



the 47<sup>th</sup>  
**IPA**  
CONVENTION  
& EXHIBITION  
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## Net Zero Emission (NZE) in Oil & Gas Industry

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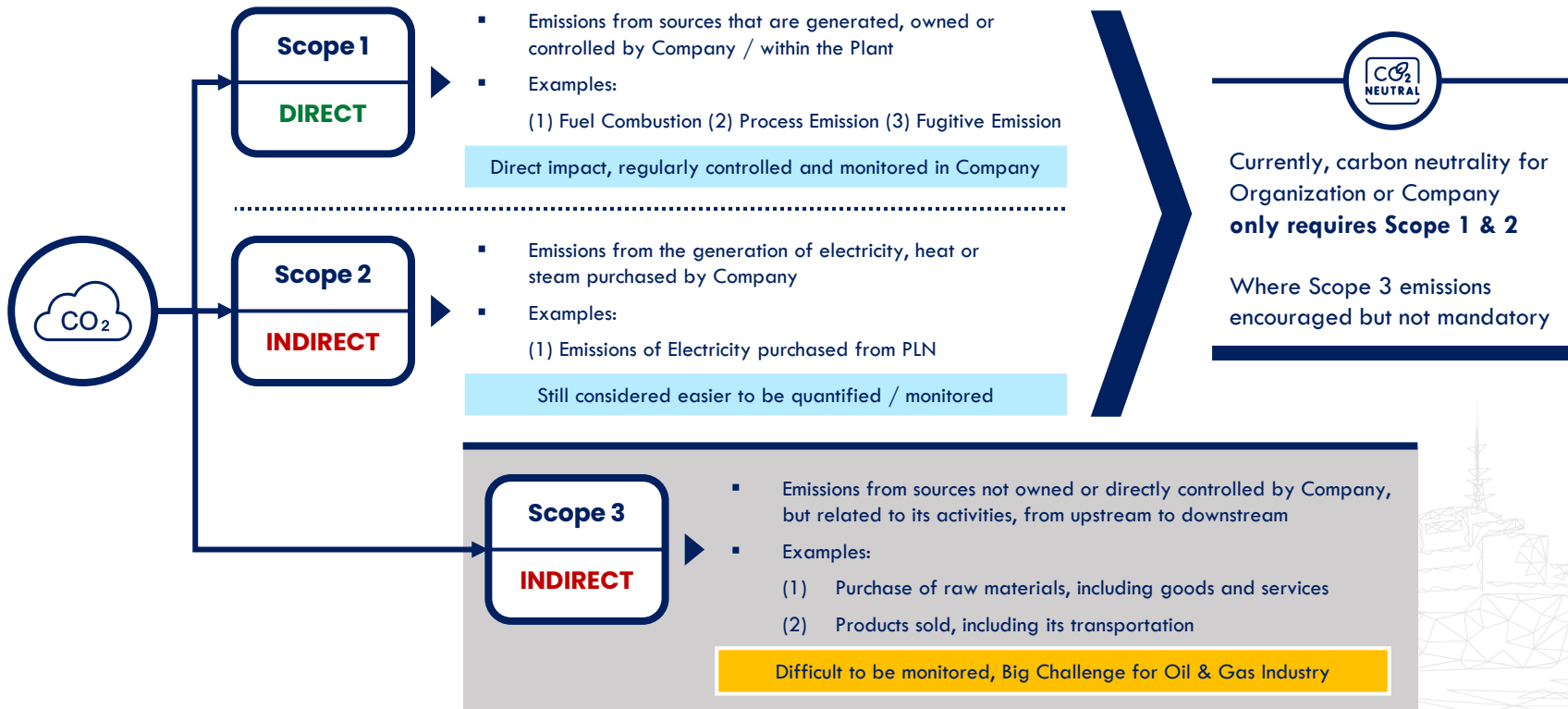
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# GHG Emission categorized based on 3 Scope, where NZE is focused on Scope 1 and 2 Reduction

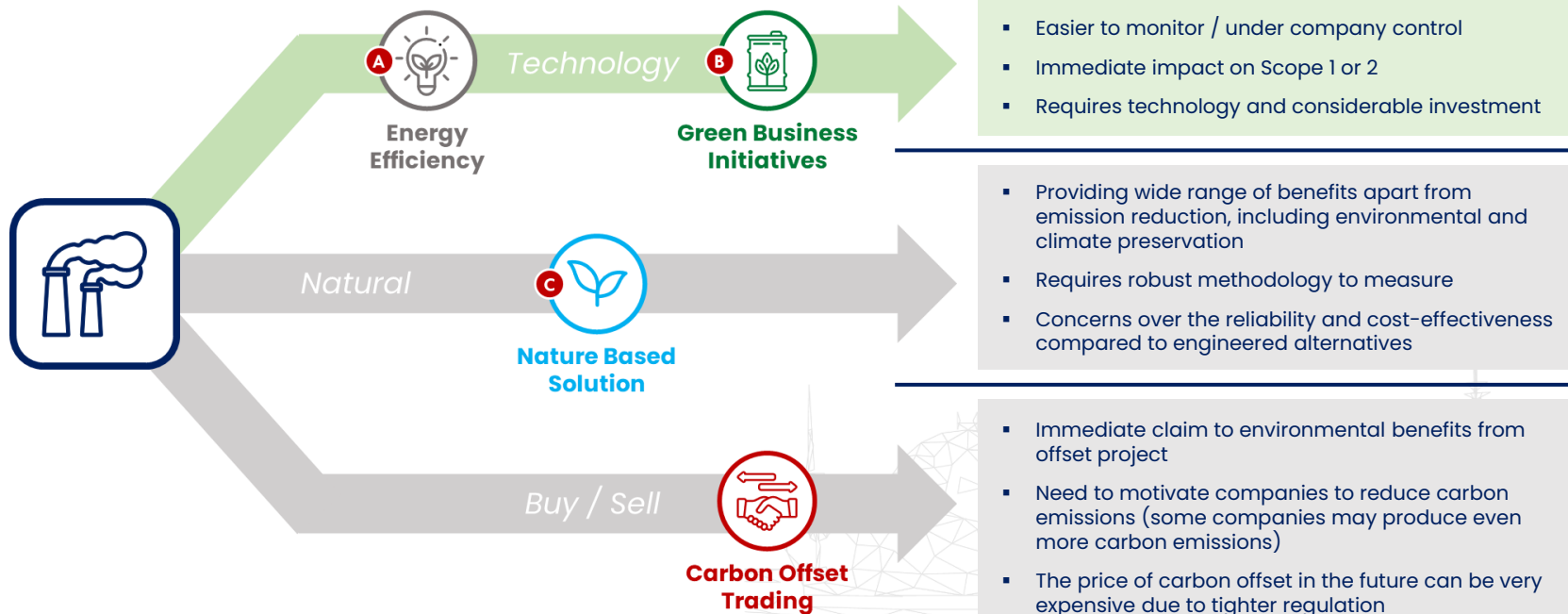


IKATAN AHLI FASILITAS PRODUKSI  
 MINYAK DAN GAS BUMI INDONESIA



# Summary of Three Ways to Decarbonize Oil & Gas Industry

- There are 3 ways to decarbonize Oil & Gas Industry; (1) By Technology, (2) By Natural Use, (3) Buy / Sell (Trading)
- Each has different considerations to be applied



# Strategic Initiatives to Achieve Net Zero Emission in Oil & Gas Industry

## Initiatives

## Details



### Energy Efficiency

#### Minimize Flare Loss

- Flare Gas Recovery System (FGRS) that focuses on Near-zero flaring while recovering valuable waste gas that can be reused as fuel or feedstock

#### Utilization of External Utility Sources

- Use of external renewable sources to minimize fuel usage / own used in plant

#### Advanced Process Control (APC)

- APC focuses in optimizing process variables to maximize yield and quality of products while at the same time maintaining low carbon footprints / emission



### Green Business Initiatives

#### Low Sulphur Product

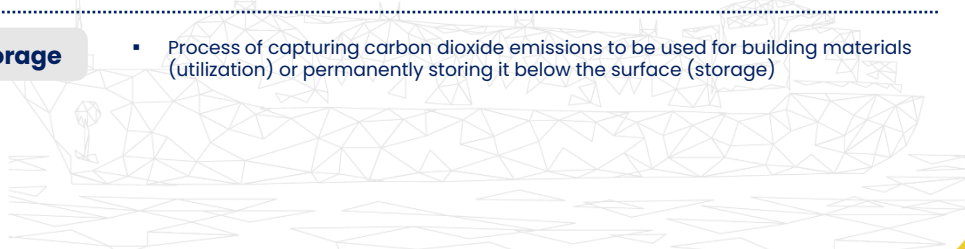
- Production of eco-friendly products with lower sulphur level
- Examples of low sulphur product: EURO V Gasoline & Gasoil, MFO-LS / LSFO

#### Carbon Neutral Fuel

- Production of carbon neutral fuel such as HVO, SAF, Hydrogen, Methanol, and Ammonia for fossil fuel substitution and alternative renewable feedstock

#### Carbon Capture, Utilization & Storage

- Process of capturing carbon dioxide emissions to be used for building materials (utilization) or permanently storing it below the surface (storage)





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