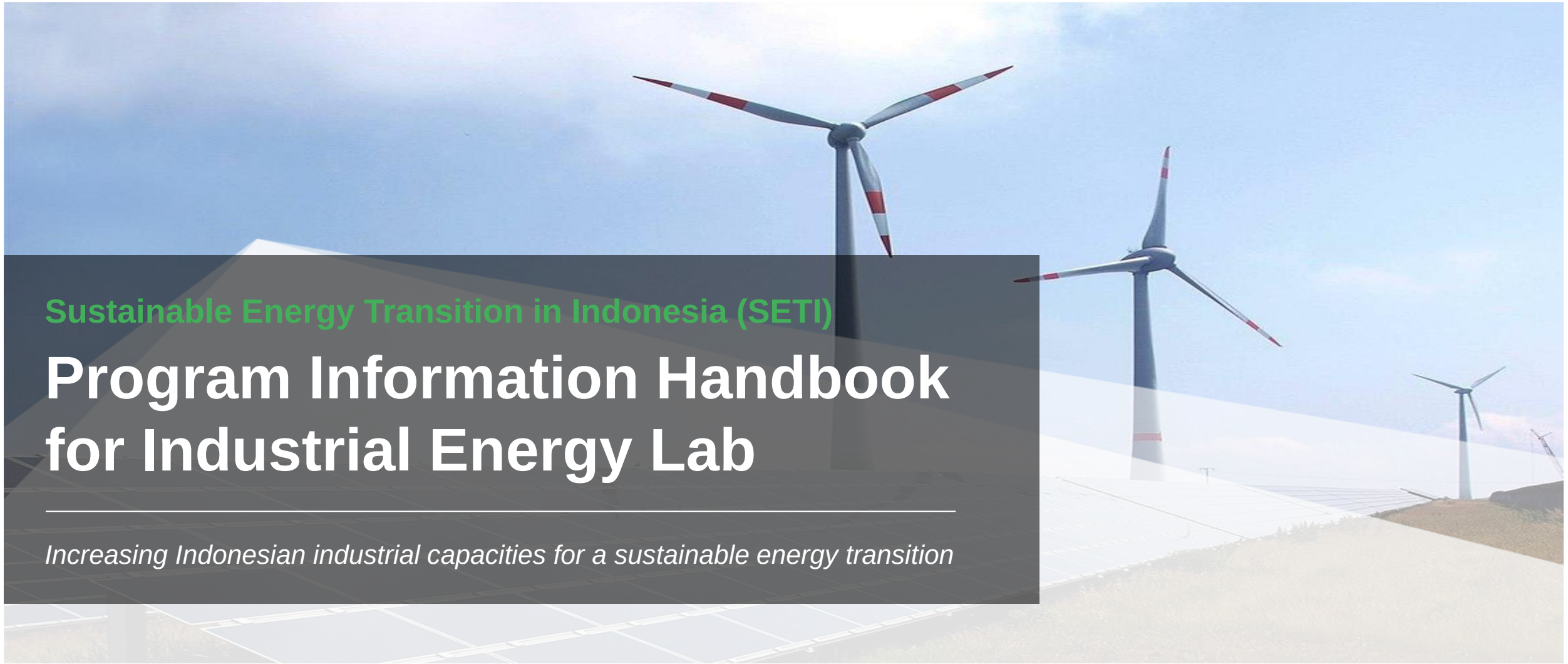


Sustainable Energy Transition in Indonesia (SETI)

Program Information Handbook for Industrial Energy Lab

Increasing Indonesian industrial capacities for a sustainable energy transition

Supported by:

Federal Ministry for Economic Affairs and Climate Action

IKI INTERNATIONAL CLIMATE INITIATIVE

Implemented by:

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

WRI INDONESIA

IESR

YAYASAN INDONESIA CERAH

SETI AND ENERGY LAB

PROGRAM OVERVIEW

Sustainable Energy Transition in Indonesia (SETI)

Federal Ministry for Economic Affairs and Climate Action

IKI INTERNATIONAL CLIMATE INITIATIVE

Sustainable Energy Transition in Indonesia (SETI) is a program that focuses on improving the sustainable energy transition ecosystem through developing integrated sustainable energy policies, piloting scalable and innovative demonstrations for industry and the built environment, and also creating an innovative and applicable financing scheme to accelerate energy transition practices in Indonesia.

Type:

Bilateral Programme in IND

Consortium and Implementation Partners:

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

IESR

WRI INDONESIA

YAYASAN INDONESIA CERAH

LPEM FEB UI Institute for Economic and Social Research

Fraunhofer ISI

Timeframe:

Implementation Phase: 5 years,

1st Aug 2023 – 31st July 2028

Political Partner

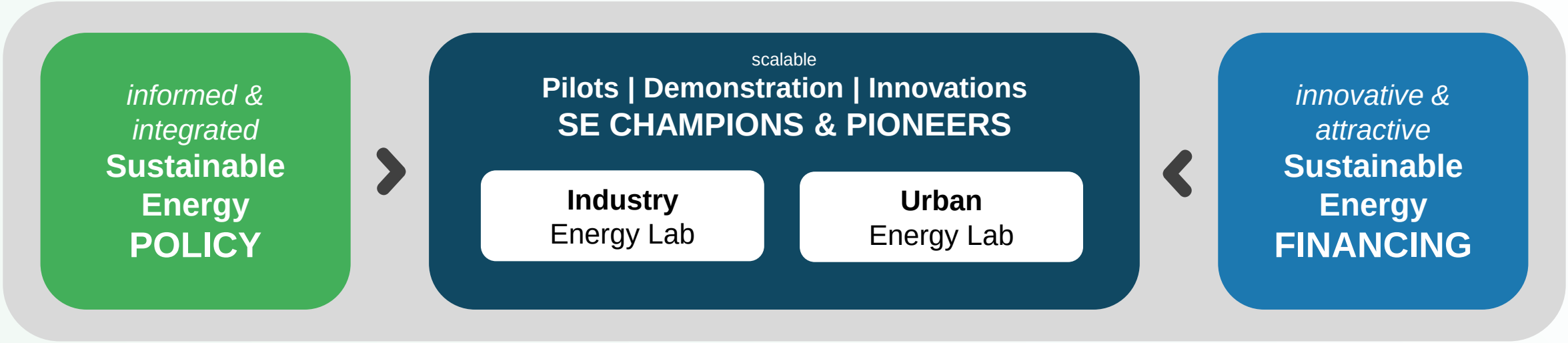
Directorate General of New, Renewable Energy and Energy Conservation

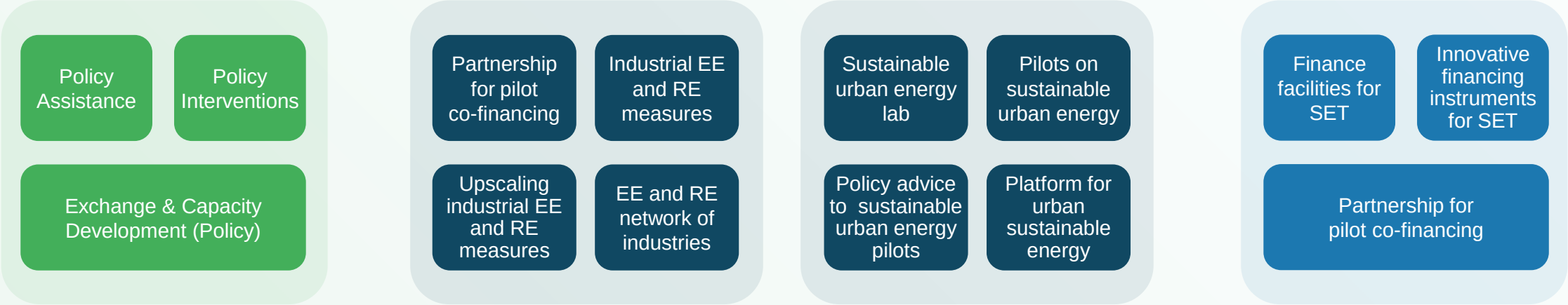
Desired Outcome:

An effective institutional, regulatory and financial ecosystem demonstrates the Indonesian embarkment towards a sustainable energy transition.

Project Design Overview

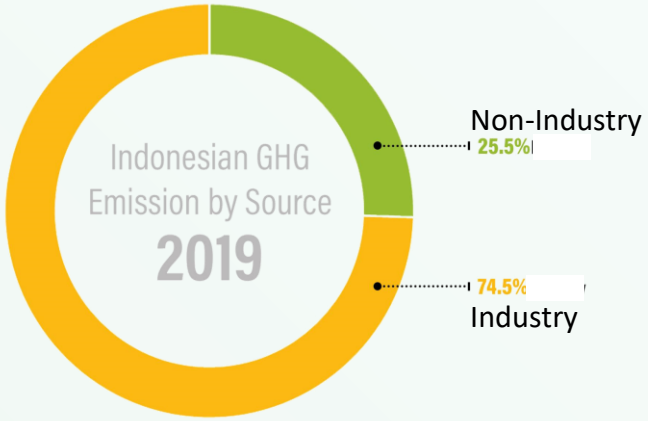
The SETI initiative aims to accelerate energy transition in industry and the built environment, as well as enhance policy and financing aspects to improve the transition ecosystem in Indonesia





Our focused intervention in industry is not only to accelerate the achievement of the national NZE target but also to ignite change in sustainable consumption

Indonesia's GHG Emission Profile Based on Polluters in 2019‡



Industrial emissions consist of emissions from energy combustion, industrial process, & waste committed by industries to provide products & services to the economy. **The largest emission from industries is from stationary & mobile combustion.**

Indonesia's GHG Emission Projection in 2030† Based on Enhanced NDC

Sector	GHG Emission Level 2010 (MTon CO_2e)	GHG Emission Level 2030 (MTon CO_2e - BAU)
Energy	453.2	1,669
Waste	88	296
Industrial Process & Product Use (IPPU)	36	69.6
Agriculture	110.5	119,66
Forestry & Other Land Use (FOLU)	647	714
Total	**1,334**	**2,869**

In 2030, it is projected that emissions will **grow twofold** from the baseline. With the current industrial emission intensity, industries' roles in emission will be more than **important.**

Therefore, **reducing emissions will be most significant if it starts from the industry.**

Not only because it's the largest source of emission contributors, but it can also **shape production pattern & sustainable consumption in the long run.**

‡ 2019 is a more consistent new baseline year than 2020 due to Covid-19
†2030 is a target year for Enhanced NDC.

Source: WRI Indonesia's calculation based on multiple sources including Climate Watch 2022, Indonesia's ENDC, (MoEF, 2022)

WHY SHOULD BUSINESS DECARBONIZE AND HOW THEY CAN START?

Internal & External Push Factor:

Become resilient to both physical and transition risks caused by climate change

Internal push factor:

Physical Risk

Related to the physical impacts of climate crisis
such as increased frequency and severity of
extreme weather events (e.g., wildfires, cyclones, hurricanes, floods)

- **Disruption to business**
- **Heightened levels of operational risks** in business
- **Damage to** physical **assets**
- Failures in the transportation system(s) which can impact business
- **Disruption to the supply chain** which can impact business

External push factor:

Transition Risk

Related to the transition to a lower-carbon economy
such as the introduction of a carbon tax, increased regulations,
heightened permitting requirements & increased exposure to lawsuits

- **Policy-driven increased costs** (e.g., carbon tax) which can significantly alter the underlying economics of the business and force changes to business model
- **Liability driven increased costs** (e.g., from increased lawsuits)
- **Market-driven demand reductions** (e.g., from consumer demand)
- **Technology-driven risks** (e.g., from stranded assets resulting from the introduction of new technologies)

With Economic Loss from Climate Change **May Reach 3.45% of Indonesia's 2030 GDP**

External Push Factor:

National and international government's climate ambition is clear, resulting in the increase of pro-decarbonization policy products

Indonesia's Climate Target

31.89% Unconditional emission reduction

43.2% Conditional emission reduction

2060 Reach Net Zero

National policy products
To support the target, some key policies has been developed, such as:

New government regulation energy conservation (PP33).
The regulation aims to increase the adoption of energy conservation in Indonesia.

New ESDM regulation no 2 2024 on Rooftop Solar
The regulation aims to afford the needs of RE implementation for Industry and to increase RE mix.

New Ministry of Industry regulation on Green Industry Standard
(Standard Industri Hijau), includes guideline to account & manage industry's environmental impact

International Climate Target

2030 Reach emission peak

2050 Reach Net Zero

International policy products
Other countries are also tightening its global trade policies, some examples:

EU on carbon border adjustment mechanism (CBAM)

UK on anti deforestation policy for selected import commodities

US on polluter import fee

We need to prepare because sooner or later it will impact Indonesian products & policies

External Push Factor:

Sustainable lifestyle is consumers' new preference & causing business trend shift

Global consumers behavioral change

78% of consumers
Claims that **sustainable lifestyle** is **important**

68% of consumers
Willing to pay more for **sustainable brands**

Indonesian consumers behavioral change

40% of consumers
Willing to pay more for **sustainable brands**

34% of consumers
Willing to pay more for **local sourced products**

Companies in Indonesia are responding by shifting to **more sustainable products/services**

INDIKA ENERGY

- Launched various **new green businesses** (i.e., solar power and EV)
- According to their 2022 annual report, **green businesses have made significant strides** and are on schedule to **achieve 50% non-coal revenue** by 2025 and **net-zero emissions** by 2050.

Patagonia

- 98% of products are made with preferred fibers, including regenerative organic material and recycled materials.
- Patagonia Inc. receives **a net profit of $100** per high-quality used jacket that they resale.

Sources: PwC (2022), Indika Energy Annual Report (2022), Patagonia (2023)

External Push Factor:

Investors and financial institutions are supporting industries that are willing to do more

HSBC

- Support global clients with **$750 billion to $1 trillion of financing** and **investment** over the next 10 years
- Provides **diverse sustainable finance options**
- Provide **new climate solutions**, esp. for investments in **sustainable infrastructure**

BCA

- Assist in **increasing clients' sustainable finance** (green business & SMEs) **portfolios** by **7%** in **2022**
- Provide **financing for sustainable infrastructure projects**, inc. for power plants
- Help clients in **mitigating climate-related financial risks** by developing a credit-granting policy

UOB

- Aims to **decrease emissions in six high emissions sectors**
- Provides **diverse sustainable finance options**
- Support clients in **developing green products** and **ambitious climate targets**
- Enables a **transition towards renewable energy** sources (if viable options exist)

standard chartered

- Committed to **support clients** with innovative and sustainable solutions by **developing 3 sustainable finance frameworks**
- **Navigate clients with relevant guideline** across various sustainability categories
- Provides **diverse sustainable finance options**

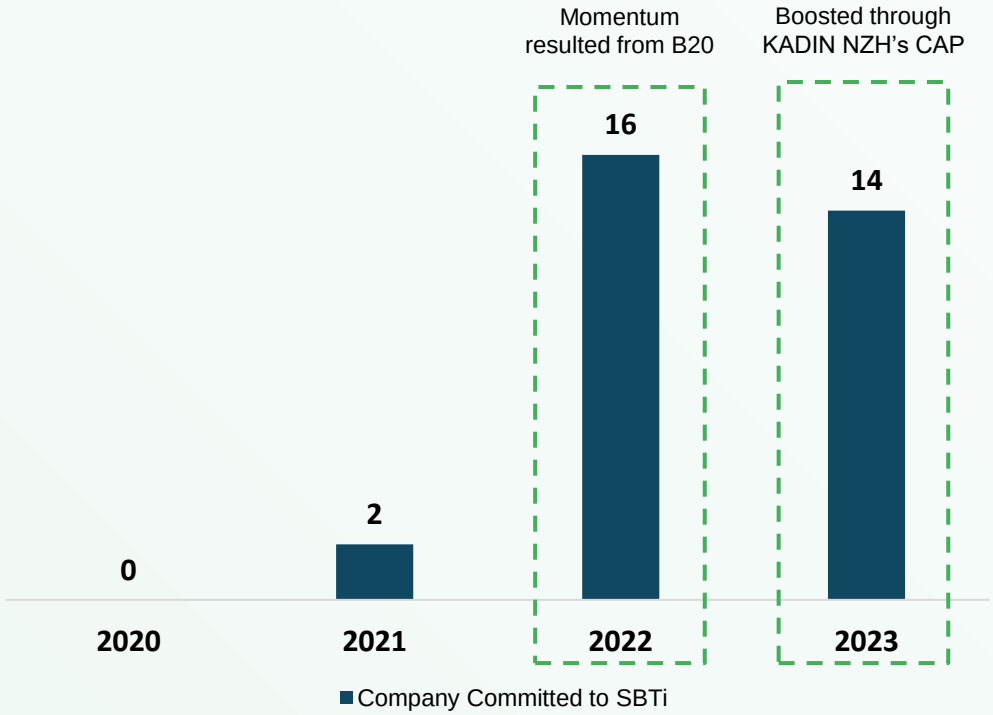
Allianz

- Provide **sustainable insurance and risk management solutions** (including investment & procurement)
- Assist in **clients' energy transitions** (diagnosis, repairs, subventions)
- Support energy transition by **restricting financing for coal-based business models** since 2015

AIA

- **Incorporate ESG Investment Standard** within the investment **decision making process**
- Provide **multi-thematic sustainable investing** for clients that **contribute to sustainable projects**
- Implements **investment exclusions** for **energy-intensive industry**

As a result: the national ecosystem is shaping, waiting for champion pioneers from each sector



- **Adoption of net zero in Indonesia is highly increasing**
- **30+ companies has committed** to net zero with **2 companies has validated target**
- **Multinational companies influences national companies**' decarbonization pace (e.g. Adidas, Unilever, Heineken)

Indonesian net zero-committed companies (non-exhaustive)

Apparel & footwear

PT. ALPHA INDO NUSA · PT PAN BROTHERS Tbk · APR · PK · PARKLAND · PT. KAHATEX · PT. Ever Shine Tex Tbk A PUBLIC LISTED COMPANY

Chemicals

DYNAPACK ASIA · indesso · NAVA Flexible & Rigid Packaging · PANCA BUDI SYMBOL OF QUALITY · cUc UnitedCan · LAWANG MAS PrimaPack A COMPLETE PACKAGING SYSTEM

Forest, land use, & agriculture (FLAG)

APP sinarmas · ANJ · TSE GROUP · samora GROUP · PT INDO OIL PERKASA

Buildings/Tourism

WATERBOM · PT. Pakuwon Jati Tbk.

Cement

SIG

Financial institutions

BRI

ICT

goto

Multinational net zero-committed companies with supply chain in Indonesia

adidas · Unilever · H&M · Heineken · Toyota · & more!

Note: The net zero being referred in this slide is SBTi's net zero

What's in it for industry?

First-mover industries that are moving to the decarbonization pathway will have more advantages than the laggards

Types of approaches

PIONEER
Early, strong commitment to climate mitigation

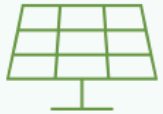
FOLLOWER
Undertakes climate mitigation, lacks speed & aggression

LAGGARD
Takes a delayed, passive approach

ADVANTAGES FOR PIONEERS

Good public & media recognition, avoid claims of greenwashing

Increase investors' confidence, increase consumer's willingness to pay, & bottom-line savings



Seize **new green business opportunity**, increased innovation

Anticipate regulatory development, can even co-shape the regulation

Optimal transformation phase, avoid technology lock-in

Source: Bain & Company Brief – Banks' Great Carbon Challenge (Jun 2022)

How can companies start their decarbonization pathway?

Introducing a corporate decarbonization journey, an end-to-end process to be taken by companies to reach an accountable & science-based net zero transformation.

Stages

Emission inventory	Target setting	Strategy setting	Implementation & disclosure
Knowing where your emission comes from is the first important step	Establishing clear near- & long-term targets is an effective means of communicating a concrete ambition	After setting your target, plan various strategies to achieve via ambitious decarbonization & continuous neutralization	Practice what we preach: take action, evaluate its impact, & openly share your progress

GHG accounting framework

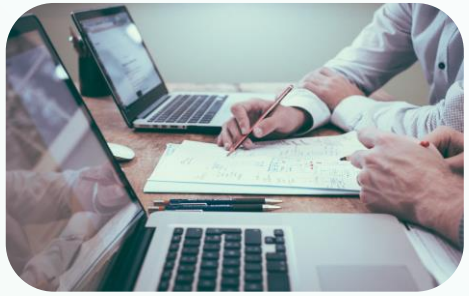
GREENHOUSE GAS PROTOCOL

90% of companies who disclose GHG emissions use GHG Protocol

The only internationally-recognized net zero target setting framework

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

2,250+ companies have committed to setting SBTI targets, 1,000+ are approved



HOW OUR ENERGY LAB INTERVENTION DRIVE IMPLEMENTATION FORWARD?

With built intervention focusing to develop insights, drive energy transition, test nascent technologies and upscaling implementation within the industrial sphere

Research and Study

- Decarbonization industry insight: existing and best practices on RE and EE*
- Technology catalogue development*
- Publication of project success stories for public awareness and replication

Capacity Development

- Series of workshop and capacity building
- Training for Energy Efficiency and/or Renewable energy for Industries
- Strategy creation for GHG emission reduction

Technical Assistance

- Deep-dive capacity building and discussion
- Providing energy audits for promising companies (e.g., award winners)
- Pre-feasibility study for nascent technology implementation

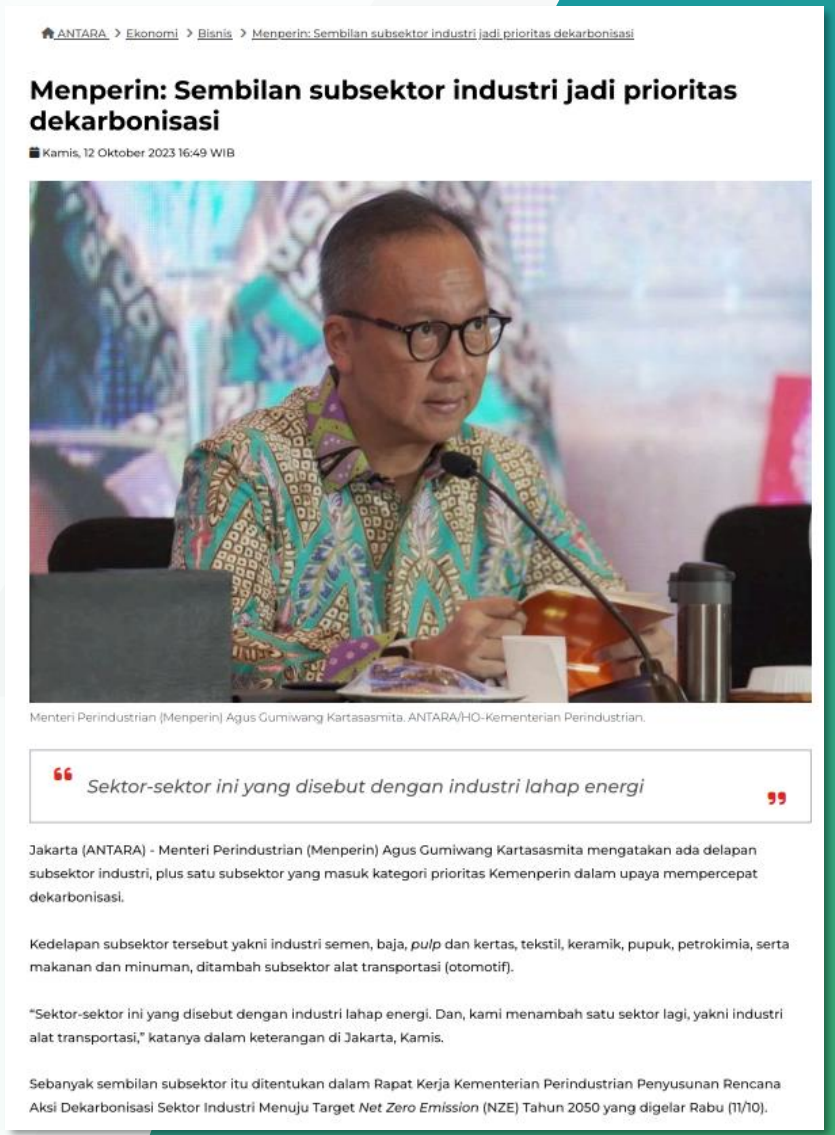
Upscaling and Implementation

- Finance enablement track: develop a bankable project proposal
- Pilot for renewable energy and/or energy efficiency
- Matchmaking with technology providers and potential investors.

*) On going discussion

SETI's Industrial Sector Prioritization

- Iron and Steel
- Pulp & Paper
- Textile, Apparel & Footwear
- Fertilizer
- Cement
- Petrochemical
- Ceramic & Glasses
- Food & Beverages
- Other potential sector



ANTARA > Ekonomi > Bisnis > Menperin: Sembilan subsektor industri jadi prioritas dekarbonisasi

Menperin: Sembilan subsektor industri jadi prioritas dekarbonisasi

Kamis, 12 Oktober 2023 16:49 WIB

Menteri Perindustrian (Menperin) Agus Gumiwang Kartasasmita. ANTARA/HO-Kementerian Perindustrian.

> *Sektor-sektor ini yang disebut dengan industri lahap energi*

Jakarta (ANTARA) - Menteri Perindustrian (Menperin) Agus Gumiwang Kartasasmita mengatakan ada delapan subsektor industri, plus satu subsektor yang masuk kategori prioritas Kemenperin dalam upaya mempercepat dekarbonisasi.

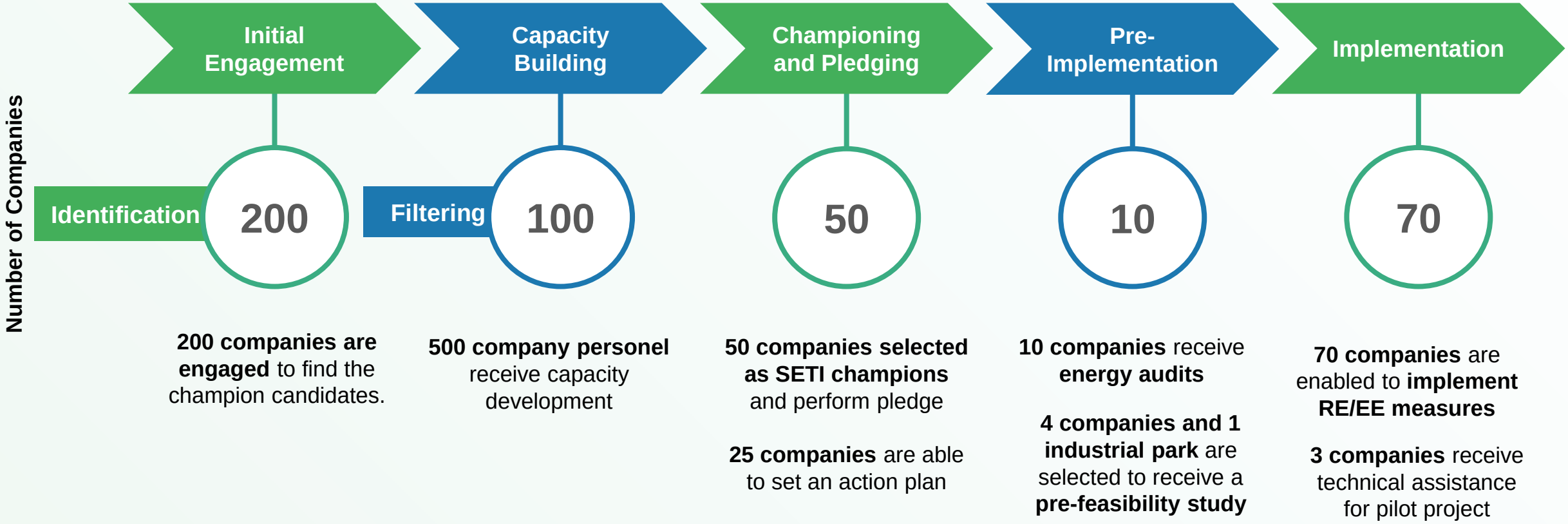
Kedelapan subsektor tersebut yakni industri semen, baja, *pulp* dan kertas, tekstil, keramik, pupuk, petrokimia, serta makanan dan minuman, ditambah subsektor alat transportasi (otomotif).

"Sektor-sektor ini yang disebut dengan industri lahap energi. Dan, kami menambah satu sektor lagi, yakni industri alat transportasi," katanya dalam keterangan di Jakarta, Kamis.

Sebanyak sembilan subsektor itu ditentukan dalam Rapat Kerja Kementerian Perindustrian Penyusunan Rencana Aksi Dekarbonisasi Sektor Industri Menuju Target *Net Zero Emission* (NZE) Tahun 2050 yang digelar Rabu (11/10).

Potential sectors focus for FY24-25

SETI's Industrial Decarbonization Strategy Approach Until 2028



SETI Industrial Lab Activity Journey (1)

Phase	Initial engagement		
	Engagement with industry association and coalition	Public facing engagement	Awareness-level capacity building: decarbonization journey 101
Output	1) Access to pool of companies under association 2) Association's feedback for required supports	Maximized SETI program outreach	1) Company registration for SETI program 2) MoU (opt) 3) Company feedbacks 4) Trained personnel
Tools & Methods	SETI introduction slide outlining the summarized intervention activities	Articles outlining the summarized intervention activities	1) Industrial decarbonization training material 2) Fundamental RE and EE training material 3) Company filtering tools 4) Website for registration
Activities	1) Association gathering 2) Bilateral meeting with coalition	1) Op-ed to mass media 2) Press conference	1) Workshop training per each industrial sector 2) Company filtering
Partner	1) Govt' partners 2) Industrial associations 3) KADIN NZH and other relevant coalition	Media partners	1) Govt' partners 2) Industrial associations 3) Expert partner, if any

SETI Industrial Lab Activity Journey (2)

Phase	Capacity building
Output	Increased industries' capacity on decarbonization solutions for strategy making
Tools & Methods	1) Industrial decarbonization curriculum/training materials 2) Low carbon technology mapping
Activities	Thematic and sector-specific capacity building (i.e., clean heat, LCT, RE options, RE and EE procurement, etc.)
Partner	1) Govt' partners 2) Industrial associations 3) Expert partner, if any

SETI Industrial Lab Activity Journey (3)

Phase	Championing and pledging			
	Workshop on strategy setting	Technical assistance to companies	High level engagement with companies	Public facing event for commitment showcase
Output	50 companies are showcasing commitment (pledge), with 25 of them are producing company strategy			1) Platform to showcase the companies' commitment 2) Generate strong signal to the government and ecosystem for further incentives
	1) Raised capacity on emission inventory and baselining, target setting, and strategy making 2) Identify/shortlist companies for further technical assistance	1) Companies are confident to pledge 2) Companies are able to create their own decarbonization strategy	Companies' decision maker levels are convinced to make announcement	
Tools & Methods	1) GHG protocol 2) SBTi guideline and tools 3) WRI's decarbonization tools 4) WRI's LCT mapping 5) SETI Technology catalogue on best practice assessment	1) GHG protocol 2) SBTi guideline and tools 3) WRI's decarbonization tools 4) WRI's LCT mapping 5) SETI Technology catalogue on best practice assessment	Slide material, summarizing the finding from technical assistance (i.e., developed company strategy)	1) Slide material 2) Companies pledging 3) Decarbonization tools
Activities	1) Technical workshop for specific industries 2) Direct engagement with companies	Technical assistance to finalize companies' decarbonization strategies	Direct meeting with the management level	1) High level workshop 2) Impact assessment for potential GHG reduction
Partner	Relevant expert partner			1) Committing companies 2) Media partners to amplify the message 3) Existing event to tap: ISEW, Subroto Awards

SETI Industrial Lab Activity Journey (4)

Phase	Pre-implementation	
	Assessment on feasibility and viability of the decarbonization strategies	Preparation for RE/EE technology procurement
Output	Decarbonization strategies that have been developed are appropriate and feasible to be implemented	
Tools & Methods	1) Necessary energy audit instruments 2) Necessary pre-feasibility study instruments	1) Training materials 2) Stakeholder mapping and engagement with available technology providers 3) Stakeholder and financial product mapping from suitable financial institutions
Activities	1) Energy audit 2) Pre-feasibility study (technical, financial, overall impact & risk mitigations, etc.)	1) Capacity building on proposal making and project's bankability 2) Technology providers matchmaking 3) Financial institutions matchmaking
Partner	External partner for performing energy audit and pre-FS	1) SETI SF team 2) Banks and other financial institutions 3) Emerging and local manufacturers/technology providers 4) Expert partner, if any

SETI Industrial Lab Activity Journey (5)

Phase	Implementation		
	Piloting/project implementation assistance	Monitoring the project implementation	Evaluating the project implementation
Output	Ensured a successful project implementation and open up opportunity for gradual improvement		Gathered lessons learn documentation of the project implementation
Tools & Methods	SETI internal assessment tools and risk mitigations document of the project		1) Necessary instruments of comprehensive impact assessment 2) Comms strategy (i.e., press release, articles, etc.) to publish the lessons learned and success story
Activities	1) Technical assistance 2) Project assessment		1) Comprehensive impact assessment (i.e., GHG reduction and potential reduction) 2) Comms products on project's lessons learned and success story
Partner	1) Govt Partners 2) Expert partner for supporting project assessment, if any		1) Govt Partners 2) Expert partner for supporting project evaluation 3) Media partner to amplify the message

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On behalf of:

Federal Ministry for Economic Affairs and Climate Action

of the Federal Republic of Germany

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