

Collaboration Amongst Indonesia's Mineral industry players towards achieving sustainable and green mining

Webinar AFMA
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Layout

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- National Commitment to Cleaner Energy
- Global Framework to monitor
- National Commitment to cleaner Energy
- Carbon Tax and emission trade
- Pattern of Energy Consumption
- Electricity Consumption per Capita
- Mood and consistency of world leader
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Background

- ◎ Sustainable development *according* to the mandate of the first published Environmental Law, namely Law No. 4 of 1982. How non-renewable mineral *resources* should be treated in the context of *sustainable development*
- Mandates of Law No. 4 of 2009 concerning Mineral and Coal Mining, which need to be realized related to the transformation of mining benefits, namely:
 - (1) increasing added value (PNT) or in media language better known as downstream, to create a high multiplier effect including the creation of fields work,
 - (2) preservation of environmental functions to support Indonesia's ever-increasing population on a fixed land area, and thirdly
 - (3) community development and empowerment (PPM) around the mining area which assists the government's task of improving health services, education and improving community's ability to be more empowered and more independent

Background

- This law was later amended through Law No. 3 of 2020 which, among other things, strengthens the achievements of added value (PNT), namely conservation, exploration and the period of permits for production operations. In addition to government regulations that force mining companies to minimize environmental impacts, mining companies also strive to implement green management. This is related to the Asian investors who are also starting to shift by preferring environmentally friendly company
- Social and Governance (ESG) criteria are a set of Standard for a company's operation that socially conscious investor to screen potential investment
- Participating on Building Belt and Road strengthening Greenmining (CAMCFE Programm)
- Richest Nation agree to end support for coal production overseas
- Maybank, CIMB stopped financing Coal miningsu

Global Framework to Monitor

Paris Agreement (2015)

- Legally binding international treaty on climate change
- To limit global warming, up to 1.5 degrees celcius, compared to pre industrial level
- Economic and social transformation
- Nationally determined contribution (NDCs), will be closely reported and monitor.

Framework:

- Global support to Financial, technical, and capacity building support.
- What project to support, and whose service to be paid.

Threat:

- Limiting and restricting financial fund for non clean powerplant project.
- Restriction and embargo on product with CO2 footprint.
- Green certificate.

Our National Commitment to Cleaner Energy

Environmental Commitment and Energy Policy



Global Commitment:

Target of Paris Agreement:
Keeping the rise in global temperatures does not exceed 2°C, and strive to be 1,5°C

National Commitment:

Mandate of Law No 16 Year 2016 on Ratification of Paris Agreement
Reduce GHG emissions according to NDC in 2030:

- 29% (Own Ability) - 41% (International Assistance) by BaU

Commitment of Energy Sector:

Reduce GHG emissions of 314 - 398 million Tonn CO2 in 2030

Government Regulation 79/2014 on KEN & Presidential Decree 22/2017 on RUEN:
Target 23% of NRE from Primary Energy Mix & 17% of Energy Efficiency from BaU Final Energy

Action plan of energy sector:

1. Diversion of fuel subsidies for productive activities and infrastructure
2. Target of 23% NRE primary energy mix in 2025
3. Waste management for electricity and improving quality of environment

NATIONAL ENERGY PLAN TARGET (BY 2025)

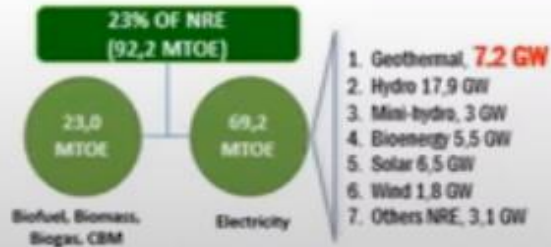
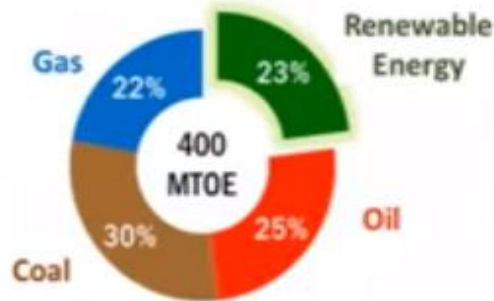


Figure A1.6: Uptake of Renewable Energy Depends on Six Factors

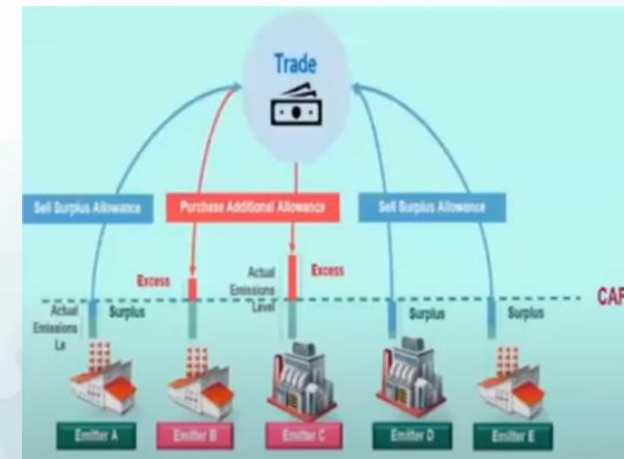


Source: ADB.

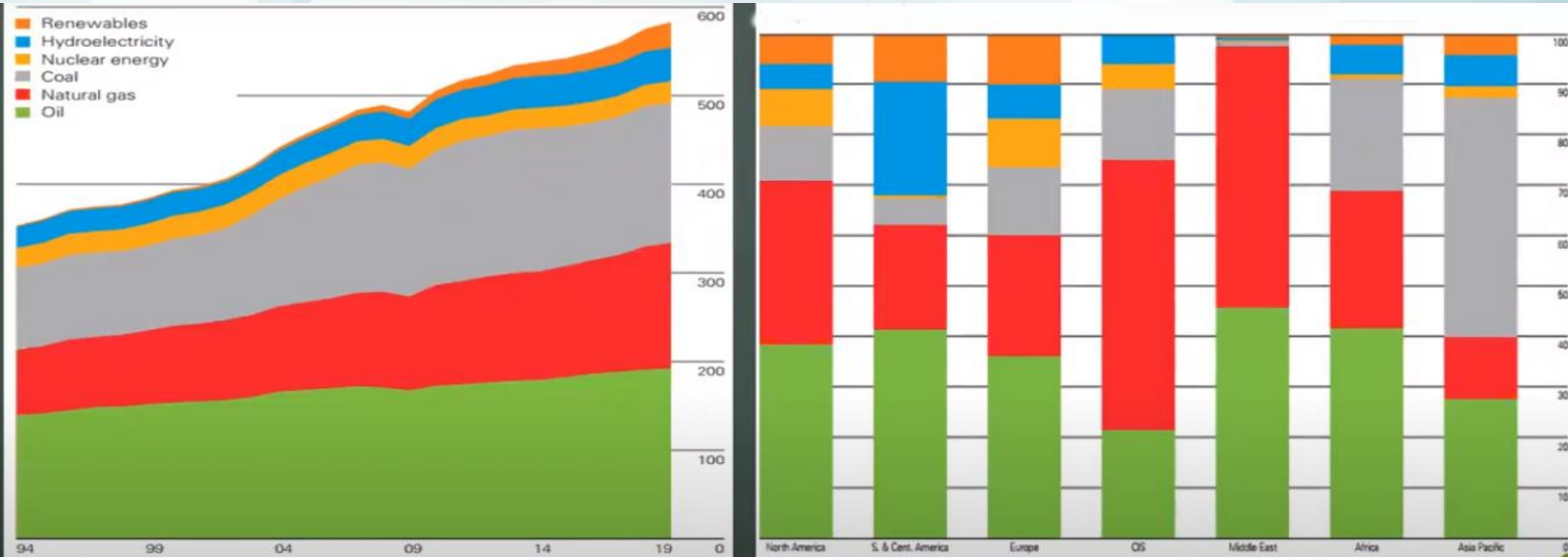
Carbon Tax and Emission Trade will it help to really reduce to pollutant case

As market mechanism apply:

- Theoretically you may produce CO₂ as much as you can, so long as you can afford to buy from the surplus one
- One country may impose carbon tax on you, not based on the amount of CO₂ you really produce, but based on what is shown on your Carbon balance sheet.



How the Consumption Pattern of Energy in the World

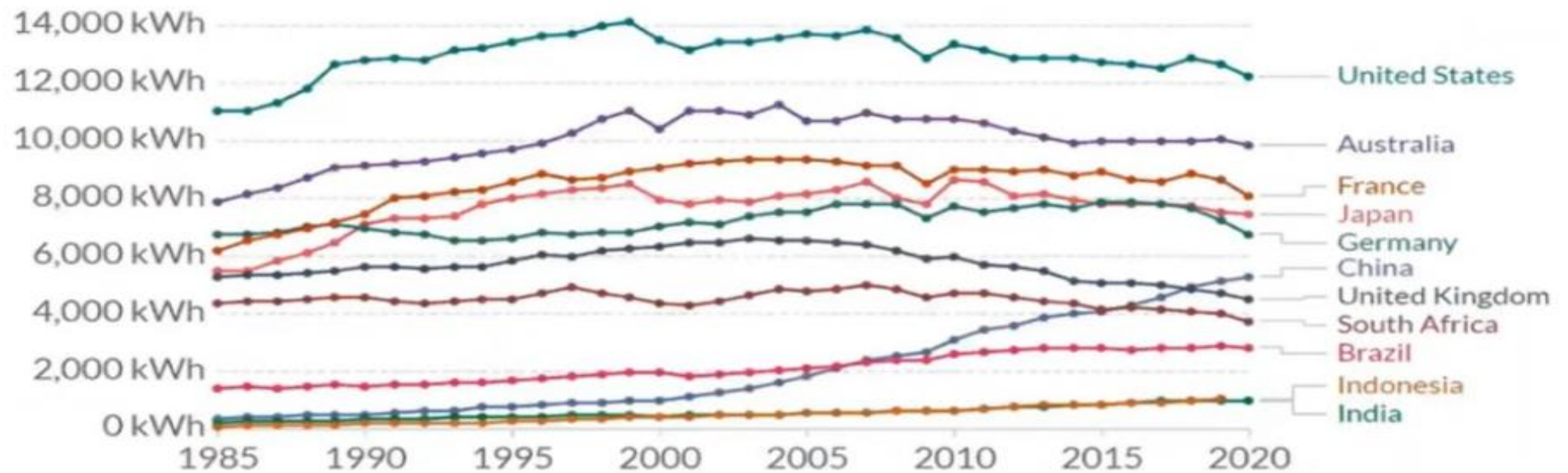


Trend, persentasi dan angka menunjukkan penggunaan energi fosil yang tetap masif

bp Statistical Review of World Energy 2020

Electricity Consumption Per Capita

Electricity Consumption Per Capita



Source: Our World in Data based on BP Statistical Review of World Energy & Ember (2021)
OurWorldInData.org/energy • CC BY

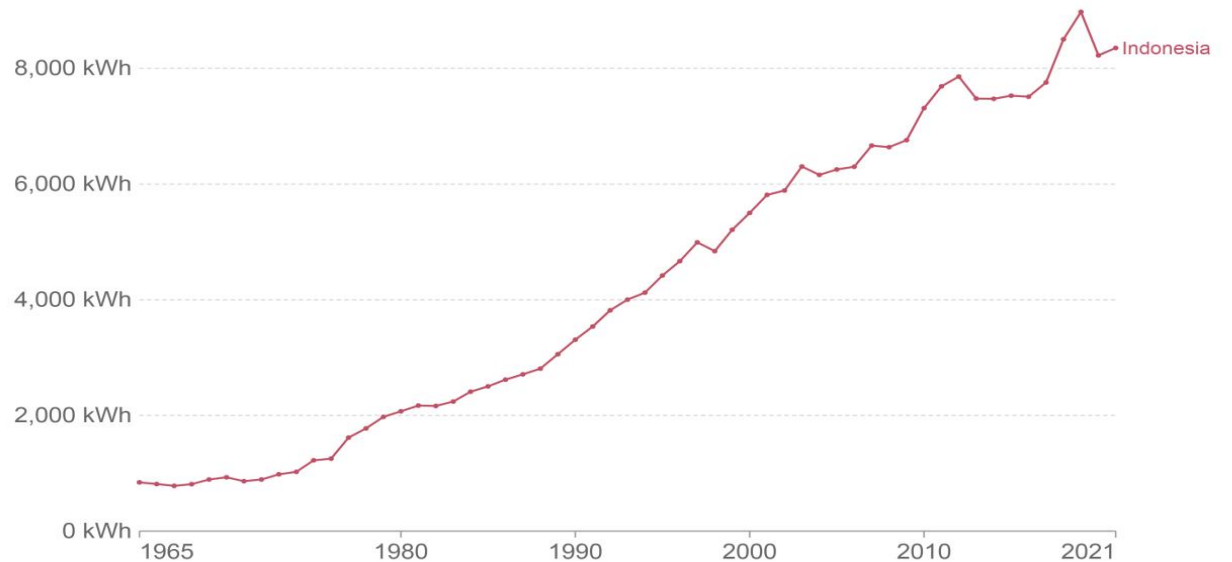
**Conserve the Environment is not only about Production,
but how low and efficient you consume the energy and electricity**

Energy use per person in Indonesia

Energy use per person

Energy use not only includes electricity, but also other areas of consumption including transport, heating and cooking.

Our World
in Data



Source: Our World in Data based on BP & Shift Data Portal

Note: Energy refers to primary energy – the energy input before the transformation to forms of energy for end-use (such as electricity or petrol for transport).

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One who use more, should more
take responsibility

Mood and Consistency of World Leaders



Paris Agreement: Trump Is Right to Pull Out | National Review



Joe Biden to rejoin Paris Climate Agreement | On Greening

Coal remains at the heart of China's flourishing economy. ... And China continues to build coal-fired power plants at a rate that outpaces the rest of the world combined. In 2020, China brought 38.4 gigawatts of new coal-fired power into operation, more than three times what was brought on line everywhere else. 24 Mar 2021

<https://e360.yale.edu> › features › despite-pledges-to-cut-e...

Despite Pledges to Cut Emissions, China Goes on a Coal ...

Russian oil giant announces start of vast Arctic project - Phys.org
25 Nov 2020 — He thanked Putin, with whom he has close relations, for the adoption of a law facilitating Russian investments in the Arctic. "The prospecting and ...

<https://www.cbc.ca> › north › r... Terjemahkan halaman ini

What Russia's \$300B investment in Arctic oil and gas means ...

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Nile dam row: US cuts aid to Ethiopia - BBC News
3 Sep 2020 — Once fully operational, the Grand Ethiopian Renaissance Dam (Gerd) will be the largest hydro-electric plant in Africa and provide power to up ...

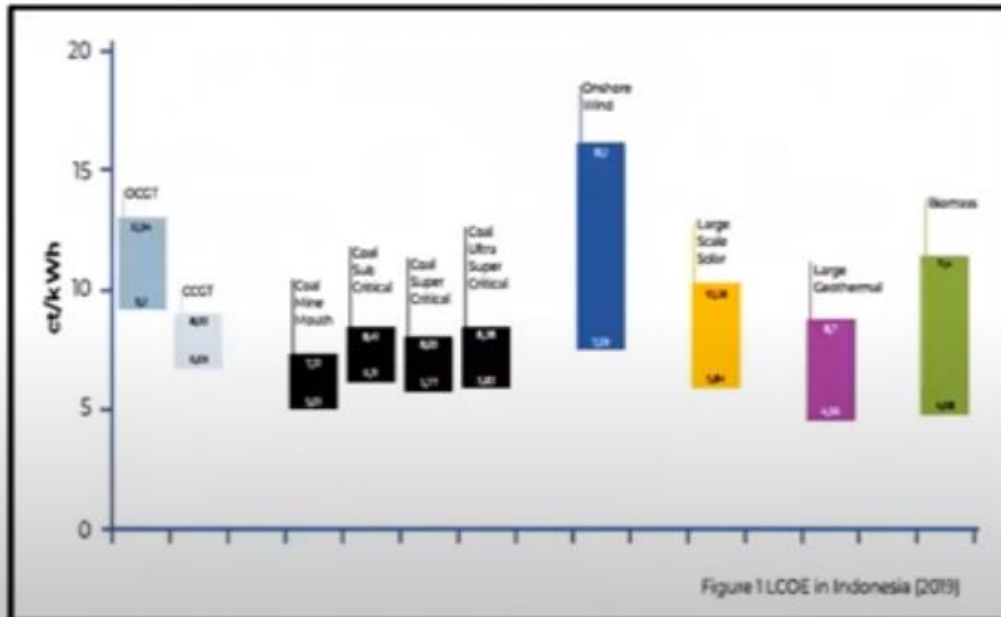
<https://www.academia.edu> › L... Terjemahkan halaman ini

(DOC) Lesson learned from Battle of the Nile River | sampe ...
Lesson learned from Battle of the Nile River By: Sampe Purba The Nile River, ... and Power Plant project, called the Grand Ethiopian Renaissance Dam (GERD), ...

Issues in Electricity Power Plant

Issues in Electricity Power Plant

LEVELIZED COST OF ELECTRICITY



CHALLENGE TO FACE

- Existing Power Plant
- Source of Energy vs Demand Concentration
- Transmission Line
- Covenant Related Financing
- LCOE
- CaPex – Opex
- Trilemma Energy (Availability, Accessibility, Affordability)

Concluding Remarks

- Commitment to cleaner Energy should be a real commitment, taking each country's specific circumstances.
- One who polluted more, should take more responsibility, carbon trade mechanism is somewhat more like a tactic trap by polluter product energy consumers rather than genuine effort to reduce carbon dioxide circle of Atmosphere pollution.

- Renewable Energy policy should not be used as instrument by Countries to press and dictate Developing Countries.
- Transition to renewable energy should be on Collaborative global environment achieve mutual benefit.
- SDG principle: NO ONE LEFT BEHIND has to foundation of Energy

Presenter Alternative

ENVIROMENTAL:

- Freeport Bodiesel for sustainable green mining
- ITM: PLTS and PLTB
- PT. Bukit Asam: DME project
- PT. Timah and Antam Inalum: smelter
- SOCIAL : Adaro: CSR & minemouth Powerplant
- KPC, Arutmin : Biodiversity

GOVERNANCE: VALE, Freeport: Digitalitation Industry 4,0

Biodiesel for sustainable green mining of PT. Freeport





BONTANG SOLAR PV HYBRID PROJECT of PT. ITM
(3 MW PV with 2MW Battery Energy Storage and MicroGrid System)

DME Project of PT. Bukit Asam, Tbk

MENGENAL DME PENGANTI GAS ELPIJI

Pemerintah berencana mengganti konsumsi gas masyarakat dari Liquefied Petroleum Gas (Elpiji) menjadi Dimethyl Ether (DME). Menteri Energi dan Sumber Daya Mineral (ESDM) Arifin Tasrif menargetkan, penggantian konsumsi dari LPG ke DME akan berlangsung pada tahun 2035.

Apa itu DME?

Pembentukan menjadi produk batu bara menjadi gas atau DME merupakan proses konversi batu bara menjadi produk gas.

DME memiliki sifat layaknya elpiji meski panas yang dihasilkan sedikit lebih rendah dari elpiji.

DME adalah hasil olahan atau pemrosesan sedemikian rupa dari batubara berkalori rendah.

DME berasal dari berbagai sumber, baik bahan bakar fosil maupun yang dapat diperbarui.

DME merupakan senyawa bening yang tidak berwarna, ramah lingkungan, dan tidak beracun.

Selain itu, DME diklaim tidak merusak ozon, tidak menghasilkan *particulate matter* (PM) dan NOx, tidak mengandung sulfur, dan mempunyai nyala api biru.

Tujuan proyek ini mengurangi ketergantungan pada impor elpiji. Dari total konsumsi elpiji nasional, sekitar 70 persen diperoleh dari impor.

PT. Timah and Antam Inalum: smelter



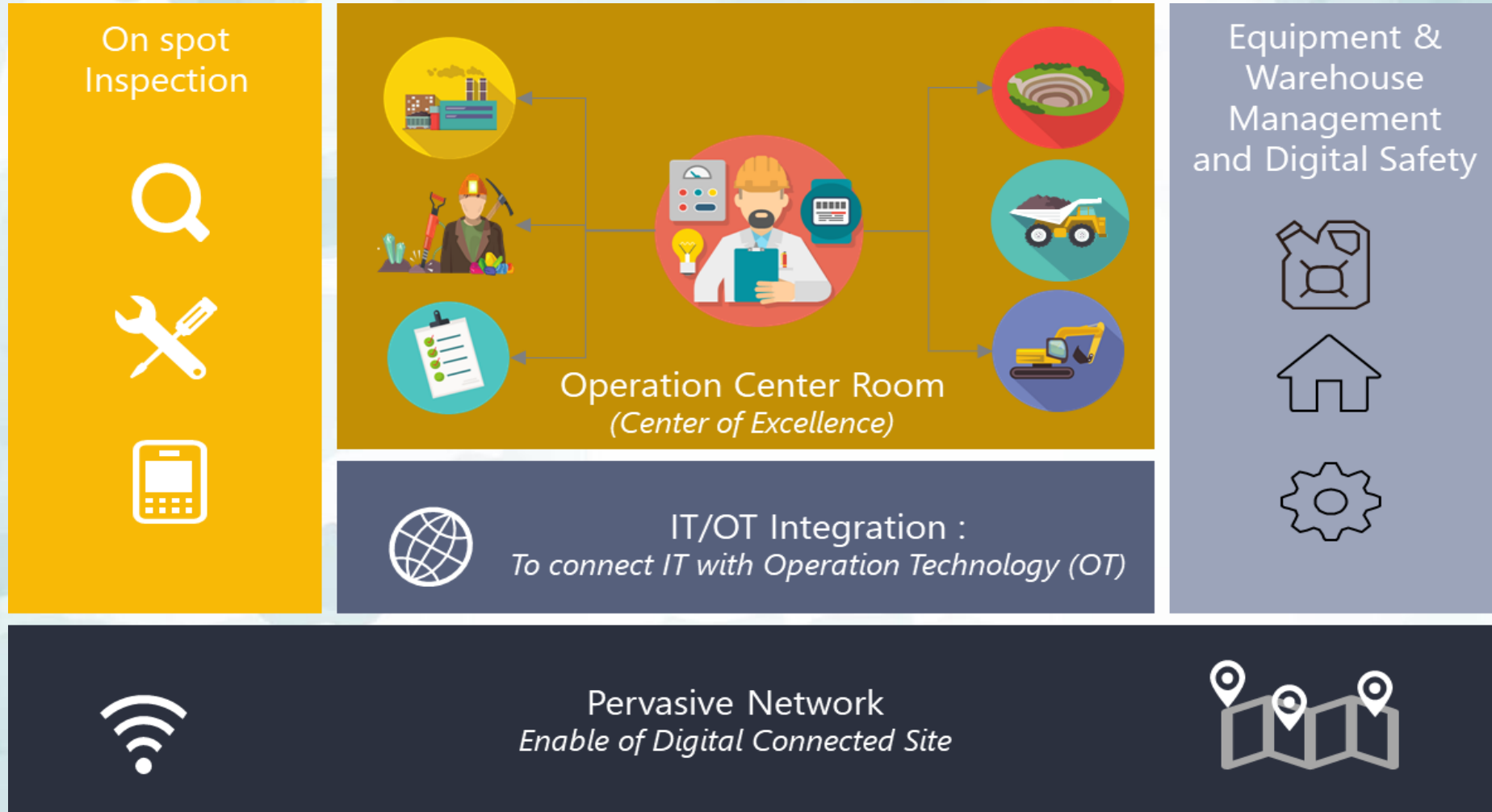
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KPC, Arutmin : Biodiversity



GOVERNANCE: VALE, Freeport: Digitalization Industry 4.0



Energy Transition of PT. Amman Mineral Nusa Tenggara



Solar PV Power Plant with the 26.8 Megawatt, currently the largest in Indonesia.



Gas-fired Power Plant (CCPP) & LNG Facilities



THANK YOU