provide data and details that are clear and equitable to all for accurate, competitive quotations - Coordinate and perform job performance strictly by contracts - Inspect deliveries and pay for goods punctually - Allocate time and workloads in line with ability - Provide clear needs and scopes of work for reasonable quotations - Look after contractors with respect for human rights, in line with labor laws, which includes suitable space allocation for equipment storage, work space, lodging, and parking space 	<ul style="list-style-type: none"> - Review contractor management processes - Duly improve work surroundings and equipment in line with work - Assess teamwork satisfaction - Review and improve quotation processes; properly define work scope and educate users about hiring and procurement processes
	<ul style="list-style-type: none"> - Efficient communications - Accurate and transparent information 	<ul style="list-style-type: none"> - cooperate and Accurately inform the presses
	<ul style="list-style-type: none"> - Quality Product - Customer Service Quickly - Cleanness and attractiveness of service stations - Comfortable with ordering all sorts of products - Efficient communications 	<ul style="list-style-type: none"> - Developing quality of products, supportive businesses and other services, develop web ordering - Refreshing and Rebranding service stations and supportive businesses - Lunching new promotions/ training - Device check-up in the service station - Mobile Toilet Repair - Customer Relation Management via GSH Club, Diesel Club - Social Network, Mobile Application
	Free competition and fair marketing	<ul style="list-style-type: none"> - Operate business with transparency under fair trade and competition
	Comply with conditions and agreements of Loan contract	Strictly comply with conditions of Loan contract such as interests payment, principal payment
	<ul style="list-style-type: none"> - Comply with laws and regulations - Responsible in social and environment - Environment management - Cooperate and support government project 	<ul style="list-style-type: none"> - Comply with laws and regulations related to business accurately, transparently - Environment quality control is more stringent than laws - Declare accurate and timely information to public agency - sent representative to join in the government project - Participate in the government activity i.e. Green industry Level 5, CSR-DIW



About this report







About this report

This Sustainability Report illustrates Bangchak Petroleum Plcs (BCP) performance related to social, economic and environmental development. We first prepared this sustainability report for distribution in 2005, so this is our 9th issue, containing performance from January 1 to December 31, 2013, under an approach suggested by Global Reporting Initiatives Guideline Version 4.0 (GRI-G4), Core level indices, indices with applied United Nations Global Compact principles.

In essence, it illustrates the Company continuous development in executing its business with social and environmental responsibility on a path toward being Thailand CSR role model. The report consists of an identification of key issues, namely vision, strategies, good corporate governance, anti-corruption, key company risks, together with economic, environmental and social performance.

This year marked the continuation of BCP progress from the GRI-G4 check as the 2nd year for providing a limited assurance on the selected subject matter by a third party named PricewaterhouseCoopers ABAS Ltd., so as to give the report full coverage and credibility according to the GRI-G4 data presentation approach. The Company performed selection procedure from various external experienced companies that provide a limited assurance over sustainability report in oil and gas industry. The focus was on gathering, compilation and reporting of core indicators of the refinery business for the 2nd year :

Environment Data : Greenhouse gas emission, energy consumption, water consumption and waste disposal.

Social Data : Injury Frequency Rate (IFR) and Injury Severity Rate (ISR), and average employee training hour per year.

Disclosure in Independent Assurance Report on Sustainability Report 2013, page 100

Scope: This report presents the performance data of 2013 of BCP, covering the activities of all business groups but excluding its subsidiaries and affiliates. An exception is the environmental indicators that are Injury Frequency Rate and Injury Severity Rate, which reflect performance the Refinery Plant on Sukhumvit 64 Road. The average employee hour per year calculation basis for employees who work at the Head Office and the Refinery Plant on Sukhumvit 64 Road.

For any questions or recommendations, please contact : Environment and Community Relation Division
or email : chongprode@bangchak.co.th, Telephone 02-335-4100

Key issues

Contents to sustainable corporate development, in line with the expectations of stakeholders and Bangchak itself. Below is a description of the process:

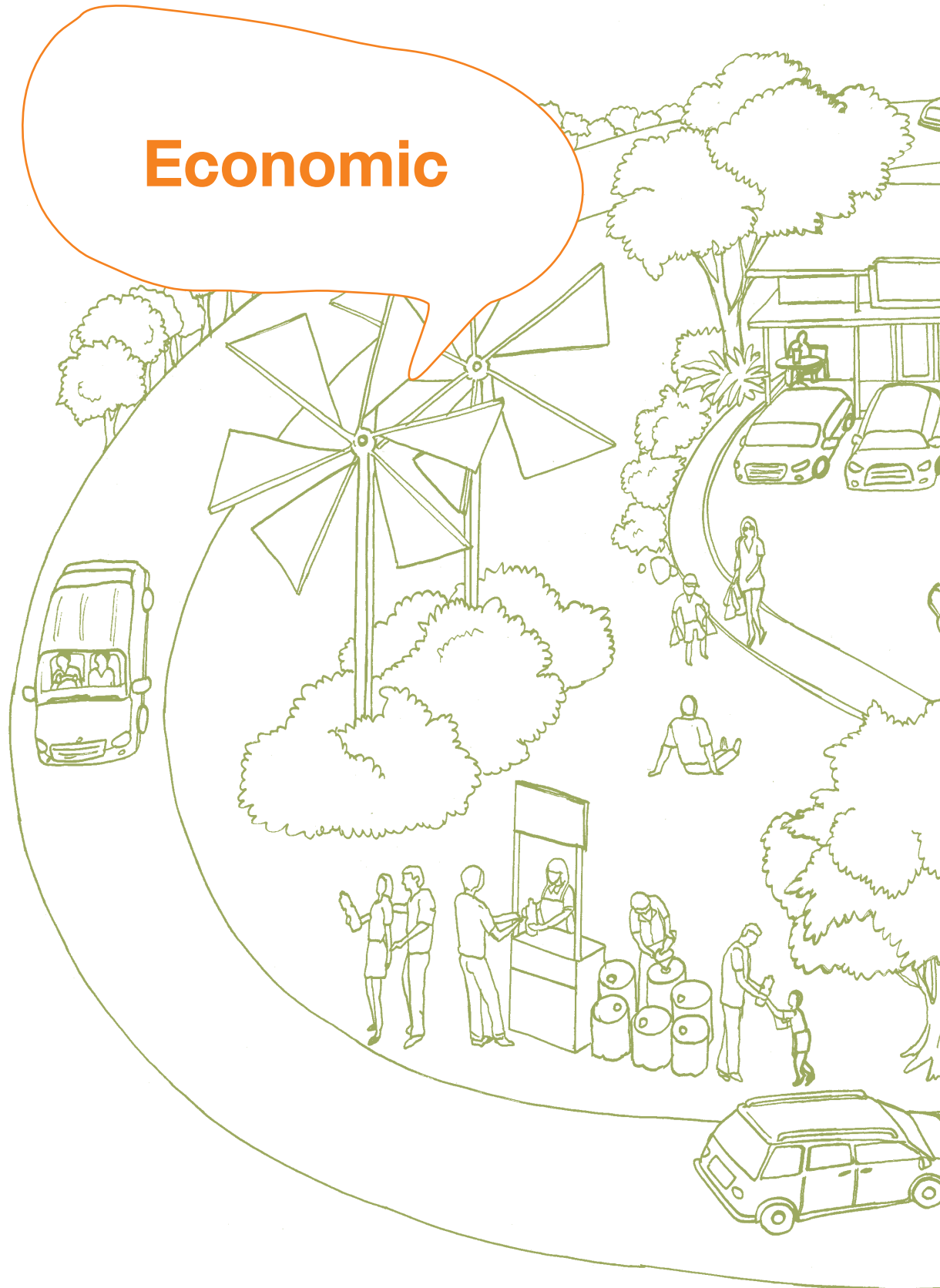


Sources of important contents for this report

Coupled with issues significant to corporate success, they lead to the selection of contents on corporate data. The contents essential to stakeholders expectations and interests appear in the materiality matrix, shown in the diagram, which encompasses economic, social, and environmental performance outcomes, as detailed below.

Corporate data	Performance outcome		
	Economic	Environment	Social
Corporate Governance, Business Ethics and Anti-corruption	- Economic performance	- Legal Compliance - Green production	- Labor Practice and Human rights - Operation on safety - Community and society Development

Economic







Income

This year Bangchak generated Baht 183,286 million in overall sales and service revenues, made up of Baht 179,837 million in petroleum product sale, Baht 2,671 million in lubricating oil sale, and Baht 778 million from its solar farm business. In all, Bangchak gained Baht 16,093 million from last year's total revenues. For the oil-refining business alone, the revenue growth was 35%, this despite a lower gross refining margin (GRM) of US\$5.76 per barrel—against US\$8.34 last year—while it produced more fuel oil of a lower GRM due to the production suspension of the hydrocracking unit. The revenue growth also came from the marketing business, with a 10% growth rate of the retail and industrial markets, totaling 5,005 million liters in sale amid the 19% lower GRM and Bangchak's cooperation with the public sector in buying cassava-based ethanol (whose cost exceeded molasses-based ethanol). The revenue growth also resulted from the Sunny Bangchak solar farm, currently with a capacity of 38 MW. This year the project generated 66.88 million kW-hour, a 103% rise from last year, thanks to its full capacity realization and the greater average light intensity of 5.07 kW/square meter (up from 5.03 kW/square meter last year). Other revenue items totaled Baht 1,904 million, of which Baht 1,598 million was insurance compensation for the accident at CDU-3 last year and that for flood-related expenses associated with the Great Floods of 2011.

Expenditure

This year Bangchak incurred Baht 137 million less operating expenditure, largely the reduced advertising, PR, and other items, while the appreciation and amortization of operating assets surged by Baht 26 million. Expenses for looking after society, schools, and communities, including donations in kind and in cash, raised up Baht 4 million, while tax payment to the government and local agencies rose by Baht 353 million despite a drop in juristic person income tax rate from 23% to 20%. Meanwhile, the cost of funds rose by Baht 78 million due to the withdrawal of a long-term, dollar-denominated loan worth US\$200 million (Baht 6,501 million) together with the repayment of long-term loans worth Baht 6,434 million—Baht 5,500 million of which was done early. This aligned with Bangchak's improved dividend payment over the dividend policy. This year, dividend payment exceeded that of last year by Baht 206 million.



In short, Bangchak posted a net profit of Baht 3,971 million, about Baht 228 million or 5.43% lower than year.

Bangchak's revenues

185,190.56
Million Baht



Gross revenues

3,971.58
Million Baht



Net profit

Expenses for income redistribution to stakeholders

1,118.50
Million Baht



Tax paid to the government and local agencies

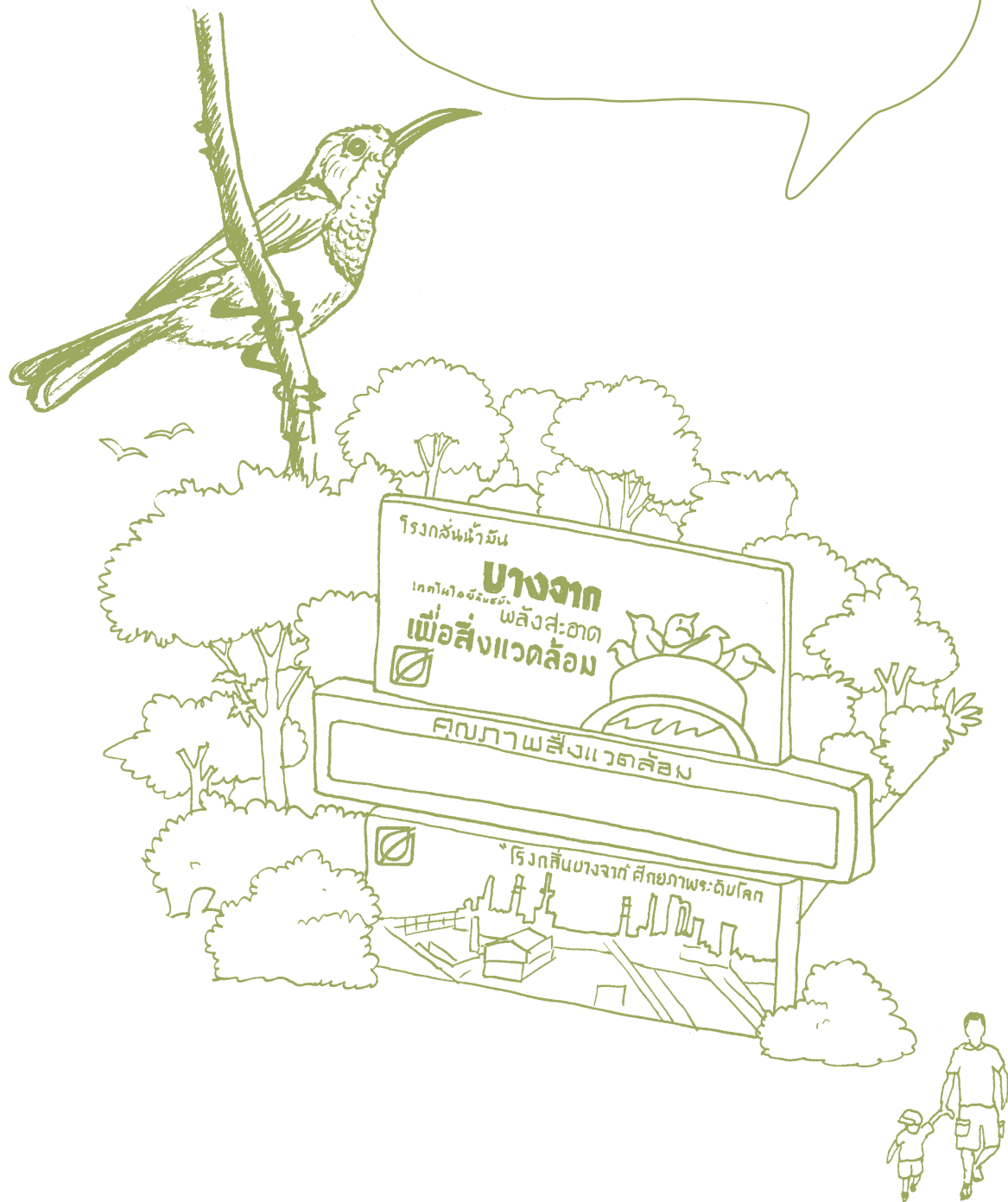
2,065.05
Million Baht



Shareholders' dividend



Environment





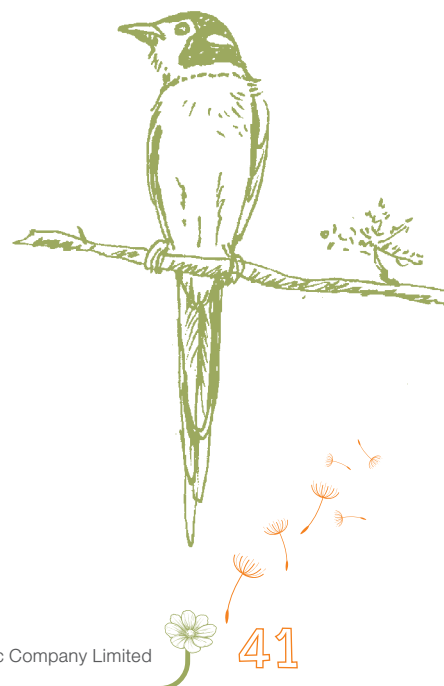
Environmental Management

For 16 years now, Bangchak has maintained its ISO 14001 environmental management system in controlling petroleum refining processes as well as the Bangchak and Bang Pa-in Oil Distribution Centers. Out of the top management's commitment to continuous development, this year Bangchak modified and announced its policy on safety, security, environment, and energy to frame its implementation under ISO 14001, OHSAS/TIS 18001, and ISO 50001, of which it filed for certification in late 2013. This policy announcement has incorporated security matters, saying that all employees and contractors must comply with security laws on top of those concerning safety, occupational health, environment, and energy. This includes job performance for the security of oneself, related parties, communities, and the surroundings.

Top management also supplied resources for environmental quality improvement through new investment in a project to improve effluents for reuse and environmental preservation—an extension of the effluent reduction and water reduction project. Both projects are due for completion and start-up dates in late 2014, after which Bangchak is expected to reuse effluents in processes to start reducing effluents to public water bodies.

Valuing human resources, Bangchak allocated a budget to continual personnel capability development for environmental knowhow through a variety of courses, namely internal assessor, online document and ISO management system implementation, water pollutant treatment system operators, air pollutant treatment system operators, inspection and control of VOCs leaks, reverse osmosis system principles, and a filter press dry-sludge preparation system.

This year Bangchak invited experts to educate its employees on preparing application for Green Industry Award, Level 5, Green Network, from the Ministry of Industry, Thailand after winning a Level 4 Award in 2012.





Green Production and Carbon Footprint

Raw materials

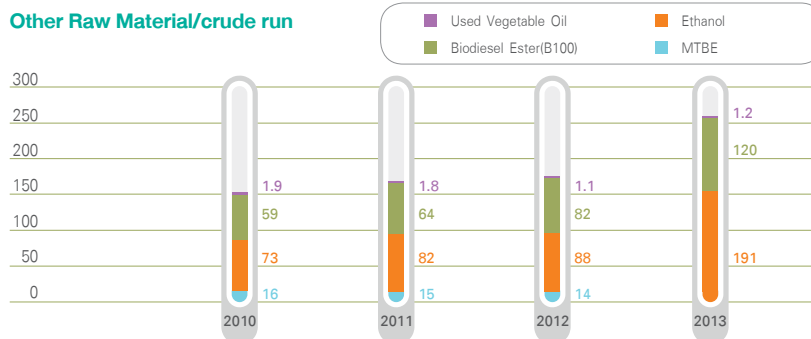
The Company refines imported and indigenous crude oil with modern and environmentally friendly technology. This year, indigenous crude amounted to nearly 2.6 million litres, or 44% of the total crude run, decreased from last year. In addition, the Company fed 2.3% of off-specifications refined oil and slop oil back into its refining processes, thus lowering oil losses and consuming resources more effectively.

This year, the Company used B100 biodiesel ester and ethanol as raw materials in producing biodiesel and gasohol, for 109 and 191 million liters. In this year, Department of Energy Business has cancelled the Benzine octane 91 and replaced it with gasohol octane 91.

Crude Oil sources (%)

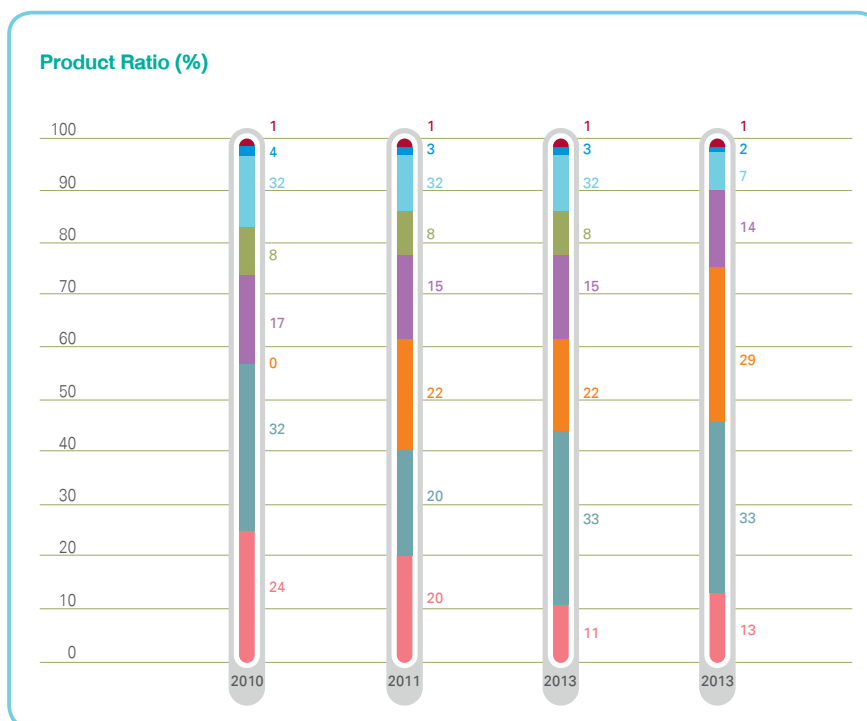


Other Raw Material/crude run



Products

The Company's products include fuel gas, LPG, octane 91 gasoline, gasohol octane 91 and octane 95, jet fuel, Power D Diesel B2, B3 and B5 and fuel oil. This year, BCP increase the refine of gasohol Octane 91, in order to replace Benzine octane 91.



* In 2013 Cancelled Benzine octane 91

** In 2007-2011 Cancelled production of kerosene.

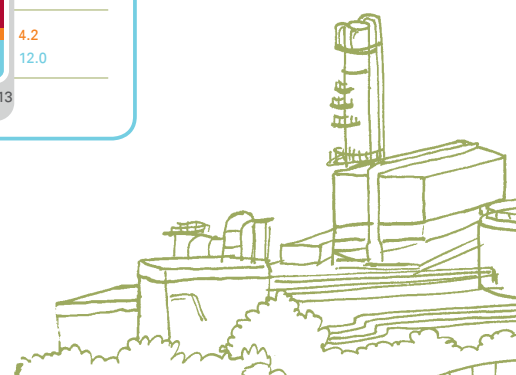
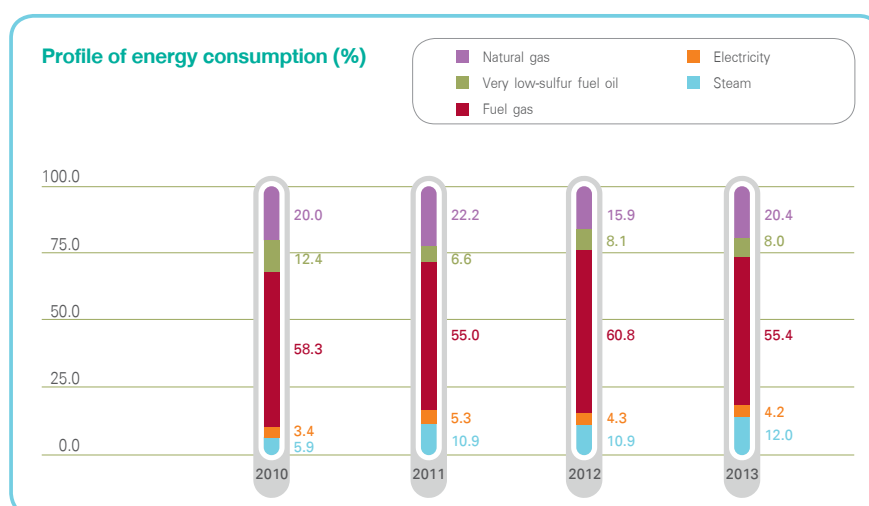
- LPG
- Fuel gas
- Jet fuel/kerosene**
- 91-and 95-octane gasoline*
- Gasohol 91 and 95*
- Diesel
- B2, B3 and B5 PowerD
- Fuel oil

Energy

In its processes, the Company consumes primary sources of 2 types : direct energy (Fuel Gas (FG), Liquid Petroleum Gas (LPG), Natural Gas (NG), and Fuel Oil (FO)) and indirect energy (electricity supplied by the Metropolitan Electricity Authority (MEA)), along with electricity and steam supplied by Bangchak Utility Plant (BUP). All energy is classified as non-renewable.

Bangchak consumed a total of 12,864 Terajoules of energy, a 15.7% rise from last year in keeping with the 36% rise in outputs and the additional energy consumption by Tail Gas Treating Unit (TGTU), amounting to 21 Terajoules, starting from November 2013. Bangchak realized improved energy efficiency and reduction of carbon dioxide emission, thanks to its consumption of more natural gas at the expense of fuel oil, and to indirect energy consumption as a result of more electricity and steam purchases.

Source of Energy	2011 (Terajoules)	2012 (Terajoules)	2013 (Terajoules)
FUEL (Primary)			
- FG + LPG	5,860	6,753	7,130
- NG	2,372	1,764	2,626
- FO	704	905	1,029
Electricity Purchasing (Secondary)			
- MEA	99	101	103
- BUP	462	376	438
Steam Purchasing			
- BUP	1,162	1,215	1,538
Total	10,659	11,114	12,864



This year, the Energy Management Committee continued to manage its refinery efficiency improvement project. Compared with the base year (2009) before the project launch, the Company managed to trim about 339.7 Terajoules equivalent to a reduction of 19,068 tons of carbon dioxide equivalent (TOCE) in greenhouse gas emission. Meanwhile, natural gas instead of LPG started being fed into the hydrogen unit, thus lowering the emission by 40,257 TOCE. When combined with the existing project, replacement of low carbon fuel, which had been constantly managed to lower 110,667 TOCE. The Company successfully trimmed greenhouse gas emission by 169,992 TOCE., (14% as on the GHG emissions volume prior the Refinery efficiency improvement initiative.)

Refinery efficiency improvement project	Reduction in energy (Terajoules)	Reduction in greenhouse gas emission (TOCE)
Fuel Consumption Reduction Project		
1. Reducing excess oxygen from combustion in the hydrogen plant	156.4	} 18,355
2. Increasing the inlet temperature of the naphtha splitter column in the hydrocracking unit	0.4	
3. Improvement the efficiency of the heat exchanger in the topping unit	109.2	
4. Lower reflux ratio at gasoline stabilizer of Distillation Unit 3	10.4	
5. Improve Furnace in Vacuum Distillation Unit	50.6	
Steam Consumption Reduction Project		
1. Lower reflux ratio at amine regenerator of 3 rd Refining Unit	3.0	} 713
2. Improve insulator of 40-bar steam conduit	9.7	
Replacement of Low-carbon Input into Hydrogen Unit Project		
1. Use natural gas as feed for hydrogen unit	-	40,257
Replacement of Low-carbon Fuel Project		
1. Use clean-burning natural gas instead of fuel oil	-	} 110,667
2. Generate electricity and steam from co-generator plant	-	
Total	339.7	169,992



Carbon footprint

Recognizing the criticality of climate and environmental change, the Company constantly undertook a project to cut greenhouse gas emission, as seen under the Refinery Efficiency Improvement Project, lower consumption of fuels and steam, replacement of Low-carbon feed into Hydrogen Unit Project, and Replacement of Low-carbon Fuel Project. In this year, the company release Carbon dioxide total of 989,587 TOCE, The calculation was in compliance with Greenhouse Gas Protocol. describe as follows:

1. Direct emission from processes: 819,828 TOCE
2. Indirect emission from the purchase of electricity and steam from PTT and that of electricity from MEA: 169,759 TOCE

The total greenhouse gas (GHG) emissions this year exceeded those of last year by 13% or 124,597 tons of carbon dioxide equivalent, since Bangchak commanded longer continued operation this year. Also, the crude oil throughput this year amounted to 4.76 million tons, which was 1.22 million tons higher from 2012. In addition, Electricity and steam consumption rose with the commissioning of the Tail Gas Treating Unit (TGTU) in November this year. However, the ratio of GHG emissions to the crude oil throughput this year was 0.208 tons of carbon dioxide equivalent per ton of throughput, somewhat lower than last year of 0.244 tons of carbon dioxide equivalent.

Additionally, the company is the first company in Thailand, which received Carbon Offset Certificate from Greenhouse Gas Management Organization (Public Organization), from its projects to cut greenhouse gas emission and develop to Green society.

Water

The Company uses water supplied by MEA for the refinery. and reserve sources fire water from the Chao Phraya River. Water consumption in 2013 amounted to 2,378,073 cubic metres, increase from the previous year due to the generate and the operation of Tail Gas Treating Unit: TGTU. However, the company has lower use water for maintenance purposes as well as implementation of the following water-saving measures in offices and refining processes:

1. Use of stripped water from the Sour-Water Stripping Unit and Boiler Feed Water (BFW) of Distillation Unit 2 and 3, reducing consumption by 155,928 cubic metres.
2. Treated slightly contaminated condensate water for reuse in the boiler feed water system of the 4th Refining Unit, thus lowering the requirement for water by 679,513 cubic meters a year.
3. Used high-quality condensate water in place of regular water for boilers at the 2nd Refining Unit and the Plant Energy Unit, thus lowering the requirement for water by 91,104 cubic meters.
4. Treated water initially with a reverse osmosis system before feeding the water into the demineralization system, thus lowering the requirement for water from system improvement by 38,000 cubic meters a year.

In addition, the Company took the following measures:

1. Installed an additional reverse osmosis system to treat water before feeding it into the demineralization system to cover the demand for demineralized water by early 2013 so as to lower the need for piped water by no less than 38,000 cubic meters a year.
2. Installed a water filtering system and a reverse osmosis system to treat desulfurized water derived from the sour water stripping unit at the Distillation Unit 4. The resulting water was then used for piped water in the cooling water system. Completion is planned for early 2013 to lower the requirement for water by no less than 85,000 cubic meters a year.



Pollution emission

Air pollution

As for environmental monitoring, the Company regularly measures stack-air quality to ensure that the total suspended particulate masses (TSPs), nitrogen oxides (NOx) and sulfur dioxide (SO₂) are superior to those announced by the Ministry of Industry and as required in Environment Impact Assessment (EIA) reporting.

Because of its close proximity to communities and recognizing the importance of environmental quality, the Company uses clean fuels in its refining process and closely monitor emissions. Continuous Emission Monitoring (CEM) equipment was installed at the refinery's emission stacks to monitor environment quality and pollutants in the exhausts at all times. Furthermore, the Company has set up two air quality monitoring stations near its neighborhood. The first checkpoint was at Somthawil School, the second checkpoint was set up at the Secretariat Department military housing units. All readings go to the monitors in the Process Control Room and air-quality analytical results are displayed together with those from the CEMs on automatic environment quality signboards installed at the entrance to the refinery and communities in its vicinity as well as in public areas for the public to monitor them at all times as well as for the comfort of the surrounding communities. This year Bangchak installed additional VOC (volatile organic compound) measurement tools for at the Secretariat Department military housing units and linked all online environmental parameters, including effluent quality, stack air quality, ambience air quality, wind directions, and wind speed to the emergency command and the office building where its environmental personnel are stationed. That way, all environmental parameters can be constantly tracked under normal circumstances and emergencies.

In addition, by developing an inventory of VOCs (Volatile Organic Compound) emissions and monitoring them continuously since 2010, Bangchak takes VOCs very seriously. This year it completed the inspection of VOC leaks from all its equipment and has begun inventory accounting of individual VOCs.

Water Pollution

The Company houses high-efficiency wastewater treatment systems using closely-monitored online measurement devices. Effluent is tested daily by its Environmental Quality Analysis Laboratory, certified by the Department of Industrial Works, Ministry of Industry, and is ISO/IEC 17025-certified. Process water is treated physically, chemically and biologically until the quality exceeds the required standards before discharge through the Bang Aw Canal to the Chao Phraya River. This year Bangchak discharged a total effluent volume of 1,172,745 cubic meters, consisting of treated waste water combined and non-oil-contaminated discharge. About 0.6% of this total was used for watering plants.

This year, BCP began constructing and installing an effluent water quality improvement unit with modern technology and Baht 214 million in investment to obtain quality water on a par with piped water for use in production processes. The goal was to lower the volume of wastewater and used water by 20%, and the plan was to begin partial implementation in 2014.

Waste and scrap disposal

The Company treated waste derived from processes by using the 3Rs principle and sending it for disposal by using carriers and disposal companies licensed by the Department of Industrial Works. Each time waste is transported from its plants, Bangchak notifies the department. In addition, Bangchak conducted random sampling of trucks transporting waste by using GPS to prevent unlawful disposal.

This year the Company exported from its plants a total of 2,616 tons of waste, consisting of 1,253 tons of hazardous waste (48%) and 1,363 tons of non-hazardous waste (52%). Waste that underwent treatment and disposal through proper technical means was broken down as follows: 1,088 tons as reuse, 430 tons as recycle, 785 tons as recovery, 57 tons as incineration, 167 tons as secure landfill and waste water treatment total of 89 tons. About 40 tons of waste lies in storage, awaiting disposal. The volume of waste reused and recycled this year is about 58% of the total waste exported.





Environmental Cost Accounting

Continually, Bangchak has engaged in environmental cost accounting (ECA), recognizing that such accounting can serve as a useful tool for environmental and resource consumption management in tandem with financial management for greater efficiency, dovetailing with Bangchak's Greenergy Excellence philosophy.

- 2005 : Applied ECA to its production processes
- 2008 : Institute an online electronics system for instantaneous use of data by executives and agencies needing them
- 2009 : Expanded the report scope to the Bang Pa-in Oil Distribution Center.

Since 2009, ECA has been presented to external agencies and investors for their information through the quarterly MD&A and the IR Newsletter. In addition, ECA knowledge has been transferred to students and other interested agencies.

Environmental expenses this year exceeded those of last year by about Baht 33,804 million (a 31.73% rise). About 99% (Baht 33,976 million) of the rise was the material costs of product outputs, based on a capacity increment from 73.71 thousand barrels per day last year to 99.34 thousand barrels per day. For the year, the total material costs of non-product outputs dropped by 56.14%, and the expenses of pollution control equipment, by 13.13%. The bulk of this was slop oil reduction of Baht 151.19 million because of the improved care of production processes this year, evident in the fairly steady capacity utilization. As a result, the average oil rerun cost fell from Baht 1.36 per liter last year to only Baht 1.07 baht per liter this year.

Bangchak generated income from the sale of process waste, namely liquid sulphur, because of the lower volume and unit price, while the income from glycerine sale was virtually the same.

Baht million

Item	2012	2013
Material costs of product outputs		
Crude Feed	96,406.01	127,407.41
Ethanol	2,391.83	5,551.98
B100 biodiesel	3,106.96	2,971.28
Used vegetable oil	23.38	35.76
Chemicals	47.98	39.88
Process water	34.63	40.03
Process energy	4,022.86	3,964.21
Material costs of non-product outputs		
Slop oil	258.70	107.51
Oil sediments from crude/fuel oil tanks	1.86	2.19
Effluent	8.35	6.65
Excess chemicals from stabilizer pool	0.17	1.71
Low-quality sulfur	0.12	-
Waste and emission control costs		
Environmental equipment maintenance	15.04	34.74
Pollution control equipment depreciation	171.37	128.70
Effluent treatment	6.22	4.54
Waste disposal	8.74	6.93
Environmental fees and taxes	N.A.	N.A.
Fines	-	-
Prevention and other environmental management costs		
Monitoring and measurement	5.77	5.39
Waste storage area depreciation	0.23	0.25
System operation	0.17	0.07
Environmental equipment maintenance	0.01	0.47
Benefits of byproducts and recycling		
Liquid sulfur	(15.39)	(4.26)
Glycerine	(0.64)	(0.37)
Iron and aluminium scrap	(7.98)	(10.89)
Paper	0.00	(0.05)





Eco-efficiency

In sustainable development, a business cannot consider merely business returns, but must also consider environmental impacts. This is why Bangchak has introduced an “eco-efficiency” indicator, which blends economic and environmental performance. To obtain this indicator, we rely on the adjusted EBIT, which illustrates economic performance, together with the carbon dioxide equivalent in emissions as environmental performance. All things being equal, superior economic performance or superior environmental performance raises eco-efficiency. This year, Bangchak continued cutting greenhouse gas (GHG) emissions from the efficiency improvement (debottlenecking) project within the refinery, lowered fuel and steam consumption, carried out a project to switch to low-carbon input to the hydrogenation unit, and undertook a project to switch to low-carbon fuels fed to the burner—in all producing a lower carbon footprint (989,587 tons of GHG emissions) from last year. Its EBIT (income before the cost of funds and income tax) also surges this year, thus raising eco-efficiency.

$$\text{Eco-efficiency} = \frac{\text{Adjusted EBIT (Million Baht)}}{\text{Carbon dioxide equivalent (tons)}}$$

Eco-efficiency table (Baht /ton CO₂ equivalent)

Year	2010	2011	2012	2013
Eco-efficiency	6,061	11,178	5,609	5,938



Innovative employee ID cards

“

In support of green procurement and with cooperation from raw material producer PTT Global Chemical Plc (PTTGC), distributor PTT Polymer Marketing Co.,Ltd. Bangchak issued new employee identification cards for use from 2014 to 2016. Since these cards are bioplastics, derived from natural substances like corn, sugarcane, and cassava, they are biodegradable when discarded, thus easing pollution. Bioplastics share similar qualities with ordinary plastics except for post-use qualities. Once discarded as waste and buried in landfill with suitable bacteria and enzymes, bioplastics are readily degraded.

”





Green Procurement

Amid today's consumerism evident in wasteful consumption of resources and energy, as well as urban garbage elimination problems, resulting in global warming and under the concept of sustainable national development, Thailand needs a mechanism to promote and encourage green product procurement and constantly drive green product consumption, particularly the active push for a policy to hire or procure green products and services to promote green demand for domestic markets and at the corporate level. In the meantime, Thailand needs to devise proactive measures for suppliers to compete in improving the quality of their goods and services to address market needs with due regard for life-cycle environmental impacts, which would lead to national environmental impact reduction. This also implies demand side management in tandem with supply side management. The bottom line is the promotion of improved awareness, recognition, and environmental management for Thailand as a whole, which implies that consumers receive green products under promotion and publicity of implementation under the context of sustainable production and consumption.

Since the supply chain of a given product consists of a good number of corporations, medium entities, and small entities from upstream to downstream, a given company may serve as both a buyer and a seller in the supply chain. Green supply chain management is therefore business management in parallel with environmental management to improve the latter management within a given entity in a sustainable way. Any company with clear standards, policies, or environmental management system, or all of them, can better frame its environmental operation and efficiency improvement.

Just as cost-effectiveness and quality of goods and services are important to the procurement process in general, the choice of quality goods and services and the review of environmental impacts are crucial to green procurement. Bangchak has dined a green procurement policy to stimulate change and cultivation of environmental awareness among all related parties, employees, and suppliers alike. Prevailing at Bangchak today is green sourcing, meaning a switch to goods and services with greater regard for environmental impacts, and not solely for price.

In addition, Bangchak has added measures to promote and develop business partners in the supply chain by taking part in a project designed to promote socially responsible industrial plants in heightening their green culture and green networks in a continual, sustainable way. The project is known as CSR-DIW Advanced Award (Level 5), organized by the Department of Industrial Works, Ministry of Industry. To elaborate, suppliers and vendors are chosen for the first step in the supply chain for analysis and ranking. A plan is then formulated to promote, establish, and maintain relations with two business partners. Evidently, supply chain management calls for cooperation from all parties so as to form good business partners, which would lead to a 3 way balance: sustainable business, sound environment, and livable society in tune with the Greenergy Excellence of Bangchak's culture.

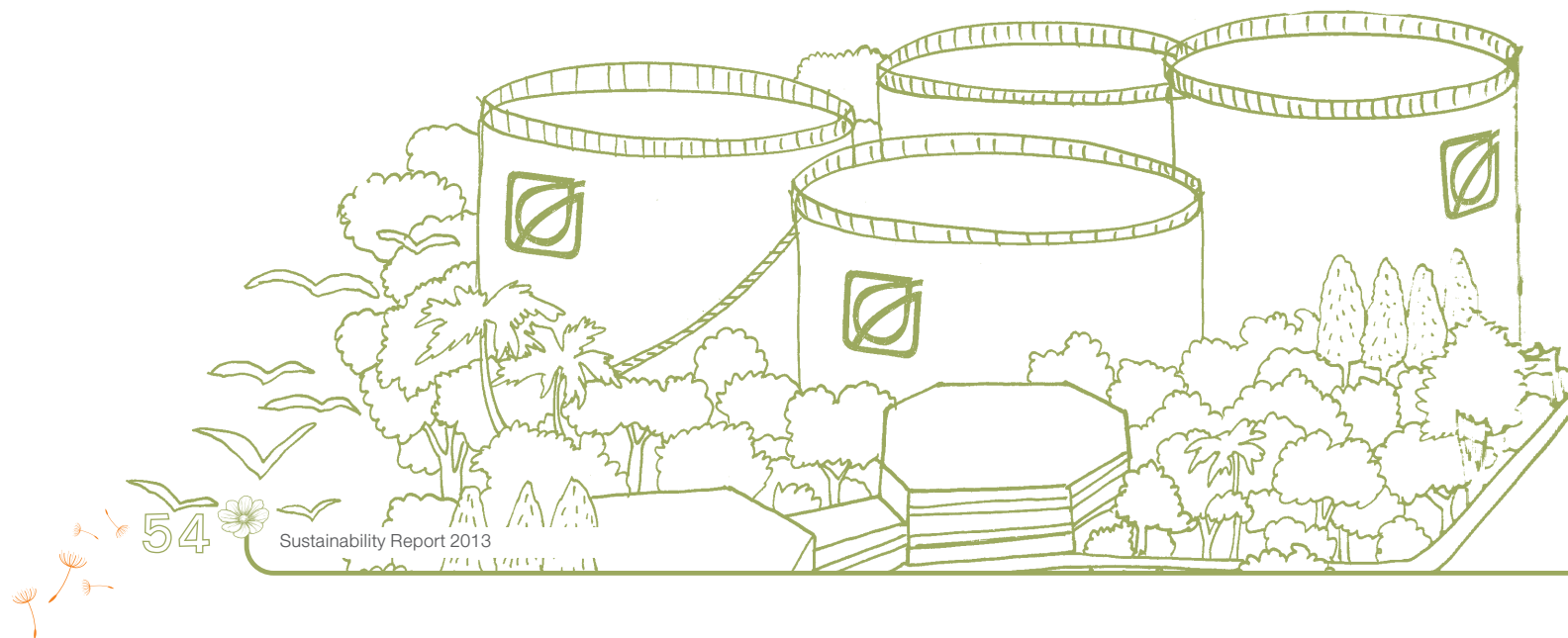
Here is how this year Bangchak continued its green procurement from the year before:

- Envelopes (A4 and A3 sizes) are now made of 70% brown recycled paper, replacing white envelopes made from new paper tissues
- The corporate calendar is made from recycled paper 40%
- Cooling pads are now installed at air conditioners' compressors to lower compressors' wear, raise cooling capacity, and save energy consumption, thus lowering power charges
- Unbleached-cloth bags replace plastic bags for tokens
- Label 5 electrical appliances, indicating high efficiency, are preferred.

This year Bangchak also issued additional requirements in support of the Green Society policy, namely the safety, security, health, environment, and energy policy. The requirements apply to all employees and executives, as well as contractors:

- They must support suitable procurement of products, goods, equipment, and services with due regard to safety and environmental/energy conservation
- They must conduct research, development, product and service procurement that is safe, energy-saving, and responsible to the environment and communities. Also, they must constantly modernize the development of safety, security, health, environmental, and energy management systems.

Conforming to such requirements, Bangchak has developed bioplastic employee identification cards. Made from plants, are degradable and green, and lowering plastic waste volumes, these cards are supported by PTT Global Chemical Plc and PTT Polymer Marketing Co., Ltd., as a means of promoting, stimulating, and building on innovation for future commercial applications.





“Bangchak is such a transparent company that it’s a pleasure to work with it.”

“

I’m impressed by many qualities at Bangchak, including good cooperation and help with on-site work to find the best solutions. My team got regular recommendations about proper work procedures or sincere warning on hazardous tasks. Bangchak is such a transparent company that it’s a pleasure to work with it. Given Bangchak’s secure growth, our company is bound to grow with it as a business partner and thinking partner. **”**

Mr. Somvit Leelaprapan

Managing Director

Space Media Co., Ltd. (Integrated advertisement media production and site installation company)



“Bangchak is filled with good corporate governance and responsibility to society”

“

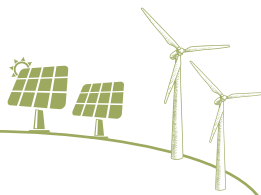
Bangchak’s hiring and procurement practices truly impressed me. Its liaison with users is made easy by directness, rationale, and job quality. Bangchak is filled with good corporate governance and responsibility to society. Often when I visited the company, I witnessed its CSR activities in action for society and surrounding communities. Within a few years it has become a leading petroleum company. I hope to be Bangchak’s perennial business partner. Should we have an opportunity to join Bangchak’s development or CSR activities, we’d be pleased to join. **”**

Mr. Boontae Kuanpongsakul

Director

Innovative Construction Development Co., Ltd. (Design and Construction Company)





Development of Green Product and Services

Out of its responsibility to customers and its corporate environmental goals, Bangchak has constantly developed products useful to customers and benign to the environment, and developed services, service station image, and mobile application technologies.

First to issue Euro 5-standard E20 in Thailand and Asia

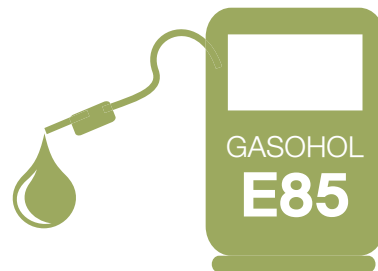
Bangchak was the first launcher in Thailand and Asia of the Euro 5-standard E20 gasohol with a ve-fold reduction in sulphur content from that of the Euro 4 standard. It also bolstered engine performance with the Supertech formula, with two quality additives, namely a Boost-Up Cleaner that saves 3% on fuels and a Boost-Up Power that gives 6% more engine power, complete combustion, and reduced combusted residue.

Alternative-energy leader

Bangchak promoted alternative-energy fuels through marketing programs catering for consumers while continually growing the number of branches selling E20 and E85 gasohol to cover all regions of Thailand and serve green consumers. Today, it boasts the top market share for E85



Serviced Station in 2012 **574**
Serviced Station in 2013 **678**

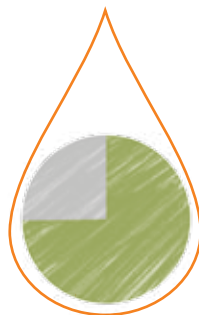


Serviced Station in 2012 **51**
Serviced Station in 2013 **102**

market share

E85

2012
74.9%



2013
69.5%



Source: Department of Energy Business, January-December 2013 sales



Improving lubricant quality for international standards

At first in Thailand, Bangchak's lubricant business is certified with the ISO 9001 quality management system and the ISO/TS 16949 automotive industry international quality management system with a scope ranging from procurement, product development, sales and distribution, to after-sales service for excellence in quality and organizational efficiency.



Bangchak constantly improves its lubricants to meet customers' needs and strive for quality leadership. This year it developed GE SYNTHEC E20&E85 API SN SAE 5W-30 for gasoline engines running on E10, E20, and E85 gasoline and GE SILVER API SN SAE 10W-40 for higher lubricating efficiency, rinsing power, and engine protection, resulting in clean engines, less soot, and maximum fuel-saving.

Consistent service-station development

At all times, Bangchak ensures that its service stations are attractive and meet customers' satisfaction with their ambience and supplementary businesses. In 2012 it entered into an alliance with Big C in developing mini-Big C convenience stores to ease customers' needs. As of December 2013, 62 such stores were in operation.

Thanks to such ongoing development, Bangchak is now regarded by consumers as the Top 2 Brand of Choice for the fifth consecutive year out of a survey of over 1,000 fuel users nationwide by a third-party researcher. For this, it won the Gold Award Trusted Brand for the third year in a row from Reader's Digest, which surveyed nationwide readers. For the third year, 178 Bangchak service stations won awards under the "Quality and Safe Service Stations Project", presented by the Department of Energy Business. This number took Bangchak to No. 2 among all participating oil companies. These stations consisted of 68 gold, 64 silver, and 46 bronze award winners.

Mobile Application service for iPhone and Android

Amid consumers' tendency to use smartphones, Bangchak's Mobile Application makes it more convenient for iPhone and Android phone users to download the application to search for Bangchak service stations nearby, those selling the fuels they need (like E20 and E85 gasoline), supplementary businesses at service stations (namely Bai Chak, mini-Big C, Inthanin Coffee, and Green Series Car Care Center), sales promotional data, alerts for fuel price adjustment, and verification of privileges and accrued points of Bangchak cardholders).

Fostering customer relations through Bangchak Gasohol and Diesel Club cards

Bangchak has established communication channels to foster relations and deliver privileges to members through the Bangchak Gasohol Club and Bangchak Diesel Club cards. This year, members exceeded 800,000 and 200,000.

This year Bangchak launched special campaigns to promote alternative-energy fuels:

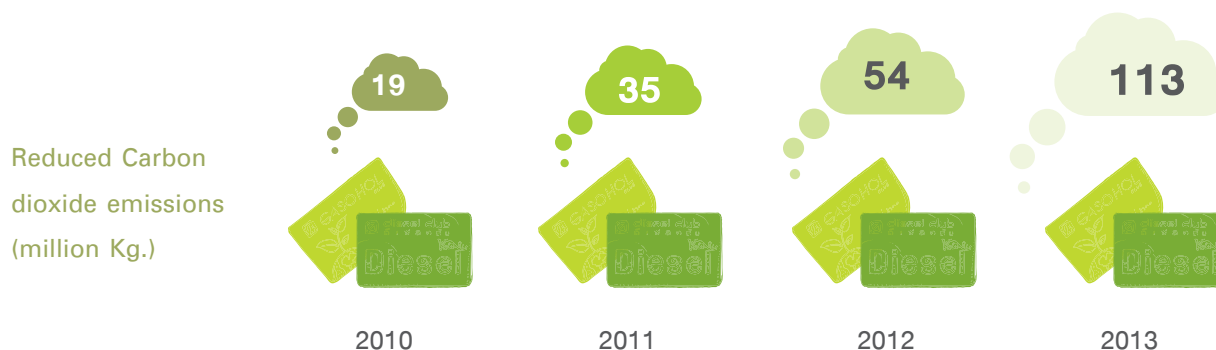
- Twice the regular discount (from 0.20 to 0.40 baht/liter) from February 1 to April 30 for E20 gasohol
- Twice the regular discount (from 0.05 to 0.10 baht/liter) from July 1 to August 31 for diesel
- Four times the regular discount (from 0.20 to 0.80 baht/liter) on June 5 (World Environment Day) for gasohol and diesel users.

Bangchak also staged useful activities to foster relations between customers and the company, as well as among customers themselves, including a visit to the Royal Chitralada Projects at Chitralada Pavilion, ower arrangement, coffee-brewing, make-up lessons, and movie screening.

Finally, Bangchak promoted sustainable consumption by providing data on individual consumers' reduction of carbon dioxide emissions, shown on their point accrual tickets. This practice underscores to them how much they are contributing to environmental problem mitigation.

Reduced carbon dioxide emissions through using Bangchak Gasohol Club and Bangchak Diesel Club Cards

Diesel Club Cards



Bangchak cards link Thailand to community service stations

Bangchak has developed “Bangchak Card Linking Thais” for community service station customers to ease their fuel purchase and for community service stations to stage sales promotional activities or customer relations activities that suit each locality. Besides boosting sales for such stations, this move supports the community economy. Today some 170,000 are such cardholders.





“Regular assessment of service station image does a lot to boost morale for maintaining our service quality at excellent levels.”

“

To date, Bangchak has constantly developed its service stations and supplementary businesses, and issued novel green products like Bio Diesel, E20, and E85, and valued service tasks. For this last element, Bangchak urges and maintains the quality of its services through monthly assessment of its image, which does a lot to boost morale among employees and operators to always keep up their service quality. What is more, Bangchak supports service station attendants by encouraging station operators to pay the daily minimum wage of 300 Baht, which agrees with our policy to provide welfare for lodging and a lunch fund for all employees. We also present awards for long years of service, like a color TV set for each of those who have served five years and a motorcycle for each of those who have served 10 years.”

”

Ms. Somjit Sribunpeng

Bangchak service station operator under Natthaphat Civic Oil Limited Partnership
U Thong District, Suphan Buri Province



“Maintain this identity. Do more to connect the grassroots and other groups of fuel users.”

“

Unlike other energy companies, Bangchak is unique in that it doesn’t focus on making profits. The past several years has clearly shown that it has gained a special place among all Thai customer segments. I’ve seen its marketing PR efforts for gasohol and biodiesel, as well as expansion of other areas of service into Bangchak service stations, which have instilled confidence in other consumer groups for its fuel products and services. Bangchak’s image over the last decade has undergone a radical transformation. This echoes uniformity of executives’ thoughts; what’s more, employees show an exceptional degree of social responsibility in their work and have a great service mind. What struck me was that Bangchak’s executives are so down-to-earth, always providing information that can be used right away for mass communications. I’ve witnessed Bangchak people’s sincerity and professionalism in looking after communities, under normal circumstances and during crises alike. I’ve also seen its marketing activities linked to sales of products and services, particularly its ploy of agricultural produce giveaways as sales promotional items.

Bangchak should maintain this identity, focus on green business, and do more to connect the grassroots and other groups of fuel users. Focus on prompt service and facilitation, more novel services that are useful to consumers.”

”

Miss Dolrudee Chaisombat

PLATTS reporter



Social





Labor Practices and Human Rights

Respecting human rights and in compliance with the law, Bangchak stated in its CG handbook the human rights of stakeholders, encouraging basic rights for work beyond what the law requires. The health and safety of employees and contractors are looked after under the BS/TIS 18001 occupational health and safety management system. Still, employees can always propose additional items through the Employee Committee, while other stakeholders can file complaints to the President or through the Internal Audit Office, which will set up a fact-finding panel and resolve problems.

Employment

The Company has 1,029 employees, all of whom are Thai nationals and ages more than 20 years old, with an average age of 36 and average years with the Company of 11.7 years. There are diversities of age, gender, educational background and work specifications, as well as the equality of gender, race, religion and culture.

As the Company's energy business operates 24 hours, the number of male employees exceeds that of female ones at the ratio of 73:27. However, it has the chance to grow and improve. Also the welfare is equitable.

This year, the Company maintained roughly the same headcount as last year., the Company recruited employees based on recruitment standards of written tests, interviews and health examinations.

As for contractors, Bangchak states in its agreements that contractors must treat their own employees in full compliance with the law, including labor law, social security and compensation law, and others related to labor protection. Should they not comply, they will be regarded as reneging on their agreements, thus automatically entitling Bangchak to terminate the agreements without notice. In addition, before they start work Bangchak trains contractors and security guards to understand safety, the environment, and energy matters together with its goals, policies, and regulations.



Wage, salary, and compensation management

Regarding employees as its main driver for success, Bangchak bases its wage and compensation policy on fairness. Job values fit duties and responsibilities, and align with employees' competence regardless of gender. Compensation adjustments help make Bangchak competitive with peer industries so as to retain talents and inspire current employees to constantly deliver performance improvement.

Bangchak has instituted more attractive welfare schemes for employees and their families than required by law and in line with changes in social and economic circumstances, as well as business needs. Instances are the provident fund, health insurance, social security, shuttle buses, medical welfare for employees and families, fitness rooms, recreational sites, and more days of leave than defined by law, including birthday leave for merit-making and annual physical check-ups.

Besides regular welfare schemes, in times of epidemics like the new strain of influenza, Bangchak arranges vaccination for all employees every year. Those diagnosed of possible contraction of the disease can take immediate leave, which is not treated as sick leave.

If an employee is diagnosed with abnormality, he or she will get additional advice from the physician or re-examined to confirm the diagnosis, or both. Should the abnormality be confirmed, Bangchak and that employee will jointly identify the cause and take remedial action.

As a rule, to foster morale and employee engagement, Bangchak will compare and amend its welfare schemes to keep up with current economic circumstances and peer industries.

This year, the Company elevated employee relations to employee engagement under 3 phases:

Phase 1, "ASK" Make plans so as to decide the factors affecting employee engagement: design survey questions: test, try, and refine these questions until a questionnaire that reflects such engagement emerges; and conduct the survey across the organization.

Phase 2, "ANALYZE" Summarize and analyze survey outcomes against past records, and benchmark them with leading organizations in Thailand and peer companies to develop organizational improvement and development plans.

Phase 3, "ACT" Improve and develop the organization: monitor development outcomes and inform employees.



Based on this action, factors promoting employee engagement have been narrowed down to basic needs, management support, teamwork, and learning & growth. These four factors have resulted in Bangchak's following considerations:

- **Basic needs**

Besides the provided work-related tools, Bangchak has adjusted employees' compensation in keeping up with economic circumstances and competitiveness for peer industries. A doctor's office and healthcare welfare have been put in place for employees and families. Bangchak's contribution goes to employees' provident fund and the social security fund to guarantee life security. Besides, Bangchak contributes to health insurance premiums in support of better service and to housing loan interests for employees.

- **Management support**

Since the performance assessment system contains clear KPI criteria, supervisors and subordinates share their understanding, which leads to job improvement and employee development alike.

In addition, the company also have Competency management, the principle used by the Company to develop its personnel, begins with individual competency assessment to identify competency gaps. This year, the Company's assessment improved to the 180-degree variety for employee and 360-degree variety for executives—consisting of joint assessment among staff, their superiors, and third-party superiors—for clearer and more efficient assessment together with individual development plans to fill each person's gap.

Individual development plans are consistently defined, with various development methods such as training, on-the-job training, self-learning through e-learning, Project Assignment, cross functional or functional Development, the sharing of knowledge among those in similar professions or with similar interests domestically or internationally and job rotation. It is part of knowledge management, leading to lifelong learning

- **Team Work**

The company has instituted team development through cross-functional cascade projects designed to capitalize on the talents of employees of each professional line and have them work together on projects to grow the market and new projects, leading to competition and corporate innovations. Other instances included group activities on quality control (the Quality Control Circle (QCC) technique), KAIZEN group activities, and activities associated with the Community of Practices (CoPs) which enable knowledge- Management among those of the same professions, which lead to a lifelong learning company.

• Development

Career development is a process which derives from a plan for manpower, capability and competence in line with the Company's strategies, directions and objectives. The process consists of the following:

- Career Path

The Company looks after and defines career-path criteria for all employees, grouping them into management and specialists. All employees have opportunities to progress in the lines and professions of their choice.

- Talent Management

Under the Talent Management Project, the Company selects, from the leadership & personality assessment, groups of employees with high capability, qualifications and behavior conducive to business success. Special development plans are individually developed for them to increase their competitiveness and employee engagement with the Company in order that they may become a valued force in the efficient and sustainable operation of the Company's business. The Company annually reviews the name of employees of this group, also the development and preservation plans for them.

- Succession Plan

To ensure smooth business transition, the Company has set up and continuously updated its succession plans for key positions. Management and Personnel jointly define key work specifications in the middle and senior executive groups which are the core groups in propelling the Company toward success, using Leadership & Personality Trait Modeling for Successor, the individual development plans are subsequently defined. The Human Resource Development Division will be the unit which responsible for following the progress and successor readiness.

In addition, the company has modified the electronics learning system and shares knowledge with other companies for access to more information and best practices. Finally, it constantly adjusted training curricula in response to short-term and long-term corporate goals and directions, and to develop its employees' knowledge, skills, and experience to command specialized, technical, administrative knowledge, and the knowledge needed for emerging businesses as part of career development. This year, the Company highlights curricula improvement as follow:

- 1.Orientation and BCP Way** : This training informed newcomers about corporate expectations and provided them with an overview of the Company's businesses so that they might master and adjust to the culture, vision, mission, values, policies, and business processes to maintain efficiency as well as love, engagement, and happiness at work.
- 2.BCP Business Supply Chain Economics** : This training concerned the principles of the oil and alternative-energy businesses related to the Company in economics and costs, ranging from supply procurement, production, sales, delivery, to the related business environment, product knowledge, planning, procurement, and production processes.
- 3.BCP Technical Development Program** : This training prepared newcomers and those with little experience in operation, engineering, maintenance, and technical aspects to learn and review current apparatus and hone their skills so that they might become self-reliant and cope with present and future assignments.
- 4.SHEE Promotion** : This program promotes knowledge and practices about safety, health, environment, and energy-saving in order to pass on the Green culture.



In addition, the Company organized training on the respect for human rights, as done every year, including changes in plans and policies for investment in provident funds, labor laws, and laws dealing with investment and labor in AEC member countries, courses dealt with English, Information Technology, improvement of business processes, innovation for organizational sustainability, safety officer (management level), hazard identification through HAZOPS, defensive driving, BCP Culture CSR, corporate governance, risk management, and organizational management for excellence.. It also supported seminars and study tours so that employees might share knowledge and experience with those from other organizations and then apply them for the Company's benefit. Average hours of training per year per employee are 47.2 hours.

Others included the Executive Development Program, Senior Executive Program, Advanced Senior Executive Program, Intensive Management Development Program etc.

Skill development and lifelong learning

Valuing knowledge management, Bangchak set a goal to become a learning organization and develop itself toward lifelong learning in addition to an innovative entity as a result of knowledge search, management, storage, and transfer together with the drive for employees' participation in learning and sharing within Bangchak, and sharing with external entities and external personnel. This sharing of knowledge and experience is a healthy way to form networks. This year Bangchak took part in knowledge-sharing activities among PTT Group, including Knowledge Management, Community of Practices on Operational Excellence, Engineering, Human Resources, Finance/Accounting/Tax, Purchasing & Procurement, and Green Laboratory. The ultimate goal is to apply knowledge and produce best practices while creating innovations that are helpful to Bangchak's work improvement.

Moreover, the Company has set up the BCP Trainer Project, under which the development of an employee is undertaken by another employee. The coaching project allows employee specializing in given fields to transfer tacit to explicit knowledge. This way, the knowledge remains in the Company and employees can fill in for others. It is also an opportunity for employees to regularly exercise and review their own knowledge and experience. Some knowledge that has been transferred including environment, safety, information and technology, accounting and corporate social responsibility.



Based on employee engagement survey outcomes, the Company has developed the following activities:

Songkran water-pouring This allowed employees to pass on fine Thai traditions by staging a water-pouring ceremony where the Board Chairman and the President wished employees well on the traditional Thai New Year.

Bangchak family day This allowed executives, employees, and their families to meet and engage in activities for good fun and cordial relations among all.

Study tour to Sunny Bangchak This enabled employees to visit Bangchak's emerging business

Sightseeing 2013: This activity fosters relations among employees and underscores the corporate culture of environmental stewardship. This year the activity was named "In the Footsteps of King Naresuan, Joining Forces in Reforestation, Touring Kanchanaburi" for good relations and public service.

Bangchak Weight Loss, Wasteline and Cholesterol Reduction for Good Health Project Because employees' good health represents one of its responsibilities for its employees, Bangchak invited overweight employees and those with high levels of cholesterol to join the project and look after themselves through the likes of healthy diets and exercising for better health. Lectures and practical sessions under vigorous weight-loss and cholesterol reduction regimes has led to satisfactory outcomes : Over 70% of project participants had their cholesterol levels lowered.

"Green Meeting: Environmental and health care"

“

For years, Bangchak has taken Green Meeting seriously, whether in meetings or meals. Efforts are evident to cut down on resource consumption, produce less garbage, avoid using foam, and use less paper-all done for corporate efficiency and environmental conservation. In the last couple of years, Bangchak company extended Green Meeting to diet management and company entertainment, since we believe that here we can also take good care of employees' health. We've chosen wholesome ingredients for employees and arranged them meticulously. Call it a feast for the eyes, which impresses both employees and visitors. It's not uncommon to see employees take photos of our food dishes or snacks before eating them. That says they admire the fruit of everyone's labor, which keeps us happy. While it may be tiring at times, we just refuse to stop developing ideas. After all, we believe the key is to do whatever you do with glee. This concept was cultivated in us by our management from day one. It's like family warmth when we think about Bangchak familymembers, whom we must take good care of. This is my memorable impression of the Bangchak family. ”

Ms. Waree Sungsuwan

Coordinator

Office Efficiency Development Section



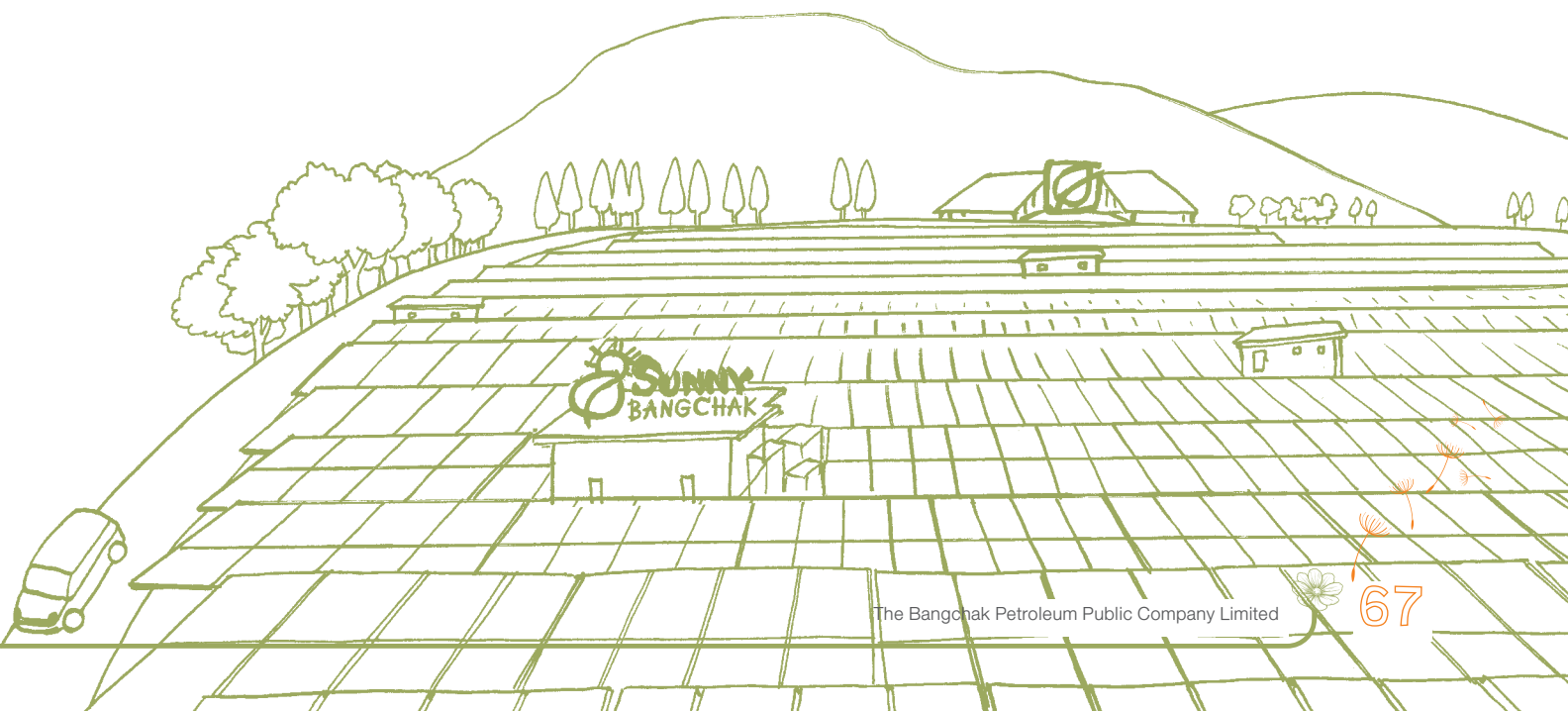
Bangchak Petroleum Plc Labor Union

All the Company employees are treated fairly and enjoy equal rights under Company regulations, whether they belong to the labor union or not. Set up under the law with 20% of the workforce as its members, Bangchak Petroleum Plc Labor Union cooperates with the Company in looking after employees' well-being through regular consultations with top management while getting feedback from employees about their needs to develop the Company's labor aspects.

The Company also instituted an Employee Committee, consisting of employee representatives appointed by the labor union and coming from employee elections. The committee is engaged in consultations with representatives from top management on matters of welfare and benefits to ensure their suitability. To date, the consultation sessions went well, with all concerns or queries properly addressed, thus resulting in high employee satisfaction.

Employees' clubs

The Company encourages the establishment of employees' clubs to enable those with similar interests to form clubs focusing on their interests to support employees' learning to responsibly engage in work processes together through different club activities for physical exercise, recreation and public services, including various sports clubs, Ornithologist (bird study) Club, Bangchak Thai Marine Conservation Club, Bangchak Loves Community Club, Photography Club, Music Club, and Volunteer & Social Development Club. Employees can freely initiate activities for their own benefit in line with the Company culture.





Operation on Safety, Health, Environment, and Energy (SHEE)

Operation on Safety Health Environment and Energy (SHEE)

The Company places importance to safety, health, environmental, and energy management to ensure that its operations comply with the universal management system, safety and health. Additionally, the operations do not affect the environment, society and communities. The Company promotes the cost-effective use of energy and realizes the important of employees as well as those of its contractors, and other stakeholders. Formulating a SHEE policy and appointing some task forces, the Company requires that SHEE competency is a core competency and promotes recognition of safe behavior to turn it into a company culture and form proper behavior of related people according to the behavior-based safety health environment energy principle.

Safety Health Environment and Energy Policy

The Company is committed to raising its management excellence by the approach of the Thailand Quality Awards, which values social responsibility; protection of health, safety and the environment; and business conduct and employees. In addition, the Company values resource conservation, which encompasses all activities, products and services all with key business roles; loss prevention; and compliance with the law and public regulations. Viewing these regulations as opportunities for improvement over and beyond what need to be complied with, the Company devises the SHEE policy, and all executives and rank-and-file employees including all contractors working on behalf of the Company are held directly responsible for the following:

- Complying with SHEE laws as well as company regulations as a minimum
- Working safely without undue impacts on themselves, related parties, community or the environment
- Preventing losses and illnesses potentially arising from accidents and minimizing impacts potentially leading to pollution, leaks and oil losses
- Making the best use of resources (energy, water and chemicals) and continually raising the efficiency of company resource consumption, suiting the size of the business
- Supporting reasonable procurement of products and services while taking into account safety, environmental conservation and energy-saving
- Researching, developing and sourcing products and services that are safe, save energy and socially responsible to the environment and communities; developing modern and continual SHEE management systems.

In addition to the definition of a policy on safety, security, health, environment, and energy, Bangchak boasts a management structure for safety, health, environment, and energy (SHEE) that consists of all executives and units within the organization, spanning policy issuance, equipment design, production processes, work procedures and safeguarding of employees, as well as that of the environment and communities. It also promotes and drives the management of health, safety, security, environment, and energy for effectiveness and efficiency, including oversight of emergency and crisis management for the likes of fire incidents, flash floods, earthquakes, or severe epidemics.

Safety Health Environment and Energy Management Team (SHEEM)

comprises high-level management from all business lines, having the responsibility to define management system policies and guidelines, and regularly reviews the management processes while supplying resources for continual process development as well as setting up task forces for efficient and effective safety, health, environmental and energy management.

Safety Health and Environment Committee (SHEC)

Having 50% of its membership from employee representatives from the first year of law enforcement on safety committees, it is responsible for compliance with the laws and works with operational-level safety subcommittees for greater work safety

Safe Operation Team (SOT)

reviews operation procedures and past performances screened by the JSA&QCA, HAZOP or EQT teams to comply with safety standards while reviewing incident reports and define protection approaches. Apart from the relevant managers, SOT members consist of managers of the operations, technical, and engineering lines of the refinery.

Safety Health Environment and Energy Promotion Team (SHEE_P)

through open participation for everyone, promotes awareness of safety, occupational health, environment and energy in each employee's performance.

JSA&QCA Team

reviews work processes for safety and detailed quality control.

HAZOPS Team

through the HAZOP technique, revises designs and modifications to refinery pipelines, instruments and equipment to meet the Company's technical principles and engineering standards for safe applications. This year, the company review HAZOP technique in 3rd plant and will continuous review in other plant.

Engineering and Quality Team

This year, the Company improved and controlled design quality to international standards involving the following improvements to work processes:

1. Engineering and Maintenance

- Increase plant instrument reliability by using Safety Integrity Level (SIL), Enhance inspection efficiency through Risk-Based Inspection (RBI) and Implement Reliability-Centered Maintenance (RCM).
- Revise tank repair standards to exceed those required internationally.
- Enhance security system by using access control and CCTV.
- Installed additional flammable gas detectors on the refinery compound beyond the required standards to enhance preventive maintenance capability.
- Develop capability and reliability of the refinery firefighting system and upgrade the capacity of spot firefighting systems by adding the flow rate per point for greater extinguishing capability.
- Provide software, pre-Incident Simulation Programs, in order to support incident prevention.

2. Working System Improvement

- Adopted a management system under the criterion of the Thailand Quality Awards
- Developed DMS (Document Management System) and e-ISO (Online Standard Management system) to encompass a document filing system and requirements for safety, health and environmental management standards so as to raise work efficiency and reduce consumption of resources (for instance, paper)
- Check up on employees based on an analysis of risk factors from inside and outside their workplaces and inspect the conditions of work areas to define appropriate preventive and remedial measures.
- Commission experts from DuPont, a leading safety company, to recommend upgrading of safety standards beyond those of typical refineries. Improved process safety management and Asset Integrity Management.
- Review the HAZOP analysis technic in the Refinery area.

3. Raising of awareness of society, safety, occupational health, environment and energy

- Organize basic firefighting training for employees in general and advanced firefighting training for employees in the operation line of refinery, Bangchak Depot and Bang Pa-in Depot.
- Organize safety training, for example, safety analyzing and reviewing technique, process safety management safety in confined space and first aid.

- Staged safety training courses for contractors working in the refinery, which included promotion of awareness and proper work behavior of contractors during the major maintenance turnaround
- Staged training to develop employees into assorted experts
- Use Tool Box Meeting and Shift Hand Over as another communication channel for shift operations.
- Learning System by Knowledge Management in the Intranet of the Company
- Promotion of safety, occupational health, environment and energy activities;
 - Behavior-Based SHEE activities
 - SHEE Excellence Day: Bangchak campaigned for a proper SHEE culture and behavior to promote a happy workplace for all
 - Safety 24 Hours Project: Bangchak sought to foster a safety culture and proper safety behavior around the clock
 - Bangchak Weight Loss and Waistline Reduction Project: Bangchak promoted health-conscious knowledge and behavior among employees
 - Less Waste, Less Global Warming: This environmental project campaigned for lower resource consumption and optimal management of waste
 - 3 Musts, 2 Nos Project: This energy-saving activity includes modification of light bulbs and air-conditioning equipment together with sensor installation to automatically switch off lights when they are not needed.
 - Communicated SHEE knowledge through the SHEE Channel and smart PR board
 - Employee Participation
 - QCC Energy Day activities for awareness building and promotion of energy-saving and a related contest
 - 5S Activity
 - We Care We Share Activity
 - The Company distributes news and information on safety to all employees through e-mails and internal bulletin boards.
 - A SHEE talk is conducted before daily operation meetings.
 - Lesson & Learnt activities, designed to share knowledge and protection with other units
 - Social Contribution
 - Staged Safe Community activities.

Quality Control Circle (QCC) activities

“

In its ninth year, Bangchak's QCC activities have been a boon to refinery efficiency improvement, production cost reduction, energy saving, employees' thinking skill development, and teamwork. The activities began with the Production group and expanded to office staff in 2002. This year, employees' projects saved Bangchak as much as Baht 112 million.

”



No.	Year	No. of groups			Saving (MB/Yr)	Remarks
		Refinery	Office	Total		
1	2005	32	0	32	0.27	
2	2006	32	0	32	0.13	
3	2007	32	0	32	0.23	
4	2008	32	0	32	0.33	
5	2009	33	0	33	0.83	With BPI's participation
6	2010	34	0	34	8.89	With participation of Ofce IMD, TXD (2 groups), ITO, and BUC
7	2011	36	0	36	10.5	
8	2012	22	4	26	5.03	
9	2013	32	3	35	111.6	ITO, ECD, PUD





Community Participation and Social Development

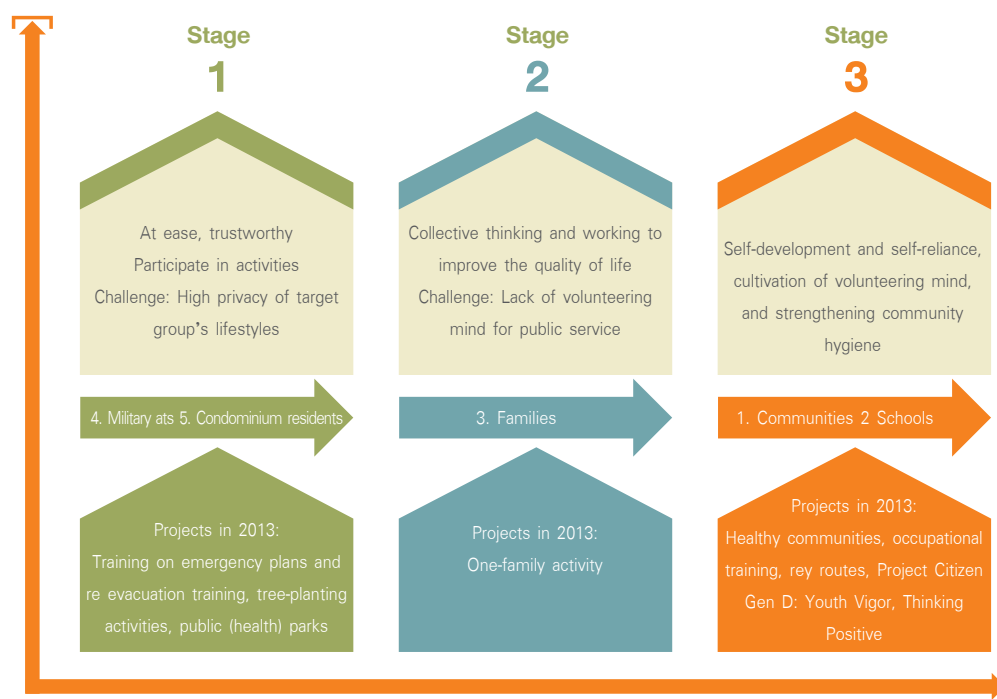
Community Participation and Social Development

With the “Greenenergy Excellence” culture, Bangchak perennially joined in community and social development efforts through dedicated units. This year it expand the scope of responsibility of the former Community Relations Committee to now incorporate applicable issues for corporate sustainability and revised its management structure into 2 levels, namely the policy level (called the Committee on the Policy for Corporate Sustainability) and the management level (Committee on the Management for Corporate Sustainability).

Communities and society around the refinery

Bangchak promoted earnest participation through assorted activities with the communities around the refinery and its various depots to earn neighborly trust and friendship, mutually looking after and relying on one another for decades. This year Bangchak engaged in participatory activities and initiated new projects calling for participation between itself and communities based on public problems, necessity, and the development of community potential seen in the three-stage roadmap below.

Roadmap for community relations activities and projects classified by key target group and minor target group



This year Bangchak promoted community vigilance for health risks and good health care, and piloted a project to correct youths' risky behavior in the long term in the hope of seeing their adoption of proper behavior. It also initiated biodiversity conservation efforts with a public alliance to maintain the habitats of fireflies in 6 tambon of the "Pig Belly" area of Phra Pradaeng District, Samut Prakan Province. Bangchak also constantly staged emergency training on chemical knowledge for communities, schools, and condominiums around the refinery to bolster confidence in safety among communities, with modifications made to emergency communication from the refinery to communities for clarity and relevance to each community's living conditions—all this done with clarity and commitment to Bangchak's approach to social and environmental responsibility.

The origins of Bangchak's community relations and social responsibility activities have given rise to assorted projects.

Origin	Policy/Approach	New project in 2013
<ul style="list-style-type: none"> Corporate strength/culture 	<ul style="list-style-type: none"> Leadership in alternative-energy development and CSR role model Forging understanding of and confidence in refinery safety systems 	<ul style="list-style-type: none"> Buying of used vegetable oil from markets and communities around the refinery Education on safety systems at the refinery and the quay, and inspection of equipment readiness, proper handling of incidents, and employee capability to foster confidence in the Company's safety in emergencies Education on chemical knowledge and chemical safety
<ul style="list-style-type: none"> ISO 26000 standard (community participation and development) 	<ul style="list-style-type: none"> Participation with communities Education and culture Employment and skill development Development of and access to technology Income generation and quality of life Health Social investment 	<ul style="list-style-type: none"> Community good health : provide training and physical check up Occupation Training: Noodles and trade secret to women in the community Project Citizen Gen D: Youth Vigor, Thinking Positive
<ul style="list-style-type: none"> Community needs 	<ul style="list-style-type: none"> Assessment of community relations outcomes Overall assessment Focus on community participation 	<ul style="list-style-type: none"> Efficient development of two-way communication with communities through community paging systems, SMSs, and PR bulletins for communities, together with periodical communication Biodiversity Promotion Project : Fireflies' routes of conservation Public activity



The strength of the Company's culture, resulting in 100% staff participation in CSR programs with no less than 6 times a year/person. The projects are divided into 2 levels covering all aspects of the good quality of life in 7 issues.

Community relations projects in 2013

Aspect	Refinery communities	
	Expectation	Continuing project
Education	<ul style="list-style-type: none"> Youths learn and develop appropriately with their age groups, with their awareness cultivated to become smart and conscientious 	<ul style="list-style-type: none"> My School (Pee Bangchak Son Nong), Year 11 Open up the World of Knowledge with Bangchak, Year 10 Project Citizen, Year 4 Bangchak Youth Scholarship Project, Year 9 Bangchak GIFTED, Year 3 Teacher Upgrading, Year 4
Safety	<ul style="list-style-type: none"> Confidence in refinery's safety Safety immunity for handling emergencies or catastrophes 	<ul style="list-style-type: none"> Training to schools/communities/nearby condominiums on emergency drills and firefighting Donat firefighting apparatus Training on chemical safety and procedures under catastrophes
Sports	<ul style="list-style-type: none"> Strong and healthy youths who stay away from drugs Ability to generate income and good educational opportunities through sports 	<ul style="list-style-type: none"> Bangchak Youth Futsal Tournament, Year 10 Bangchak Youth Football Club, Year 7
Quality of life	<ul style="list-style-type: none"> Promotion of quality of life 	<ul style="list-style-type: none"> Waan Kao project, Year 9 One Family, Year 20 Healthy Community Project
Environmental	<ul style="list-style-type: none"> Awareness of environmental woes and cost-effective application of resources 	<ul style="list-style-type: none"> Sapling Planting, Phu Long Reforestation, Year 9, and Thot Pha Pa, Raksa Ton Nam by employees and participating schools around the refinery and those in Chaiyaphum Province. Mobile Communities: Sapling Planting, Phu Long Reforestation Year 4, by Bangchak's neighbors from One Family group Public (health) park in the compound of the housing area of the Secretariat Department, Office of the Permanent Secretary of Defense, Bangchak's area. A project to buy used vegetable oil from communities around the refinery, Year 2

Aspect	Refinery communities	
	Expectation	Continuing project
Relations and cultural preservation	<ul style="list-style-type: none"> Promotion of cordial relations between refinery and its neighbors 	<ul style="list-style-type: none"> Mobile Communities, Year 5 Filling up with Knowledge with Bangchak Refinery Khrob Khrua Bai Mai Bulletin, Year 9 and Rop Rua Bangchak Newsletter Taking Kids to Movies, Year 6 Sanook Kids, Waan Pid Term, Year 4 National Children's Day
Economic	<ul style="list-style-type: none"> Generation of income and opportunities for community residents to leverage their competencies to benefit themselves and their families 	<ul style="list-style-type: none"> Use of communities' cooking and snacks Hiring of locals with adequate competencies Community occupational promotion and development project

Satisfaction in community relations activities (%)





“Bangchak makes society happy.”

“

Through the years, Bangchak—as another entity that makes society happy—has contributed wonderful things to society. As neighbors, we’ve learned new things from our participation in Bangchak activities, which also generated additional income for our families. Bangchak employees are very friendly. We derived both knowledge and positive feelings from our participation, so we recognize that society members must share and support one another for our society’s happiness.”

Mr. Nopakul Silapawatthananunt
 Neighbor, Bangchak Subdistrict, Phra Khanong District
 Participant of One Family activity





1. Bangchak Youth Scholarship Project
2. My School
3. Project Citizen
4. Open up the World of Knowledge with Bangchak
5. Safety training and Fire escape drill
6. Bangchak Youth Futsal Tournament



1. Waen Kaeo project
2. Krob Krua Deow Kun (One Family) Project
3. Phu Long Reforestation
4. Used Vegetable Oil for Bio Diesel Production



“Conscious of the environment and neighbors.”

“

Thanks to its careful selection of experts every time, Bangchak's One Family activities have proved really useful and informative, reflecting the company's value for its neighbors. Their people are really friendly, and I've constantly made new friends. Bangchak is so conscious of the environment and its neighbors. It's most conscious of its safety standard, which is to be expected. ”

Ms. Theeranuch Chairangsilert
 Neighbor, Khlong Toei Subdistrict, Khlong Toei District
 Participant of One Family activity





1. Sanook Kids, Waan Pid Term
2. Communities One Day Trip
3. Filling up with Knowledge with Bangchak Refinery
4. Taking Kids to Movies
5. National Children's Day
6. Visit the communities in Songkran's Festival

Remote communities and society level

Aspect	Remote communities	
	Target	Project
Education and environment	<ul style="list-style-type: none"> Restoration of well-behaved youths to society; awareness of environmental stewardship, knowledge of alternative energy and catastrophes, promotion of sufficiency, integrity, and volunteering for public services 	<ul style="list-style-type: none"> The Thailand Go Green 2013 contest project under the “Smart Dining, Living, and Consumption of Alternative Energy: Thai Ways toward Green Society” theme. BCP Talent Internship Program BCP Open House: Sunny Bangchak
Social-economic	<ul style="list-style-type: none"> Mutually beneficial businesses to form networks linking community organizations as business networks, thus strengthening communities and developing human potential for self-reliance under Economic Sufficiency philosophy 	<ul style="list-style-type: none"> Increase 39 cooperative service stations nationwide Promotion of local community products such as organiced jasmin brown rice, Doi Kham apricot juice and Pat Pat Drinking Water
Environment and society	<ul style="list-style-type: none"> Thais’ recognition of environmental stewardship and knowledge as a form of immunity in times of catastrophes, particularly floods, which have ravaged Thailand most often 	<ul style="list-style-type: none"> A project to buy used vegetable oil for biodiesel production Stage a seminar and presented awards to business partners under the “Joining Forces with Bangchak’s Business Network toward Green Society” theme Stage an educational seminar for business partners under the “Sustainable Development of BCP’s Business Partners” theme Promotion of business partners as green industries.



Education



The Thailand Go Green 2013 contest project under the “Smart Dining, Living, and Consumption of Alternative Energy:

Thai Ways toward Green Society” theme: This project promoted sufficient consumption in participating schools nationwide with a focus on promoting daily behavior for children to think about sufficient and effective dining, living, and consumption of alternative energy while cutting down on greenhouse gas emissions. If more than 1.3 million youths could apply their knowledge derived from this to their daily behavior and adopt sustainable consumption ways, Bangchak believes that the current global warming problems are sure to ease.

This project is in its seventh year, beginning in 2007, and boasted youths from 1,915 schools, or more than 80% of all secondary schools under the Office of the Basic Education Commission nationwide. The schools with the best outcomes on knowledge propagation will be invited for an audience with HRH Princess Maha Chakri Sirindhorn to receive trophies.



Economics



It was the Si Prachan Agricultural Cooperative of Si Prachan District in Suphan Buri Province that founded the very first cooperative service station under the “Oil Barter for Rice” concept, an exchange of sustenance commodities. Bangchak then donated rice to a school lunch project for students around the refinery, while the cooperative sold low-price fuels to its members. This mutual trust developed into formal, modern business concerns: cooperative service stations and, later, community service stations. Today there are 618 community service stations, owned by community members. This represents business with a mutually supporting notion and culture that allow Thais to form business networks. Besides generating income from fuel sale, community members earn year-end dividends as extra income for their families—in short, economic and social benefit.

Promotion of local products

It was unique how Bangchak chose its sales promotional items. It focused on community products to create jobs and spread income to rural areas while strengthening the community economy for self-reliance. This year three such items were chosen. First, organic jasmine brown rice, a product of the Thailand Organic Agriculture Association and Surin province’s organic rice grower club, which meets the organic rice standard set by the Department of Rice, Ministry of Agriculture and Cooperatives. Second, Doi Kham apricot juice, in support of agricultural produce under the Royal Project of Doi Kham Food Products under the management of the Bureau of the Crown Property. And third, Pat Pat drinking water, in support of the Maha Mongkon drinking water, proceeds from which go to the Chaipattana Foundation.



Environment



Used Vegetable Oil for Bio Diesel Production

BCP has proactively run the project to buy used vegetable oil for biodiesel production, under which volunteering employees have ventured into Bangkok markets to buy used vegetable oil, alternating between Saturdays and Sundays for the 7th year. They urged vendors and the public to join hands in this environmental stewardship move and look after their own health by selling the oil to BCP for biodiesel production for the 7th.

**Toxic-free vegetables lower expenses,
promotes sufficiency economy.**

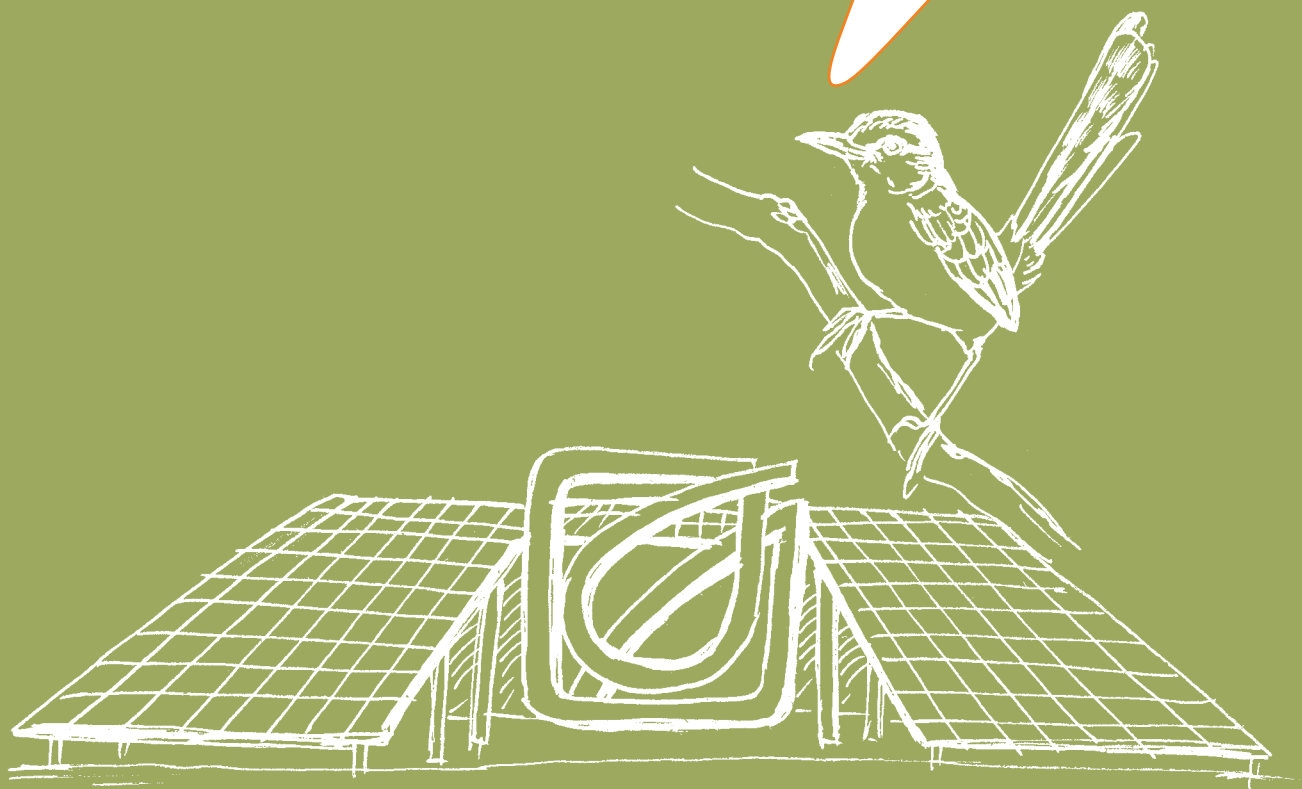
“

Bangchak service stations managers and attendants at 34 service stations turned empty plots and recycled materials like water tank in to toxin-free vegetable plots for household consumption, which cut down on family expenses and can be shared with service station patrons during excess. The branches include Wang Manao 1, Krabi, Prachuap Khiri Khun, Don Khun Huai1-2, and Pahon Yothin

”



Economic, Social and Environmental Performances



Economic Performances



million baht

Revenue	2010	2011	2012	2013
Sales and services	134,638.17	156,928.44	162,622.83	183,286.49
Other income	705.18	1,629.06	658.33	1,904.07
Pre-EBITDA income	6,322.71	8,997.89	8,209.79	8,470.32
Gross income	135,343.35	158,557.50	163,281.16	185,190.56
Net profit	2,633.87	5,642.58	4,199.89	3,971.58

million baht

Expenditure for income redistribution to stakeholders	2010	2011	2012	2013
Operating expenses	435.65	724.11	659.23	521.67
Interest expenses paid to financial institution creditors	841.81	748.17	910.48	989.22
Tax payment to government and local agencies	1,057.05	595.58	765.22	1,118.50
Community and social development	28.16	32.05	40.17	35.91
Donation to society and schools	15.06	31.34	14.14	18.14
Dividend payment to shareholders	1,520.71	1,582.20	1,858.79	2,065.05
Wages and employee welfare	1,049.32	1,176.82	1,310.04	1,337.33





Environmental Performances

Carbon Footprint (Calculated on the basis of Greenhouse Gas Protocol)

Greenhouse gas emission	2012	2013
	TOCE	TOCE
Direct emission		
- from processes	723,269	819,828
Indirect emission		
- from the purchase of electricity and Bangchak Utility Plant and that of electricity from MEA	141,721	169,759
- from the transport of raw materials and other activities	171,988	-
Total	1,036,978	989,587

Emissions and water discharge stack-air quality

1. Total Suspended Particulate

Total Suspended Particulate	2013	Standard
	mg/cu.m.	mg/cu.m.
DGO-HDS 3	16.3	60
Common stacks	1.8	60
TPU 3	11.1	60
CRU3	0.6	60
Boiler	5.5	EIA : 192

The standard was in line with the announcement of the Ministry of Natural Resources and Environment on Standard for Air Pollution from Petroleum Reneries, B.E. 2544 (2011) and EIA standards, which were more stringent than that of the Ministry of Industry.

2. Oxide of Nitrogen

Oxide of Nitrogen	2013	Standard
	ppm	ppm
DGO-HDS 3	36.8	160
Common stacks	43.8	160
TPU 3	29.5	160
CRU3	64.2	160
HPU	15.1	160
VDU	35.7	160
HCU	3.4	160
Boiler	114.9	160

The standard was in line with the announcement of the Ministry of Natural Resources and Environment on Standard for Air Pollution from Petroleum Reneries, B.E. 2544 (2011) and EIA standards, which were more stringent than that of the Ministry of Industry.



3. Sulfur Dioxide

Sulfur Dioxide	2013	Standard
	ppm	ppm
DGO-HDS 3	45.2	60
Common stacks	2.77	60
TPU 3	<2.00	60
CRU3	<2.00	60
HPU	<2.00	48
VDU	<2.00	48
HCU	<2.00	48
Boiler	17.1	400

The standard was in line with the announcement of the Ministry of Natural Resources and Environment on Standard for Air Pollution from Petroleum Reneries, B.E. 2544 (2011) and EIA standards, which were more stringent than that of the Ministry of Industry.

4. Hydrogen Sulfide

Hydrogen Sulfide	2013	Standard
	ppm	ppm
- SRU 1/2	S/D*	60
- SRU 3	<0.04	60

5. Opacity

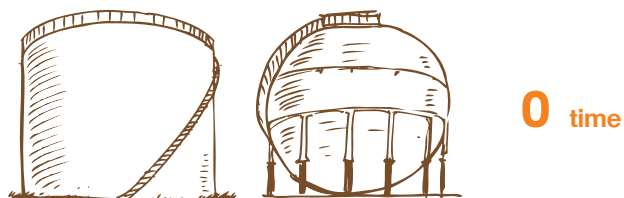
Opacity	2013	Standard
	%	%
DGO-HDS 3	0.8	10
Common stacks	0.1	10
TPU 3	0.4	10
CRU 3	0.5	10
HPU	0.6	10
VDU	0.0	10
SRU 3	0.5	10
HCU	0.6	10
Boiler	0.1	10

6. Water pollution

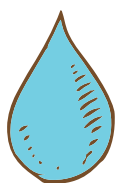
Schedule showing the quality of water after treatment

Parameter	Unit	Standard	2010	2011	2012	2013
pH	-	5.5 - 9.0	7.6	7.5	7.7	7.8
Oil and Fats	ppm	5.0 Max	1	1.4	0.8	2
Suspended Solids	ppm	50 Max	9	10	14	16
Soluble Solids	ppm	5,000 Max	1,833	1,364	900	1,860
B.O.D.	ppm	20 Max	6	6	6	7.5
C.O.D.	ppm	120 Max	54	53	45	57
Sulfides	ppm	1.0 Max	0.2	0.3	0.4	0.4
Mercury	ppm	0.005 Max	0	0	0	0

7. Significant Spill



8. Wastewater



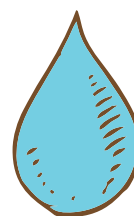
613,193
cubic metres

2011



522,733
cubic metres

2012



1,172,745
cubic metres

2013

9. Water



2,156,619
cubic metres

2011



2,146,890
cubic metres

2012



2,378,073
cubic metres

2013



Waste Disposal

1. Waste exported from its plants

Type of Waste	2011		2012		2013	
	tons	%	tons	%	tons	%
Hazardous waste	1,487	51	1,739	71	1,253	48
Non-hazardous waste	1,451	49	692	29	1,363	52
Total	2,938	100	2,431	100	2,616	100

2. The volume of waste and scrap by disposal method

Disposal of Waste and scrap	Total waste	Hazardous waste	Non-hazardous waste
	tons	tons	tons
- Reuse	1,088	0	1,088
- Recycle	430	334	96
- Recovery	785	781	4
- Incineration	57	49	8
- Secure landfill	167	0	167
- Water treatment	89	89	0
Total	2,616	1,253	1,363

3. Percentage of waste and scrap by disposal treatment

Percentage of Waste and scrap by disposal treatment	2013
	%
- Reuse	41.59
- Recycle	16.44
- Recovery	30.01
- Incineration	2.18
- Secure landfill	6.38
- Water treatment	3.40
Total	100.00

4. The volume of waste on-site storage at the end of year 2013

Waste	Total waste	Hazardous waste	Non-hazardous waste
	tons	tons	tons
- On-site storage	40	35	5



Social Performance

Employment

Employment : Total employees 1,029 persons (As of December 31, 2013)

Total Employees by Gender (person/%)

756
73.33%

275
26.67%



2011

750
73.03%

277
26.97%



2012

753
73.18%

276
26.82%



2013

● Male

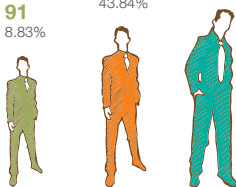
● Female

Total Employees by Level (person/%)

91
8.83%

452
43.84%

488
47.33%

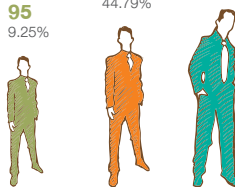


2011

95
9.25%

460
44.79%

472
45.96%

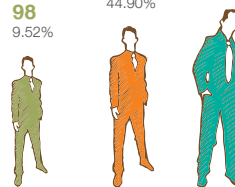


2012

98
9.52%

462
44.90%

469
45.58%



2013

● Manager UP

● Officer

● Operator

Total Employee by work place (person/%)

135
13.11%



● Head office

809
78.62%



● Refinery

11
1.07%



● Northern District

54
5.25%



● Central District

12
1.17%



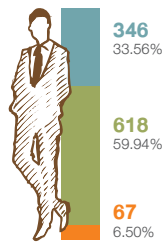
● North-Eastern District

8
0.78%

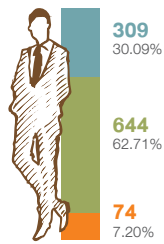


● Southern District

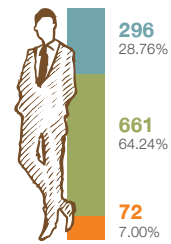
Total Employee by age (person/%)



2011



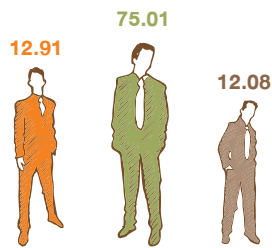
2012



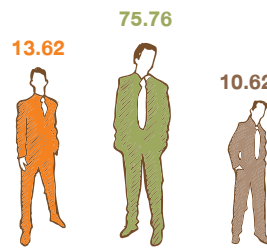
2013

● Less than 30 ● Between 30-50 ● More than 50

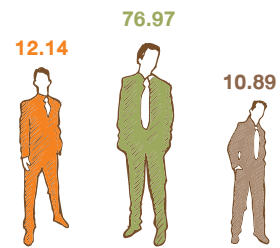
Total Employee annual leave (person/%)



2011



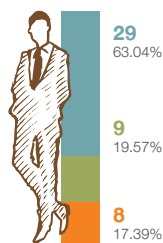
2012



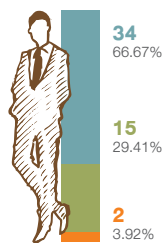
2013

● Medical leave ● Annual leave ● others

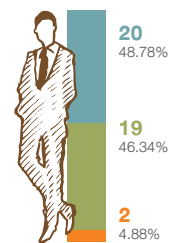
Total Number of Employees Turnover by age (person/%)



2011



2012



2013

● Less than 30 ● Between 30-50 ● More than 50

Total Number of Employees Turnover by Gender	2011		2012		2013	
	person	percentage	person	percentage	person	percentage
Male	38	82.61	45	89.58	31	77.50
Female	8	17.39	6	10.42	10	22.50

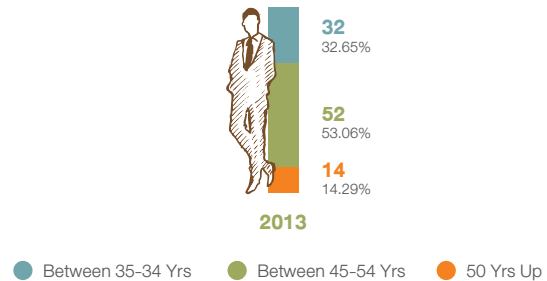
Total Number of Employees Turnover by Area	2011		2012		2013	
	person	percentage	person	percentage	person	percentage
Head office	8	17.39	5	9.80	7	17.50
Refinery	35	76.09	43	84.31	32	77.50
Northern District	1	2.17	0	0.00	1	2.50
Central District	2	4.35	2	3.92	0	0.00
North-Eastern District	0	0.00	0	0.00	0	0.00
Southern District	0	0.00	1	1.96	1	2.50

Total executive by Gender (Persons/%)



* note : Manager up

Total executive by ages (Persons/%)



Return for working after maternity leave (person/%)



Total of New Employees by Age	2011		2012		2013	
	person	percentage	person	percentage	person	percentage
Less than 30 Yrs	80	96.39	47	100.00	43	97.73
Between 30-50 Yrs	3	3.61	0	0.00	1	2.27
More than 50 Yrs	0	0.00	0	0.00	0	0.00

Total of New Employees by Gender	2011		2012		2013	
	person	percentage	person	percentage	person	percentage
Male	69	83.13	39	82.98	35	79.55
Female	14	16.87	8	17.02	9	20.45

Total of New Employees by Area	2011		2012		2013	
	person	percentage	person	percentage	person	percentage
Head office	11	13.25	5	10.64	7	15.91
Refinery	65	78.32	39	82.97	34	77.28
Northern District	1	1.20	0	0.00	0	0.00
Central District	4	4.82	2	4.26	1	2.27
North-Eastern District	0	0.00	0	0.00	1	2.27
Southern District	2	2.41	1	2.13	1	2.27

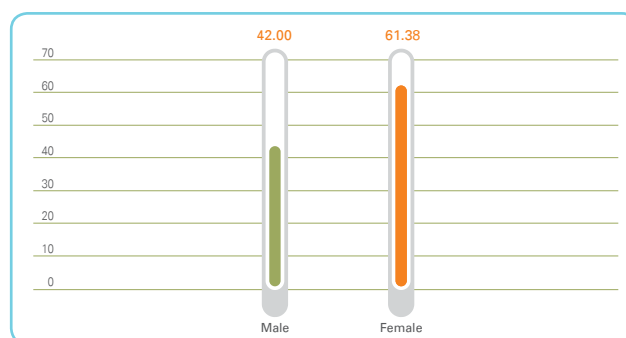


Training

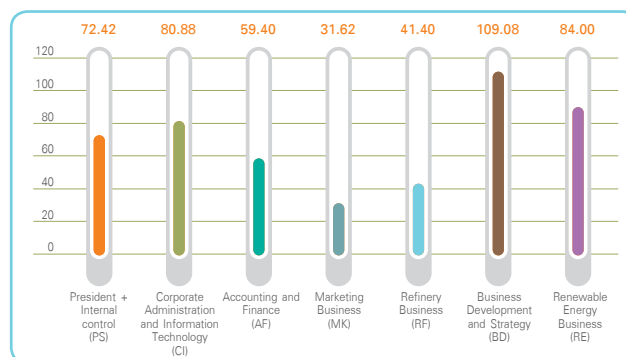
Average Training Hours per Person per year by Level (Hours)



Average Training Hours per Person per year by Gender (Hours)

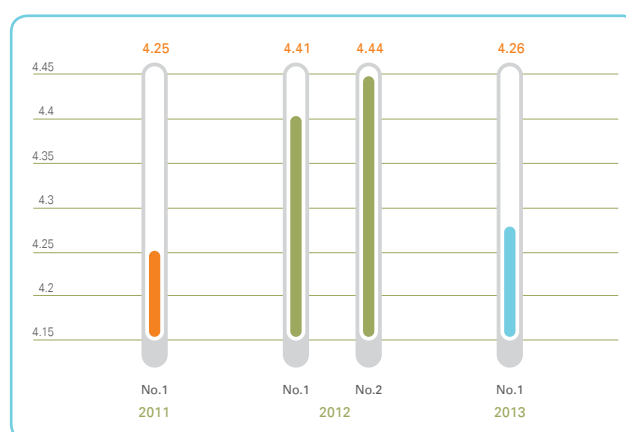


Average Training Hours per Person per year by Business (Hours)



Employee engagement

Employee engagement score (5 points)



Remark : in 2012 BPC conducted the employee engagement survey 2 times.



Safety's goal and indicators

This year, to make employees aware and become more active in safeguarding their own safety as well as their colleagues, the Company set (besides accident statistics) the following defensive safety indicators:

1. Number of Suggestions on Safety Improvement from Employees (Card)



In 2013, more safety development suggestions were submitted through a suggestion card system. And the Company has completed the implementation of all suggestions made by employees. Moreover, there were 39 suggestions submitted through the Safety, Health and Environment Committee on workplace environment, and 33 suggestions from QCC (Quality Control Circle).

2. Fire escape drills

The Company emphasizes the preparedness and effective response to emergencies and therefore defines guidelines and procedures to terminate incidents, mitigate impacts, and coordinate with external parties under the Emergency Plan and Crisis Management Plan. The Refinery Operation Units and Bangkok Oil Distribution Center continues their interim and Annual emergency drills.

(Times)



Environmental and Safety Training Center

Other than employee training, the Company Continually provide integrated safety training-basic and advanced firefighting, fire extinguishing techniques, emergency incident commands, and Annual fire escape drills-to employees and the public. Last year, 711 delegates learned and practiced in 20 safety training organized by the Company.

3. Total of serious accidents (time) causing a lost time injury or Company's property damages worth more than Baht 1,000,000.

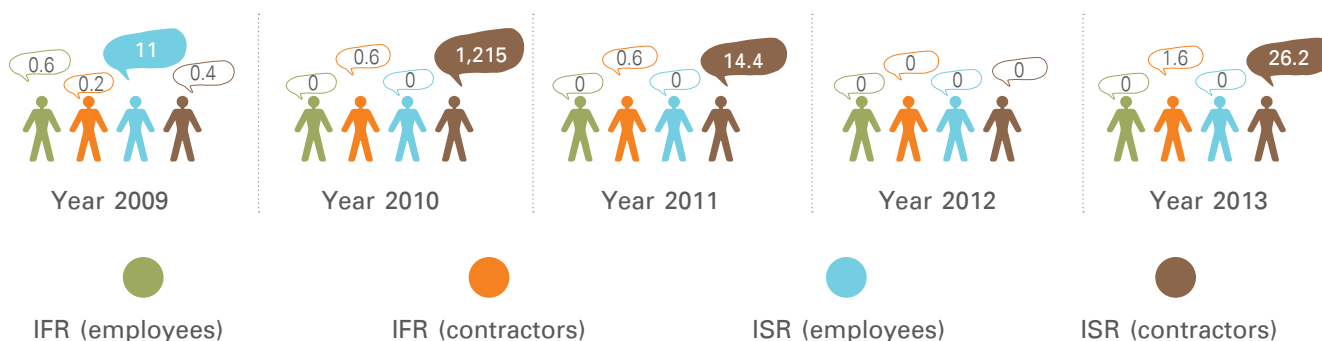
Serious accidents (time)



* The ignition of plant equipment at Hydrocracking Unit

** The ignition of the the Refiney Plant 3

4. Injury Frequency Rate (IFR) and Injury Severity Rate (ISR) for employees and contractors to record the numbers of those who suffered lost-time injuries and the numbers of lost working days compared with total working hours in a year. This is another way to raise awareness and cooperation among them to prevent occupational injuries.



* Remarks: IFR and ISR are based on 1,000,000 work-hours

* For 2009, One employee's lost-time injury and one contractor's lost-time injury

* For 2010, three contractor's lost-time injury

* For 2011, three contractor's lost-time injury

* For 2013, three contractor's lost-time injury

* For 2009-2011, the working hours of employees and contractors were based on (number of employees for the yearx40x52) and (number of contractors for the yearx48x52) respectively.

* For 2012-2013, the working hours of employees were based on the recorded hours of normal work and overtime work under the systems of the Company excluding annual leave, and sick leave and its contractors data kept from contractor firm.

The above-mentioned statistics show that IFR and ISR among contractors were higher than last year. Bangchak plans to take stricter action for contractor safety management, including additional steps in the assessment of contractors' safety via pre-hiring period, requiring contractor based on safety performance, and adding review of work procedure training of contractors by Bangchak employees.



GRI API/IPIECA UNGC Principles Content Index

This index refers to:

- Sustainability Reporting Guidelines of the Global Reporting Initiative (GRI), Version 4.0
- American Petroleum Institute/International Petroleum Industry Environmental Conservation Association (API/IPIECA) Oil and Gas Industry Guidance on Voluntary Sustainability Reporting, 2nd edition, 2010
- The United Nations Global Compact

GENERAL STANDARD DISCLOSURES

General Standard Disclosures	API/ IPIECA	UNGC	Page	External Assurance
STRATEGY AND ANALYSIS				
G4-1			7,14-17	
ORGANIZATIONAL PROFILE				
G4-3			22-25	
G4-4			9,11	
G4-5			9	
G4-6			9	
G4-7			12	
G4-8			12,56-57	
G4-9			9,43,85	
G4-10		3,4,5,6	90-93	
G4-11		3	67	
G4-12			30-31,53-54	
G4-13			13,22-23	
G4-14			13-14,22-23	
G4-15			7,21,25-26,34,46,52-53	
G4-16			21,25-26,46	
IDENTIFIED MATERIAL ASPECTS AND BOUNDARIES				
G4-17			34	
G4-18			35	
G4-19			35	
G4-20			35	
G4-21			Not Applicable	
G4-22			34	
G4-23			34	
STAKEHOLDER ENGAGEMENT				
G4-24			28-31	
G4-25			28-31, 35	
G4-26			28-31	
G4-27			29,31,35	
REPORT PROFILE				
G4-28			34	
G4-29			34	
G4-30			34	
G4-31			34	
G4-32			34, 97-99	
G4-33			34	
GOVERNANCE				
G4-34			10,20-21, 24-25,69,73	
ETHICS AND INTEGRITY				
G4-56			13,18	



SPECIFIC STANDARD DISCLOSURES

Material Aspects	API/ IPIECA	UNGC	Page	Omissions	External Assurance
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DMA and Indicators : Page 13–17, 28–31,34–35,38,41,53, 61,68

ECONOMIC: Economic Performance

G4-EC1	Direct economic value generated and distributed	SE 13	1,4,6,7	38-39,85		
G4-EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change			23, 49-51		
G4-EC3	Coverage of the organization's defined benefit plan obligations			38,63,85		
G4-EC4	Financial assistance received from government			12,85		

ENVIRONMENTAL :Materials

G4-EN1	Materials used by weight or volume		7-9	42		
G4-EN2	Percentage of materials used that are recycled input materials		7-9	42		

ENVIRONMENTAL :Energy

G4-EN3	Energy consumption within the organization	E2	7-9	44		100
G4-EN4	Energy consumption outside of the organization		7-9	-	Scope of Report in Refinery on Sukhumvit 64	
G4-EN5	Energy intensity		7-9	-	Not applicable	
G4-EN6	Reduction of energy consumption	E2	7-9	45		
G4-EN7	Reductions in energy requirements of products and services			-	Not applicable	

ENVIRONMENTAL :Water

G4-EN8	Total water withdrawal by source	E6	7-9	46,88		100
G4-EN9	Water sources significantly affected by withdrawal of water	E6	7-9	46		
G4-EN10	Percentage and total volume of water recycled and reused	E6	7-9	46		

ENVIRONMENTAL :Emissions

G4-EN15	Direct greenhouse gas (GHG) emissions (Scope 1)	E1	7-9	46		100
G4-EN16	Energy indirect greenhouse gas (GHG) emissions (Scope 2)	E1	7-9	46		100
G4-EN17	Other indirect greenhouse gas (GHG) emissions (Scope 3)	E1	7-9	-	Not applicable	
G4-EN18	Greenhouse gas (GHG) emissions intensity	E1	7-9	-	Not applicable	
G4-EN19	Reduction of greenhouse gas (GHG) emissions	E1	7-9	45		
G4-EN20	Emissions of ozone-depleting substances (ODS)	E4	7-9	-	Not applicable	
G4-EN21	NOX, SOX, and other significant air emissions	E7	7-9	47,86-87		

ENVIRONMENTAL :Effluents and Waste

G4-EN22	Total water discharge by quality and destination	E9	7-9	47,87-88		
G4-EN23	Total weight of waste by type and disposal method	E10	7-9	48,89		100
G4-EN24	Total number and volume of significant spills	E8	7-9	88		
G4-EN25	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention ² Annex I, II, III, and VIII, and percentage of transported waste shipped internationally	E10	7-9	48		
G4-EN26	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the organization's discharges of water and runoff	E9	7-9	47		

ENVIRONMENTAL :Overall

G4-EN31	Total environmental protection expenditures and investments by type		7-9	49-50		
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Material Aspects	API/ IPIECA	UNGC	Page	Omissions	External Assurance
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SOCIAL :Labor Practice and Decent Work : Employment

G4-LA1	Total number and rates of new employee hires and employee turnover by age group, gender, and region	SE6, SE15	3-6	93		
G4-LA2	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation	SE16	1,3,6	62-63		
G4-LA3	Return to work and retention rates after parental leave, by gender		1,2,6	92		

SOCIAL :Labor Practice and Decent Work : Occupational Health and Safety

G4-LA5	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs	HS2	1-6	67,69		
G4-LA6	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender	HS3	1,3-6,7	96		100
G4-LA7	Workers with high incidence or high risk of diseases related to their occupation	HS3	1,3	96		
G4-LA8	Health and safety topics covered in formal agreements with trade unions	HS1 HS2	3	67,71		

SOCIAL :Labor Practice and Decent Work : Training and Education

G4-LA9	Average hours of training per year per employee by gender, and by employee category	SE17	3-6	65,94		100
G4-LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	SE17	3-6	63-65		
G4-LA11	Percentage of employees receiving regular performance and career development reviews, by gender and by employee category	SE17	3-6	63		

SOCIAL :Human Rights, Freedom of Association and Collective Bargaining

G4-HR4	Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights	SE9	1,2,3,6	26, 30-31, 61,67		
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SOCIAL :Society : Local Communities

G4-SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs	SE1 SE3 SE4	1,7,8	28-29, 47, 73-76		
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SOCIAL :Society : Anti-Corruption

G4-SO3	Total number and percentage of operations assessed for risks related to corruption and the significant risks identified		10	21,26	23-24	
G4-SO4	Communication and training on anti-corruption policies and procedures	SE11	10	21,26		
G4-SO5	Confirmed incidents of corruption and actions taken		10	21,26	No incidents of corruption.	

To Board of Directors of The Bangchak Petroleum Public Company Limited

The Bangchak Petroleum Public Company Limited ("BCP") engaged PricewaterhouseCoopers ABAS Limited ("PwC") to perform a limited assurance engagement on the selected subject matter ('the Subject Matter') presented in the sustainability report for the year ended 31 December 2013 ('the Sustainability Report') in accordance with the reporting criteria ('the Criteria').

Subject Matter

The selected Subject Matter was chosen by BCP and comprises:

- a) Environmental dimension performance indicators
 - Direct energy consumption (TJ) (Page 44)
 - Water consumption (million cubic meters) (Page 46 and 88)
 - Direct greenhouse gas (GHG) emissions (Scope 1) (TOCE) (Page 46 and 86)
 - Energy indirect greenhouse gas (GHG) emissions (Scope 2) (TOCE) (Page 46 and 86)
 - Total weight of waste by type and disposal method (tons) (Page 48 and 89)
- b) Social dimension performance indicators
 - Injury Frequency Rate (IFR), Injury Severity Rate (ISR) (Page 96)
 - Average training hours per year per employee (hours) (Page 65 and 94)

Criteria

The Subject Matter above has been assessed according to the following Criteria:

- The WBCSD/WRI Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard, and
- The 'Sustainability Reporting Guidelines version 4' by the Global Reporting Initiative.

Inherent limitations

Inherent limitations exist in all assurance engagements due to the selective testing of the information being examined. Therefore fraud, errors or non-compliance may occur and not be detected. Additionally, non-financial data may be subject to more inherent limitations than financial data, given its nature and the methods used for determining, calculating and estimating such data.

Responsibility and Methodology

BCP:

The management of BCP is responsible for preparing the Sustainability Report, determining the adequacy of the Criteria to meet the reporting need of BCP. Management's responsibility also includes designing, implementing and maintaining a system of internal control relevant to the preparation and fair presentation of the Subject Matter that is free from material misstatement, whether due to fraud or error.

PwC:

Our responsibility is to provide a conclusion on the subject matter based on evidence-gathering procedures in accordance with the International Standard on Assurance Engagements (ISAE) 3000 "Assurance Engagements other than Audits or Reviews of Historical Financial Information".

The procedures selected depend on auditor judgment, including an assessment of the risks of material misstatement of the Subject Matter, whether due to fraud or error. In making these risk assessments, we consider internal control relevant to BCP's preparation and fair presentation of the Subject Matter in the Sustainability Report in order to design assurance procedures that are appropriate in the circumstances, but not for the purpose of expressing a conclusion on the effectiveness of BCP's internal controls.

We read other information included within the Sustainability Report and consider whether it is consistent with the knowledge obtained through our procedures. We consider the implications for our report if we become aware of any apparent material inconsistencies with the Subject Matter. Our responsibilities do not extend to any other information reported by BCP.

Assurance work performed

The assurance procedures included the following work:

- visiting the refinery plant,
- completing analytical procedures,
- reviewing the appropriateness of management review and reporting processes,
- performing substantive testing of selected data to source information, and
- reviewing the process for consolidating data at corporate level.

A limited assurance engagement generally comprises of making enquiries, primarily of management, and applying analytical procedures. The work is substantially less detailed than that undertaken for a reasonable assurance engagement, the level of assurance is lower than would be obtained in a reasonable assurance engagement.

We believe that the information we have obtained is sufficient and appropriate to provide a basis for our conclusion.

Use of our report

This report has been prepared in accordance with our engagement terms, solely for the Board of Directors of BCP as a body, for the purpose of reporting on the Subject Matter within the Sustainability Report. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Board of Directors of BCP for our work or for this report, or for any other purpose other than that for which this report was prepared.

Our report is intended solely for the Board of Directors of BCP for the purpose described above, and must not be distributed or used by any other party.

Conclusion

Based on the work described above, nothing has come to our attention that causes us to believe that the Subject Matter for the year ended 31 December 2013 included in the Sustainability Report has not been prepared, in all material respects, in accordance with the Criteria.

For PricewaterhouseCoopers ABAS Limited



By Svasvadi Anumanrajdhon
Partner

Bangkok, Thailand
4 March 2014





Bangchak
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