

KONSEP CSR UNTUK TRANSISI ENERGI YANG BERKELANJUTAN

*CSR Concept for
Sustainable Energy Transition*



Dr. Ir. Farah Mulyasari, ST., MSc.
Fakultas Komunikasi dan Diplomasi & Center for Sustainable Geoscience
Universitas Pertamina
Center for Carbon Capture Storage and Utilization - ITB



Latar Belakang

Bridging the Energy Gap

Paris Climate Conference (COP 21), 2015

Participants: The EU and 195 nations, incl. Indonesia



Paris Agreement on climate in reducing global warming, carbon emissions towards NZE

Transformation from Energy Fossil to New & Renewable Energy

- While parts of the world do not have access to energy, electricity: with about 850 million people still living without it (IEA, 2021).
- While to bridge this gap, also transitioning to a low carbon energy system.



The Energy Transition

Access to reliable and affordable electricity for everyone

- Over the last century, more people have come to enjoy reliable and affordable electricity.
- That is unless we are among the roughly 850 million people left behind, as reported by the International Energy Agency. And it's not only people – it's schools, hospitals, businesses, cities and industries that cannot flourish without access to electricity.



Picture: internet

The Energy Transition

Access to reliable and affordable electricity for everyone

- Access to electricity is a basic human need. It is the backbone of economic and societal development
- The demand for electricity continues to rise and the world needs a sustainable, affordable and reliable energy supply
- This is why a steady energy transition towards more sustainable, greener energy systems needs to be driven & supported.
- Global companies have an important part to play, but policy makers must take the leading role and set the right framework to foster innovation and investments for a sustainable energy future.



Picture: Siemens

True sustainability balances 3 things together –
Economics, Environment, and Society

The Energy Transition

Access to reliable and affordable electricity for everyone

- According to the International Energy Agency (IEA) the share of renewable energy in global electricity generation has grown to 26 percent in 2018.
- But the fact is that the reality of today's energy system still depends on fossil fuels. Coal, gas and oil, as well as nuclear, are still required to meet global power generation needs.
- Much needed progress is being made, but the necessary transformation of the existing infrastructure takes time.

Source: Siemens



Picture: Siemens

The pathway to addressing the energy transition will be different for every country and its individual energy system depending on their circumstances, resources and needs.

The Energy Transition

Three Global Trends Change the Way
of Producing, Distribute, and
Consume Energy

Dekarbonisasi



Picture: [Cleanenergy4africa.org](https://www.cleanenergy4africa.org/)

Desentralisasi



Picture: [insideindonesia.org](https://www.insideindonesia.org/)

Digitalisasi



Picture: <https://ec.europa.eu/>

The Energy Transition

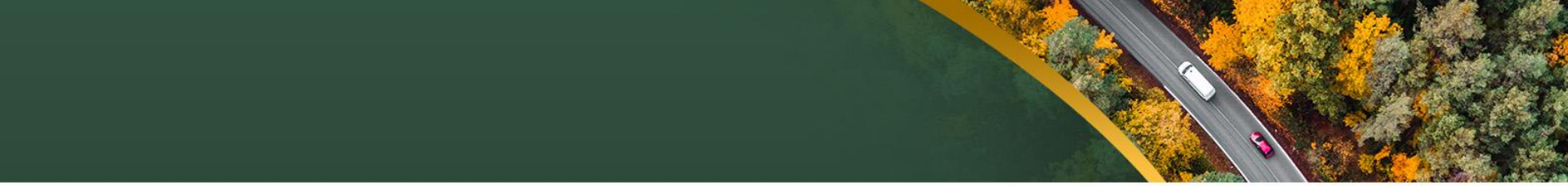
Strategic Fix

- Climate change is real. Realize that deep decarbonization must be achieved to tackle this challenge. The collective response has been a call for the expansion and integration of renewables, and this certainly is key. Still, they are not a complete answer to meeting global energy demand.
- While the share of renewables is growing and they are an important part of the future energy mix, they are also intermittent in nature and cannot always provide uninterrupted power supply. For the foreseeable future, see fossil fuels and renewables working side by side.



Picture: Pixnio

- If the existing systems are abandoned before sufficient replacements are up and running; people will not have access to reliable and affordable electricity. This a complex challenge which cannot be achieved through individual actions.



Drivers

Drivers

Sustainability as the key factor and driver of inclusive growth

- Creating sustainable energy means taking a stand on the fight against global climate change
- Companies have to set ambitious and measurable goals as it strives to guarantee a truly global and widespread access to clean and reliable energy
- Companies' suppliers have to make sure that the components used, and the built infrastructures are ever more sustainable, from a social, environmental and economic standpoint



Climate Change

Working towards a carbon-free future means mitigating the effects of climate change

Access to Energy
to guarantee widespread access to clean and affordable energy sources that benefit both the people and the Planet



Local Communities

Developing outreach, training and employment programs throughout the territories and communities in the company operation site



Approach

Approach

Sustainability as outreach and a pledge

Every company project come with a detailed master plan creating long-term shared value initiatives, foster sustainability abiding by UN's Sustainable Development Goals.



Creating Shared Value

Collaborate with communities to improve their social and economic context while, at the same time, test new partnership opportunities through grassroots organizations and innovative start-ups alike



Sustainable Development Goals

Companies publicly pledged to implement the UN's Sustainable Development Goals in its own business strategy



Value Chain

Value Chain

Sustainability as an opportunity for companies, suppliers and clients

Implementing the CSV model throughout the complete value chain gives way to best practices like the creation of business models that make it even more sustainable - in construction sites, power plants and offices, as well as in dealings with clients and suppliers.



Inside the Value Chain

- Companies need to overhaul the way they design, build and manage their power plants with sustainability at their core.
- By measuring the environmental footprint of companies' activities; they mitigate their impact by creating shared value. This is the way to combine social and economic development with the circular economy



Beyond the Value Chain

- Value the suppliers whenever they implement circular economy solutions, while supporting the clients in diversifying their consumption patterns in order to increase their sustainability levels

Inside the Value Chain

Environmental conservation and caring for people's health start out from companies' workplaces like construction sites, power plants and administrative facilities



Sustainable Construction Sites

Engaged in reusing, recycling and recouping all materials used in the construction process of a power plant. Furthermore, emissions from construction are lowered by harnessing energy efficiency systems



Sustainable Power Plants

Implement cutting-edge technology and circular economy solutions to curtail the environmental impact of O&M activities, streamlining the operational efficiency of power plants and a conscious use of resources



Sustainable Buildings

Company buildings comply with the world's highest standards in energy and water consumption, safety and comfort for the workforce, accessibility, and biodiversity.

Beyond the Value Chain

Foster synergies with suppliers and clients in order to boost the sustainability of companies' power plants while improving quality of service



Suppliers

- Promote the adoption of circular economy practices as the suppliers carefully choose materials based on their sustainability level
- Make sure the environment and workers are cared for
- Invest in training as a way to develop a new generation of local professionals, while the companies fully endorse the local supply chain and business sector



Clients

- Analyze the client needs and design tailor-made sustainability projects while creating partnership to support a shared vision



Creating Shared Value

Creating Shared Value

Sustainability melalui Ekosistem yang terbangun

Local stakeholders



NGOs & Association



*Jaringan CSV diperluas,
melampaui batas perusahaan*



Mitra Bisnis



Suppliers

Creating Shared Value Bersama Mitra

Co-participation in
existing CSV
project

Co-development
in new CSV
project



Benefits untuk Mitra Bisnis

Social & Environmental
Risk Mitigation

Business Opportunities
for local stakeholders

**Empowering Sustainability Brand Equity, thus
Supporting in achieving sustainability targets**

Creating Shared Value

Sustainability Model

1

Develop & Design
a Sustainability
Project



Analisis konteks sosial, ekonomi dan lingkungan yang melibatkan pemangku kepentingan lokal & mengimplementasikan secara berkelanjutan



Sustainable
project

2

How to build



Memitigasi dampak lingkungan melalui daur ulang sampah dan penggunaan kembali air, serta memaksimalkan dampak sosial positif



Sustainable
construction site

3

How to operate



Mendukung pembangunan sosial dan ekonomi dari local stakeholder dengan mendorong penyerapan tenaga kerja lokal, akses ke air, program pendidikan, kesetaraan gender, dan perlindungan keanekaragaman hayati.



Sustainable
buildings &
sustainable plants

Creating Shared Value

Sustainability Approach

Context Analysis

Identification of key factors relating to social, economics, and environmental aspects

Monitoring, Evaluation and Reporting

Measurement of the impacts and reporting of key indicators

Execution of the CSV Plan

Implementation of actions defined in the CSV Plan



Identification of Stakeholders

Mapping, weighting, and recording them and their needs

Analysis of the priorities and Potential Risk /Opportunities

Identification of priorities issues with potential risks/opportunities

Definition of the CSV Plan

Definition of an action plan in line with the priority issues

Creating Shared Value

SDG 4: Pendidikan yang berkualitas



Renewable education project

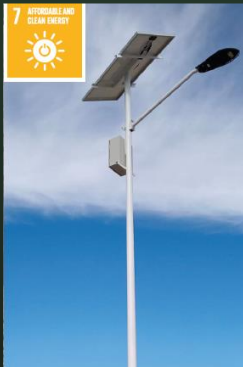


Wind Turbine technician training



Improving the facilities of the educational center to have a better environment & empowering the educational quality for children

SDG 7: Memastikan akses terhadap energi yang terjangkau, dapat diandalkan, berkelanjutan dan modern bagi semua



Collaboration with local municipalities in providing Public Lighting from LED



Re-use the renewable energy materials (solar panels)



Electrification training program for women through participatory method

Creating Shared Value

SDG 8: Pekerjaan yang layak dan pertumbuhan ekonomi



Create skills locally: local residents to be hired during the E&C and O&M phases. STEAM courses to develop high skilled technicians & managers to be employed in RE project



Boosting communities 'unique products



Greenhouse project

SDG 13: Mengambil aksi segera untuk memerangi perubahan iklim dan dampaknya



Biofences: sorting recovered waste materials sent to recycling plant

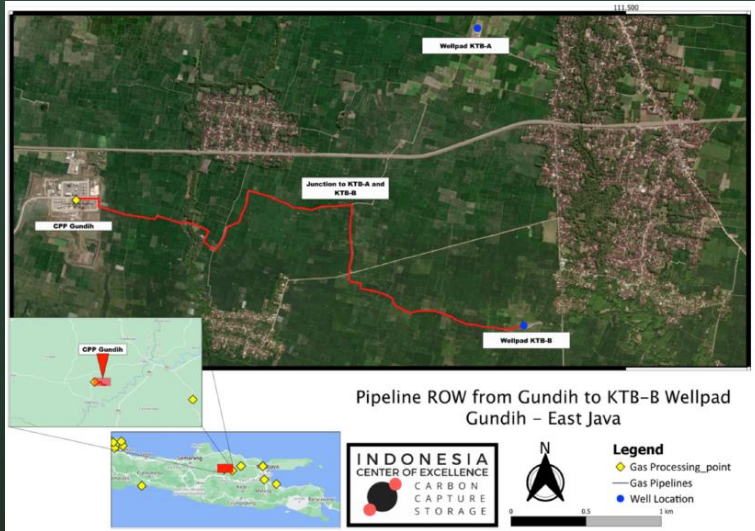


Tree nursery: reforested with tea/coffee, plants, creating productive capacity & bring additional income for local communities / families

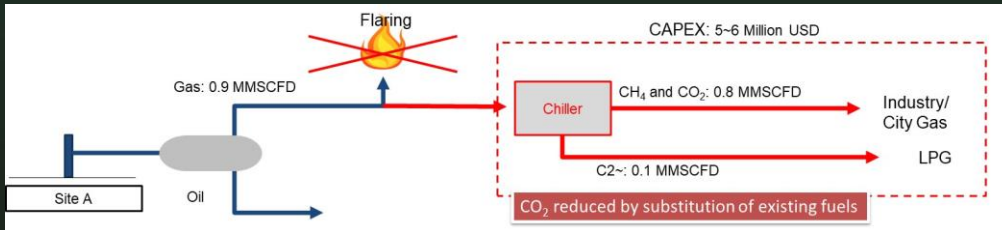


Multipurpose land use & biodiversity protection: planted specific vegetation under the solar panels in reducing PV Plant construction & operation impact on land use ground & support pollinator population, increase crops yield & increase PV efficiency

Creating Shared Value



Source: National Center for CCS/CCUS ITB-Lemigas & Center for Sustainable Geoscience Universitas Pertamina; Mulyasari et al (2021) IJGGC



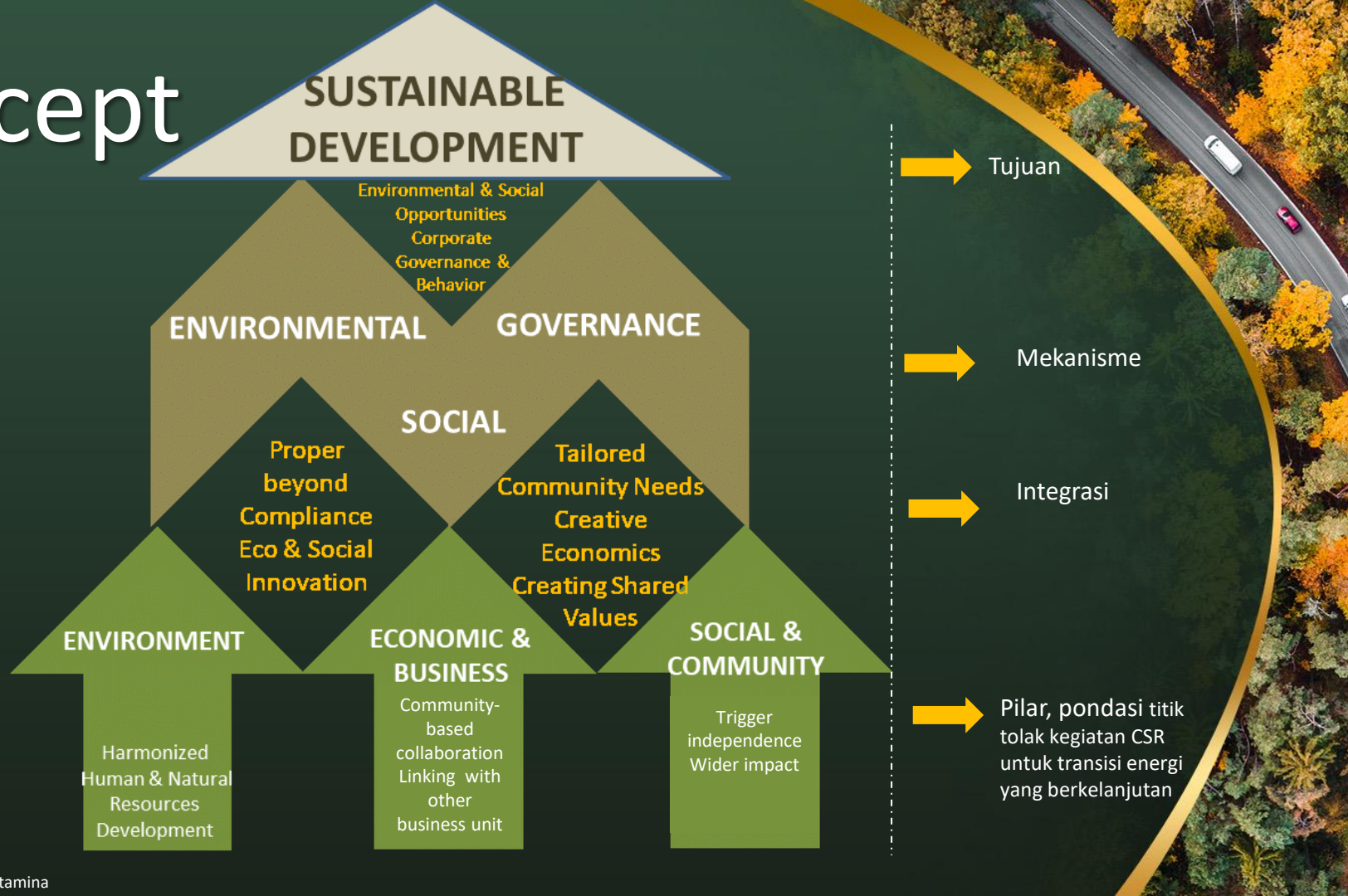
Source: National Center for CCS/CCUS ITB-Lemigas

- Salah 1 energi transisi yang diimplementasikan adalah CCS/Carbon Capture Utilization and Storage (CCUS)
- Depleted reservoir dan saline aquifer yang dapat menyimpan CO₂ yang diproduksi dari industri migas, petrokimia, semen, pulp industry, etc.

- Program CSR yang dapat mendukung kegiatan CCS/CCUS sekaligus mendukung SDGs
- Dana CSR dapat digunakan untuk mengolah Gas Flare untuk penyediaan city gas/industri lainnya dan bahan LPG

- Gas Flare dari pengolahan marginal

Concept





Terima kasih

Hatur nuhun

Dr. Ir. Farah Mulyasari, ST., MSc.

W: www.universitaspertamina.ac.id, <https://universitaspertamina.ac.id/fakultas/komunikasi-dan-diplomasi>
<http://ccs-coe.fttm.itb.ac.id/>, <http://ccs-gundih.fttm.itb.ac.id/>

E: farah.mulyasari@universitaspertamina.ac.id, farah.mulyasari@gmail.com

M: +62-81321892276