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Achieving the NDC Target: Indonesia's Regulatory Framework on Carbon Tax and Carbon Pricing

Indonesia is currently working to achieve its NDC target, which is to reduce its greenhouse gas emissions (GHG) by between 29% (unconditionally) and 41% (conditionally) against the 2030 business-as-usual scenario. In an attempt to achieve this target, the Indonesian Government is introducing various measures, including: 1) Issuance of the updated NDC Indonesia; 2) A new legal framework that addresses the issue of carbon tax, specifically Law No. 7 of 2021 on the Harmonization of Taxation Regulations; and 3) Various provisions on carbon pricing, as feature under Regulation of the President No. 98 of 2021 on the Implementation of Carbon Economic Value to Achieve Nationally Determined Contribution Targets and Control over Greenhouse Gas Emissions in Relation to National Development.

Overview

In an effort to mitigate the effects of climate change, the Indonesian Government, working with members of the international community at the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change (“UNFCCC”), which took place on 12 December 2015 in Paris, France, has adopted the Paris Agreement to the UNFCCC. This move was followed up by the signing of the said agreement on 22 April 2016 in New York, USA.¹

As a follow-up to this pledge, the Indonesian Government subsequently issued Law No. 16 of 2016 on the Ratification of the Paris Agreement to the United Nations Framework Convention on Climate Change (“Law 16/2016”). In order to achieve the objectives of the Paris Agreement and national contributions to the ongoing global climate change effort, as set forth under the various Nationally Determined Contributions (“NDC”), all of the relevant state parties are required to implement and communicate their efforts and also to periodically demonstrate their NDC progress. Moreover, Indonesia’s NDC encompasses various mitigation and adaptation initiatives, including a targeted reduction in the country’s Greenhouse Gas Emissions (“GHG”) of between 29% (unconditionally) and 41% (conditionally) against the 2030 business as usual scenario.²

In order to achieve the country’s NDC targets, the Indonesian Government has introduced various measures, many of which are set out under the following new legal frameworks:

1. Law No. 7 of 2021 on the Harmonization of Taxation Regulations (“Law 7/2021”)³. Indonesia’s Minister of Finance, Sri Mulyani, during her introductory speech on Law 7/2021 that was delivered during a plenary session of the House of Representatives, affirmed that the government would implement a proper transition so that the imposition of the new carbon tax would remain consistent with the momentum of economic recovery in the wake of the Corona Virus Disease 2019 (“COVID-19”) pandemic. Specifically, the imposition of the new carbon tax will be carried out in stages by taking into account the development of the carbon market; and
2. Regulation of the President No. 98 of 2021 on the Implementation of Carbon Economic Value to Achieve Nationally Determined Contribution Targets and Control over Greenhouse Gas Emissions in Relation to National Development (“Regulation 98/2021”).⁴ This new regulation was announced by the Indonesian President at the recent United Nations Climate Change Conference (COP26) in Glasgow, during which the importance of the carbon market and carbon pricing as regards the ongoing battle against climate change were highlighted.⁵

The government has also determined various priority strategic sectors, specifically the forestry, energy and transportation sectors, which between them cover 97% of Indonesia’s total NDC emissions reduction

¹ Recitals, Law 16/2016.

² Elucidation of Law 16/2016, p.6.

³ For more information on Law 7/2021, see ILD No. 739 and No. 740.

⁴ Katadata.co.id, “Perpres Nilai Ekonomi Karbon Diteken, Dukung RI Jadi Negara Maju 2045”, as accessed through: <https://katadata.co.id/agustiyanti/finansial/6181248189ade/perpres-nilai-ekonomi-karbon-diteken-dukung-ri-jadi-negara-maju-2045> on 9 November 2021.

⁵ Straitstimes.com, “Indonesia Sets Carbon Pricing Policy to Spur Carbon Trading”, as accessed through: <https://www.straitstimes.com/asia/se-asia/indonesia-sets-carbon-pricing-policy-to-spur-carbon-trading> on 9 November 2021.

target.⁶ In addition, in the updated 2021 NDC document, through the long-term strategy – low carbon and climate resilience (LTS – LTCCR), Indonesia has also targeted Net Zero Emissions (“NZE”) by 2060 at the latest.⁷

In principle, the new carbon tax, as set out under Law 7/2021, and carbon pricing scheme, as set out under Regulation 98/2021, comprise mechanisms formulated by the government in order to impose a carbon tax on carbon-generating activities and to incentivize carbon-efficient activities.⁸ The various carbon tax provisions that are set out under the new framework of Law 7/2021 come into force on 1 April 2022 and will initially be imposed upon entities that operate coal-fired power plants at a rate of Rp. 30 per kilogram of carbon-dioxide equivalent (CO₂e) or equivalent units.⁹ Meanwhile, Regulation 98/2021 is expected to be able to mobilize greater amounts of green financing and investment, which should have a significant impact on GHG through the following carbon trading mechanisms:¹⁰ 1) Trade between two business actors through a cap-and-trade scheme or offsetting emissions through a carbon offset scheme; 2) Results-based payments; 3) Carbon levies; and/or 4) Other mechanisms that are in accordance with scientific and technological developments, as determined by the Minister of Environment and Forestry (“**Minister**”).¹¹

Against the above background, this edition of Indonesian Law Digest (ILD) offers an analysis of Indonesia’s new regulatory framework, which has now been introduced in an effort to ensure that the country achieves its NDC target through a carbon tax and carbon pricing against a background of the establishment of sustainable energy security strategies. Our discussion breaks down as follows:

I. Understanding the NDC

- A. Mandate under the Paris Agreement
- B. Provisions under the Updated NDC Indonesia

II. Carbon Tax and Law 7/2021

- A. Roadmap
- B. Implementation

III. Carbon Pricing and Regulation 98/2021:

- A. Carbon Trading
- B. Results-Based Payments
- C. Carbon Levies

⁶ Kemenkeu.go.id, “*Tetapkan Perpres Nilai Ekonomi Karbon, Satu Langkah Indonesia Capai Target Penurunan Emisi Karbon*”, as accessed through: <https://www.kemenkeu.go.id/publikasi/berita/tetapkan-perpres-nilai-ekonomi-karbon-satu-langkah-indonesia-capai-target-penurunan-emisi-karbon/> on 9 November 2021.

⁷ Cnbcindonesia.com, “*Turunkan Emisi Karbon 41% di 2030, Jokowi Rilis Aturan Baru*”, as accessed through: <https://www.cnbcindonesia.com/news/20211102115709-4-288375/turunkan-emisi-karbon-41-di-2030-jokowi-rilis-aturan-baru> on 12 November 2021.

⁸ Tempo.co, “*Jokowi Sahkan Perpres Karbon Sebelum Berangkat ke COP26 Glasgow*”, as accessed through: <https://tekno.tempo.co/read/1523703/jokowi-sahkan-perpres-karbon-sebelum-berangkat-ke-cop26-glasgow/full&view=ok> on 14 November 2021.

⁹ Art. 17 (3), Law 7/2021.

¹⁰ Art. 47 (1), Regulation 98/2021.

¹¹ Ppid.menlhk.go.id, “*Perpres Nilai Ekonomi Karbon Dukung Pencapaian NDC Indonesia*”, as accessed through: <http://ppid.menlhk.go.id/berita/siaran-pers/6269/perpres-nilai-ekonomi-karbon-dukung-pencapaian-ndc-indonesia> on 9 November 2021.

I. Understanding the NDC

As background information, on 22 April 2016, the Indonesian Government officially became a signatory to the Paris Agreement¹² to the United Nations Framework Convention on Climate Change (“Paris Agreement”) in New York, USA. The agreement was then subsequently ratified by Indonesia through the issuance of Law 16/2016. Moreover, as briefly outlined above, the NDC lie at the heart of the Paris Agreement and the achievement of its long-term goals.¹³

A. Mandate under the Paris Agreement

Generally speaking, the Paris Agreement is legally binding and applicable to all countries under the principle of common but differentiated responsibilities and respective capabilities. Moreover, the agreement assigns responsibilities to developed countries to provide funding, capacity building and transfers of technology to developing countries. In addition, the Paris Agreement mandates for an increase in bilateral and multilateral cooperation and should be able to increase effectiveness and efficiency as regards the implementation of climate change mitigation and adaptation efforts through funding support, technology transfers, capacity building supported by transparent mechanisms and sustainable governance.¹⁴

The NDC, as mandated under the Paris Agreement, embody efforts by each country to reduce their national emissions and to adapt to the impacts of climate change. The Paris Agreement requires all parties to prepare, communicate and maintain successive NDC that they are intending to achieve.¹⁵ Parties should thus pursue domestic mitigation measures with the aim of achieving the objectives of said contributions.¹⁶

The main substance of the Paris Agreement, among other elements, addresses the following goals:¹⁷

1. To limit global temperature rise to below 2°C from pre-industrial levels and to make efforts to limit it to below 1.5°C;
2. Mandatory submission of NDC by each state. The NDC targets must increase every period, while developing countries should be offered support in order to achieve their own targets;
3. Commitment of the parties to reach a peak point in terms of GHG emissions as quickly as possible and to make efforts to reduce emissions quickly through mitigation actions;
4. Policy approach and positive incentives for activities aimed at reducing emissions from deforestation and forest degradation, as well as sustainable forest management, conservation and the enhancement of forest carbon stocks, including through results-based payments; and
5. Development of voluntary cooperation between countries within the context of reducing emissions, including through market and non-market mechanisms.

Moreover, Indonesia's NDC target, as briefly outlined in the overview section above, should be achieved through action across various sectors, including the forestry sector, the energy sector (which includes transportation), waste, industrial processing and product use, and agriculture. Indonesia's NDC commitment

¹² The Paris Agreement document can be accessed [here](#).

¹³ Unfccc.int, “Nationally Determined Contributions (NDCs)”, as accessed through: <https://unfccc.int/process-and-meetings/the-paris-agreement/nationally-determined-contributions-ndcs/nationally-determined-contributions-ndcs> on 16 November 2021.

¹⁴ General elucidation, Law 16/2016.

¹⁵ Art. 4 (2), Paris Agreement.

¹⁶ Unfccc.int, “Nationally Determined Contributions (NDCs)”, as accessed through: <https://unfccc.int/process-and-meetings/the-paris-agreement/nationally-determined-contributions-ndcs/nationally-determined-contributions-ndcs> on 16 November 2021.

¹⁷ Section B.1 of the elucidation, Law 16/2016.

for each subsequent period should be determined based on the results of performance reviews and must build on the commitments of previous periods.¹⁸

B. Provisions under the Updated NDC Indonesia

In the wake of becoming a signatory to the Paris Agreement, Indonesia began preparing an NDC document, which stood as its first official statement as regards the country's emissions reduction commitments.¹⁹ Indonesia's first NDC was submitted to the UNFCCC in 2016 ("**First NDC Indonesia**").²⁰ In 2021, with input from various parties, Indonesia subsequently issued the Updated NDC Indonesia. In terms of Indonesia's emissions reduction targets, nothing has changed under the updated framework, however, the most noticeable difference between the two NDC documents is that various adjustments have now been made to the 2020 - 2024 RPJMN and Indonesia's Vision 2045.²¹

A general comparison between the substance of the First NDC Indonesia and the Updated NDC Indonesia²² is elaborated upon in the table below:²³

No.	Point	First NDC Indonesia	Updated NDC Indonesia
1.	Alignment with national strategy	Aligned with the Nawa Cita concept	Aligned with RPJMN 2020-2024 and Indonesia Vision 2045 through NDC
2.	Projected GHG emissions at business as usual (" BAU ") levels	Energy CM2: 1.271 Mton CO ₂ e; Forestry and other land uses (" FOLU ") CM2: 64 Mton CO ₂ e; Emissions reduction targets: CM2 Energy: 398 Mton CO ₂ e; FOLU CM2: 650 Mton CO ₂ e	Energy CM2: 1.407 Mton CO ₂ e; FOLU CM2: 68 Mton CO ₂ e; Emissions reduction targets: CM2 Energy: 441 Mton CO ₂ e; FOLU CM2: 692 Mton CO ₂ e
3.	Long-Term Strategy document	Not available	Available, fulfilling the mandate set under Article 4.19 of the Paris Agreement (including issues relating to gender equality and decent work)

¹⁸ Section B.2 of the elucidation, Law 16/2016.

¹⁹ [iesr.co.id, "Check Out 6 Differences in Indonesia's 2016 NDC and 2021 Update Results"](https://iesr.or.id/en/check-out-6-differences-in-indonesias-2016-ndc-and-2021-update-results), as accessed through: <https://iesr.or.id/en/check-out-6-differences-in-indonesias-2016-ndc-and-2021-update-results> on 16 November 2021.

²⁰ Indonesia's 2016 NDC can be accessed [here](#).

²¹ *Ibid.*

²² Updated NDC of Indonesia can be accessed [here](#).

²³ [iesr.co.id, "Check Out 6 Differences in Indonesia's 2016 NDC and 2021 Update Results"](https://iesr.or.id/en/check-out-6-differences-in-indonesias-2016-ndc-and-2021-update-results), as accessed through: <https://iesr.or.id/en/check-out-6-differences-in-indonesias-2016-ndc-and-2021-update-results> on 16 November 2021.

4.	Explanation of assumptions in the BAU projections and targets	Not available	Available
5.	Information on Indonesia's commitment to various international conventions	Not available	Available
6.	Translating the Katowice Package as a Guide for Implementing the Paris Agreement	Not translated	Translated

Furthermore, the Updated NDC Indonesia stipulates that mitigation measures should be based on assumptions used for projected BAU and emissions reductions (unconditional/CM1 and conditional/CM2 reductions) across all of the following sector categories: 1) Energy; 2) Waste; 3) Agriculture; 4) Industrial processes and production use (“IPPU”); and 5) FOLU.

The following sub-sections elaborate upon the various mitigation and adaptation measures that are addressed under the Updated NDC Indonesia:²⁴

²⁴ Annexes I – II, Updated NDC Indonesia.

Mitigation Measures

The mitigation measures set out under the updated NDC Indonesia address several sectors, including the following: 1) Energy; 2) Agriculture; 3) FOLU; 4) Waste; and 5) IPPU. Each of these sectors is detailed along with their corresponding BAU and Mitigation Scenario 1 (“CM 1”) and Mitigation Scenario 2 (“CM 2”) figures in the following tables:

A. Energy

Energy			
BAU		CM1	CM2
Efficiency in final energy consumption	Inefficiency in final energy consumption	75%	100%
Implementation of clean coal technology in power plants	0%		
Renewable energy in electricity production	Coal-fired power plants	19.6% (7.4 GW committed based on RUPTL)	Electricity production of 132.74 TWh
Implementation of biofuel within the transportation sector	0%	90%	100%
Additional gas distribution lines (gas pipelines for the residential and commercial sectors)	0%	100%	100%
Compressed natural gas consumption (CNG fueling stations)	0%	100%	100%

B. Agriculture

Agriculture			
BAU		CM1	CM2
The cultivation of low-emissions crops	No mitigation actions	In total, the use of land for low emissions crops should be up to 926,000 hectares by 2030	In total, the use of land for low emissions crops should be up to 908,000 hectares by 2030
Implementation of water-efficient concepts during water management	No mitigation actions	Water efficiency measures should be implemented across	Water efficiency measures should be implemented across

		up to 820,000 hectares by 2030	up to 820,000 hectares by 2030
Manure management of biogas	No mitigation actions	Up to 0.06% of total cattle by 2030	Up to 0.06% of total cattle by 2030
Feed supplements for cattle	No mitigation actions	Up to 2.5% of the cattle population by 2030	Up to 2.5% of the cattle population by 2030

C. FOLU

FOLU			
BAU		CM1	CM2
Total (000 ha)	2013 - 2020: 920; 2020 - 2030: 820	2013 - 2020: 450; 2020 - 2030: 325	2013 - 2020: 450; 2020 - 2030: 325
1. Unplanned Deforestation	2013 - 2020: 500; 2020 - 2030: 409	2013 - 2020: 175; 2020 - 2030: 92	2013 - 2020: 175; 2021 - 2030: 66
2. Planned Deforestation (based on the model)	2011 - 2030: result based on models	2011 - 2030: result based on models	2011 - 2030: result based on models

D. Waste: Solid Waste, Domestic Liquid Waste and Industrial Liquid Waste

Sub-sector: Solid Waste			
BAU		CM1	CM2
Enhancement of LFG recovery from 2010 - 2030.	No mitigation actions	LFG recovery reduces CH4 from 0.65% to 10%	LFG recovery reduces CH4 from 0.65% to 10%
Enhancement of the percentage of waste utilization through composting and 3R (paper).	No mitigation actions	22% by 2020; 30% by 2030	22% by 2020; 30% by 2030
Enhancement of the percentage of PLTSa/RDF (Refuse Derived Fuel) implementation in	No mitigation actions	<ul style="list-style-type: none"> Up to 3% by 2020 increasing up to 5% by 2030; PLTSa implementation across seven cities 	<ul style="list-style-type: none"> Up to 3% by 2020 increasing up to 5% by 2030; PLTSa implementation across 12 cities (additional)

comparison with total waste.			
Sub-sector: Domestic Liquid Waste			
BAU		CM1	CM2
Management of domestic liquid waste	No mitigation actions	<ul style="list-style-type: none"> • Sludge recovery from septic tanks/latrine management; • LFG recovery from communal septic tanks and biodigester management; • Operation of aerobic septic tanks. 	<ul style="list-style-type: none"> • Sludge recovery from septic tanks/latrine management; • LFG recovery from communal septic tanks and biodigester management; • Operation of aerobic septic tanks.
Sub-sector: Industrial Liquid Waste			
BAU		CM1	CM2
Management of industrial liquid waste	No mitigation actions	<ul style="list-style-type: none"> • The pulp and paper industry should implement waste-water treatment, sludge management and the utilization of methane; • Wastewater treatment (palm-oil mill effluent or POME) by the palm-oil industry: implementation of methane capture and utilization 	<ul style="list-style-type: none"> • The pulp and paper industry should implement waste-water treatment, sludge management and the utilization of methane; • Wastewater treatment (palm-oil mill effluent or POME) by the palm oil industry: implementation of methane capture and utilization

E. IPPU

BAU		IPPU	
		CM1	CM2
Industrial processes and product use in major large-scale industries.	No mitigation actions	The cement industry should implement a clinker to cement ratio (blended cement) of 80% by 2010 down to 75% by 2030	The cement industry should implement a clinker to cement ratio (blended cement) of 80% by 2010 down to 75% by 2030
		<ul style="list-style-type: none"> • Enhancement of efficiency through feedstock utilization and primary CO₂ recovery; • Reform within the petrochemical industry (particularly in relation to ammonia production) 	<ul style="list-style-type: none"> • Enhancement of efficiency through feedstock utilization and primary CO₂ recovery; • Reform within the petrochemical industry (particularly in relation to ammonia production)
		Other actions: <ul style="list-style-type: none"> • The steel industry should implement: CO₂ recovery, improvement of smelting processes and scrap utilization; • Remains of claimed PFCs from CDM activities (aluminum smelters) 	Other actions: <ul style="list-style-type: none"> • The steel industry should implement: CO₂ recovery, improvement of smelting processes and scrap utilization; • Remains of claimed PFCs from CDM activities (aluminum smelters)

Adaptation Measures

In terms of adaptation measures, in essence, the Updated NDC Indonesia set out comprehensive details that address the achieving of climate resilience targets in relation to the following areas: 1) Economic; 2) Social and livelihood; and 3) Ecosystem and landscape. The following subsection offers an elaboration of said targets along with related key programs:

Target	Key programs
Economic resilience	Encompass: <ol style="list-style-type: none"> 1. Sustainable agriculture and plantations; 2. Integrated watershed management; 3. Reduction in deforestation and forest degradation; 4. Land conservation; 5. Utilization of degraded land for renewable energy; and 6. Improved energy efficiency and consumption patterns
Social and livelihood	Encompass: <ol style="list-style-type: none"> 1. Enhancement of adaptive capacities; 2. Development of community capacities and participation in local planning processes in order to secure access to key natural resources; 3. Ramping up of disaster preparedness programs in relation to natural disaster risk reduction; 4. Identification of highly vulnerable areas during local spatial and land use planning efforts; 5. Improvement of human settlements, provision of basic services and the development of climate-resilient infrastructure; and 6. Conflict prevention and resolution
Ecosystem and landscape	Encompass: <ol style="list-style-type: none"> 1. Social forestry; 2. Coastal zone protection; 3. Ecosystem conservation and restoration; 4. Integrated watershed management; and 5. Climate-resilient cities

Furthermore, in terms of Indonesia's NZE target for 2060 or sooner, the Minister of Energy and Mineral Resources recently set out a roadmap that is in line with the long-term strategy – low carbon and climate resilience (LTS-LTCCR).²⁵ The following table sets out details of the important action plans that will be implemented by the government during the years ahead.²⁶

Year	Implementation
2021	The government will issue a regulation in the form of a Regulation of the President regarding new and renewable energy and coal retirement. In this regard, no additional new steam power plants (<i>Pembangkit Listrik Tenaga Uap – "PLTU"</i>) will be built, with the exception of those that have contracts or that are already in the construction stage.
2022	The Bill on New and Renewable Energy (<i>Energi Baru Terbarukan – "EBT"</i>) will be passed and the goal of 2 million new households switching to electric stoves per year will be initiated.
2024	Construction of interconnections, smart grids and smart meters.
2025	The EBT mix will reach 23% and this mix will be dominated by solar power plants (<i>pembangkit listrik tenaga surya – "PLTS"</i>).
2027	The government will start tapering off its imports of liquefied natural gas (LNG).
2030	42% of the EBT will be dominated by solar power plants. In addition, the gas network will reach 10 million households, while 2 million electric vehicles (cars), 13 million (motorcycles) and 300,000 compressed natural gas distributors will be in operation. Dimethyl ether will be utilized with an electrical power consumption rate of 1,548 kWh per capita.
2031	All subcritical first-stage PLTUs will enter early retirement.
2035	In 2035, inter-island interconnectivity will commence commercial operations at an electrical power consumption rate of 2,085 kWh per capita and an EBT mix of 57%, which will be dominated by PLTS, hydro and geothermal power plants.
2040	In 2040, the EBT mix will reach 71% and no diesel power plants will still be operational. The use of light-emitting diode (LED) lights will reach 70%, there will be no more sales of conventional motorcycles and electrical power consumption will reach a level of 2,847 kWh per capita.

²⁵ Kontan.co.id, "*Begini Peta Jalan Indonesia Menuju Netral Karbon di 2060*", as accessed through: <https://nasional.kontan.co.id/news/begini-peta-jalan-indonesia-menuju-netral-karbon-di-2060> on 15 November 2021.

²⁶ Petrominer.com, "*Ini Peta Jalan Indonesia Capai Net Zero Emission*", as accessed through: <https://petrominer.com/ini-peta-jalan-capai-net-zero-emission/> on 15 November 2021.

<p>2045</p>	<p>The government plans to build the country's first nuclear power plant (<i>pembangkit listrik tenaga nuklir/PLTN</i>), which will subsequently commence commercial operations.</p>
<p>2050</p>	<p>The EBT mix is expected to reach 87% by 2050, along with the end of sales of conventional cars. Consumption of electricity is projected to reach 4,299 kWh per capita.</p>
<p>2060</p>	<p>The EBT mix is projected to reach 100%, which will be dominated by PLTS and hydroelectric power plants and which will be accompanied by the rolling out of a gas network across 23 million households, electric stoves in 52 million households, the use of electric vehicles and electrical power consumption levels that reach 5,308 kWh per capita.</p>

II. Carbon Tax and Law 7/2021

With the overall objective of altering the behavior of economic actors and encouraging them to switch to greener, low-carbon economic activities, Indonesia is one of the first emerging economies, and indeed countries in the world, to decide to impose a carbon tax.²⁷

Law 7/2021 stipulates that a carbon tax will be imposed upon any carbon emissions that have a negative impact upon the environment.²⁸ The imposition of this new tax will take the carbon-tax roadmap and/or the carbon-market roadmap into account²⁹ and will be implemented under the following two specific schemes: a trading scheme and a carbon tax scheme.³⁰

A number of countries around the world have already imposed carbon taxes in relation to goods and processes that generate GHG emissions. Some of these taxes are implemented as general taxes that apply to all goods or activities, such as value-added taxes or corporate taxes, while others apply specifically to carbon-intensive goods, such as excise taxes on fossil fuels. Such taxes — in particular those that specifically target carbon-intensive goods and processes — are designed to incentivize emissions reductions. Moreover, in some cases, taxes like this may be designed with specific environmental objectives in mind. However, a carbon tax goes one step further by placing a direct price on GHG emissions.³¹

This section will specifically discuss the provisions on the new carbon tax that are set out under the new framework of Law 7/2021.

²⁷ Kemenkeu.go.id, "Pajak Karbon Sebagai Instrumen Pengendali Perubahan Iklim", as accessed through: <https://www.kemenkeu.go.id/publikasi/berita/pajak-karbon-sebagai-instrumen-pengendali-perubahan-iklim/> on 15 November 2021.

²⁸ Chapter VI, Art. 13 (1), Law 7/2021.

²⁹ Chapter VI, Art. 13 (2), Law 7/2021.

³⁰ Idxchannel.com, "Pajak Karbon Berlaku Mulai 1 April 2022, Berikut Skema Pungutannya" as accessed through: <https://www.idxchannel.com/economics/pajak-karbon-berlaku-mulai-1-april-2022-berikut-skema-pungutannya> on 16 November 2021.

³¹ P.10, Partnership for Market Readiness. 2017. *Carbon Tax Guide: A Handbook for Policy Makers*. World Bank, Washington DC, as accessed through: <https://openknowledge.worldbank.org/handle/10986/26300> on 16 November 2021.

A. Roadmap

As mandated under Law 7/2021, the imposition of the new carbon tax will take the carbon-tax roadmap and/or the carbon-market roadmap into account. The carbon tax roadmap policy will be determined by the government after a mandate has first been secured from Indonesia's House of Representatives. This new policy is elaborated upon in the table below:³²

Contents	Remarks
Carbon emissions reduction strategy	The government has committed to reducing Indonesia's GHG emissions by 29% on its own and by 41% with international support by 2030 with an eye on achieving NZE by 2060 at the latest.
Priority sector target	The emissions reduction target for the energy and transportation sectors, as well as for the forestry sector, already covers 97% of total NDC emissions reduction targets, meaning that these will be the main priority in terms of the desired reduction in GHG emissions.
Harmonization with the development of new and renewable energy	The mix of carbon-tax policies, carbon trading and sectoral technical policies, including the phasing out of coal, the development of new and renewable energy and/or attempts to increase biodiversity, is expected to support the achievement of the NZE 2060 target while still prioritizing the principle of a so-called, "just and affordable transition" for the general public and ensuring certainty in terms of the business climate.
Policy harmonization	The carbon-tax roadmap will include, among others, a strategy for reducing carbon emissions through the NDC, priority-sector targets and/or the promotion of the development of new and renewable forms of energy. The roadmap will be further determined by or based on a forthcoming Regulation of the Government.

³² Art. 13 (2 - 4) and its elucidation, Law 7/2021, pp.110 - 111.

Furthermore, the imposition of the carbon tax will be implemented in line with the following timeframe:³³

Year	Implementation
2021	Development of a carbon-trading mechanism
2022 - 2024	Tax mechanism based on emission limits (cap and tax) for the power generation sector, which will be limited to coal-fired power plants
2025 onwards	Full implementation of carbon trading and expansion of the carbon-tax sector in stages in accordance with the readiness of the relevant sectors and by taking into account, among other factors, economic conditions, the readiness of actors, impacts and/or scale.

The roadmap prepared by the government will be gradually applied in stages as the government needs to be careful to avoid economic disruption. On the one hand, the new carbon tax provides an opportunity to generate state revenue and indeed, in several countries, the imposition of an environmental tax has had just this effect. However, ideally, a carbon tax should be applied when a country has reached an optimal point in terms of its economy and can successfully build infrastructure in order to support environmentally friendly industries. Hence, the government needs to pay attention to the impacts that will be generated by the imposition of a carbon tax so that it does not reduce the competitiveness of domestic industries.³⁴

³³ Elucidation of Art. 13 (3), Law 7/2021, pp.111 - 112.

³⁴ Bisnis.com, "Pajak Karbon Perlu Diterapkan Secara Bertahap dan Hati-Hati, Ini Alasannya!", as accessed through: <https://ekonomi.bisnis.com/read/20211022/259/1457048/pajak-karbon-perlu-diterapkan-secara-bertahap-dan-hati-hati-ini-alasannya> on 16 November 2021.

B. Implementation

The carbon tax will apply to individuals and entities that purchase goods containing carbon and/or that engage in activities that produce carbon emissions.³⁵ Meanwhile, the carbon tax will become payable upon the purchase of any goods that contain carbon or upon the undertaking of any activities that produce a certain amount of carbon emissions over a certain period, specifically during the following timeframes:³⁶

1. At the time of purchase of goods that contain carbon;
2. At the end of the calendar year for activities that produce certain amounts of carbon emissions; or
3. At other times, which will be further regulated by or based on a Regulation of the Government.

Furthermore, the carbon-tax rate will be set at a rate higher than or equal to the carbon market price per kilogram of carbon-dioxide equivalent (CO₂e) or equivalent unit.³⁷ In the event that the carbon price in the carbon market falls to a level lower than Rp. 30.00 per kilogram of carbon dioxide equivalent (CO₂e) or equivalent unit, then the carbon-tax rate will be set at a minimum of Rp. 30.00 per kilogram of carbon-dioxide equivalent (CO₂e) or equivalent unit.³⁸

Law 7/2021 affirms that any revenue that is generated through the carbon tax may be allocated to attempts to mitigate the effects of climate change. Moreover, taxpayers who participate in carbon emissions trading, the offsetting of carbon emissions and/or other mechanisms, in accordance with laws and regulations that apply within the environmental sector, may be granted a reduction in their carbon tax and/or other treatment relating to the fulfillment of their carbon-tax obligations.³⁹

The provisions on carbon tax set under Law 7/2021 come into force on 1 April 2022 and will initially be imposed upon entities that operate coal-fired power plants at a rate of Rp. 30 per kilogram of carbon dioxide equivalent (CO₂e) or equivalent unit.⁴⁰

In this regard, the Executive Director of the Indonesian Coal Mining Association (*Asosiasi Pertambangan Batu Bara Indonesia/APBI*), Hendra Sinadia, has stated that coal mining business actors are not yet able to calculate the impact that this policy will ultimately have upon their operations since detailed implementing provisions have not yet been issued.⁴¹

However, the government is claiming that the imposition of a carbon tax will prioritize the principles of fairness and affordability, as well as take into account the business climate and the economic activities of the country's citizens.⁴²

³⁵ Chapter VI, Art. 13 (5), Law 7/2021.

³⁶ Chapter VI, Art. 13 (5 - 7), Law 7/2021.

³⁷ Chapter VI, Art. 13 (8), Law 7/2021.

³⁸ Chapter VI, Art. 13 (9), Law 7/2021.

³⁹ Chapter VI, Art. 13 (12 - 13), Law 7/2021.

⁴⁰ Chapter IX, Art. 17 (3), Law 7/2021.

⁴¹ Tempo.co, "Pajak Karbon PLTU Batu Bara, Pengusaha Tunggu Detail Aturan Pelaksanaan", as accessed through:

<https://bisnis.tempo.co/read/1528613/pajak-karbon-pltu-batu-bara-pengusaha-tunggu-detail-aturan-pelaksanaan/full&view=ok> on 16 November 2021.

⁴² *Ibid.*

III. Carbon Pricing and Regulation 98/2021

Broadly speaking, the UNFCCC states that carbon pricing ultimately reduces GHG emissions by charging emitters and/or by offering incentives in relation to reduced emissions. This price signal in turn leads to shifts in consumption and investment patterns, making economic development compatible with climate protection.⁴³

According to Indonesia's Coordinating Ministry of Maritime Affairs and Investment, three carbon pricing mechanisms are currently being implemented in Indonesia on a voluntary basis, specifically: 1) 202 clean development mechanism projects with 147 projects registered under the UNFCCC (responsible for 32,177,176 tons of CO₂, including two forestry projects, one agricultural project and seven geothermal power plants); 2) 14 projects that are implementing the verified carbon standard scheme and which are responsible for a total of 14,378,257 tons of CO₂ issued carbon credits; and 3) The bilateral joint-crediting mechanism between Japan and Indonesia, which is responsible for 744 tons of CO₂.⁴⁴

Under the new framework of Regulation 98/2021, carbon pricing, which is also known as carbon economic value (*nilai ekonomi karbon* – “NEK”), comprises the value of each unit of GHG emissions that result from human and economic activities.⁴⁵ Moreover, carbon pricing is explicitly mentioned under the Updated NDC of Indonesia, where it is defined as a specific climate financing instrument that will create opportunities to mobilize climate financing from both international and domestic sources and to incentivize stakeholder contributions to the achievement of the NDC.⁴⁶

This section elaborates upon the general carbon pricing framework that is set out under Regulation 98/2021.

⁴³ Unfccc.int, “About Carbon Pricing”, as accessed through: <https://unfccc.int/about-us/regional-collaboration-centres/the-ci-aca-initiative/about-carbon-pricing#eq-1> on 16 November 2021.

⁴⁴ Maritim.go.id, “Soal Perubahan Iklim, Indonesia Kurangi Emisi GRK dengan Carbon Pricing”, as accessed through: <https://maritim.go.id/soal-perubahan-iklim-indonesia-kurangi-emisi-grk-carbon/> on 16 November 2021.

⁴⁵ Art. 1 (2), Regulation 98/2021.

⁴⁶ Par. 6, p.17, Updated NDC of Indonesia.

A. Carbon Trading

Generally speaking, carbon trading will be carried out through domestic trade and/or foreign trade through the mechanisms of emissions trading and GHG emissions offsetting and may be implemented on an inter-sectoral basis.⁴⁷ Each of these mechanisms is elaborated upon in the following table:

Type of Carbon Trading Mechanism	Remarks
Emissions trading	<p>Emissions trading encompasses the following:⁴⁸</p> <ol style="list-style-type: none"> 1. Trade procedures; 2. Procedures for reporting and verification measurement; 3. Carbon unit usage regulation; and 4. Emissions offsetting usage regulation. <p>This mechanism is applied in relation to businesses and/or activities that have GHG upper emissions limits that have already been stipulated within technical approvals issued by the relevant ministers.⁴⁹</p>
GHG emissions offsetting	<p>Emissions offsetting will be applied in the event that a business and/or activity that does not have any upper emissions limit provides an emission reduction statement that refers to mitigation action results from other businesses and/or activities.⁵⁰ Moreover, this mechanism will be implemented in the event that a certain business and/or activity:⁵¹</p> <ol style="list-style-type: none"> 1. Has no upper emissions limit; 2. The results of GHG emissions reductions from climate-change mitigation actions that have been carried out are below the targets and baselines that have been set; or 3. The results of GHG emissions reductions from climate-change mitigation actions that have been carried out are above the targets and below the baselines which will be further determined.

⁴⁷ Art. 49 (1 - 3), Regulation 98/2021.

⁴⁸ Art. 50 (1), Regulation 98/2021.

⁴⁹ Art. 50 (2), Regulation 98/2021.

⁵⁰ Art. 52 (1), Regulation 98/2021.

⁵¹ Art. 52 (2), Regulation 98/2021.

	<p>The emissions offsetting mechanism in relation to domestic carbon trading encompasses the following:⁵²</p> <ol style="list-style-type: none"> 1. Offset calculation procedures; 2. Procedures for the provision of emissions offset statements; and 3. Provisions on the use of emissions reduction certification.
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Furthermore, domestic and/or foreign carbon trading, as addressed under Regulation 98/2021, shall be implemented through the carbon-market mechanism via carbon exchange and/or direct trade.⁵³

In terms of the carbon-market mechanism specifically, Regulation 98/2021 stipulates that carbon trading shall be carried out through the measures set out in the following table:

Carbon-Market Mechanism ⁵⁴	Remarks
Development of carbon-trading infrastructure development	To be implemented by the Minister in conjunction with the relevant ministers/heads of institutions. ⁵⁵
Arrangements (<i>pengaturan</i>) on the utilization of state revenue deriving from carbon trading; and/or	Comprises non-tax state revenue that is obtained from levies on sale-and-purchase transactions of carbon units. ⁵⁶
Administration of carbon transactions	To be implemented through the recording and documenting of the execution of carbon trading. ⁵⁷

The carbon-market exchange center will be located in Indonesia and further provisions that address specific procedures for the implementation of carbon trading will be issued under a forthcoming Regulation of the Minister.⁵⁸

⁵² Art. 52 (3), Regulation 98/2021.

⁵³ Art. 54 (1), Regulation 98/2021.

⁵⁴ Art. 54 (2), Regulation 98/2021.

⁵⁵ Art. 54 (3), Regulation 98/2021.

⁵⁶ Art. 54 (4), Regulation 98/2021.

⁵⁷ Art. 54 (6), Regulation 98/2021.

⁵⁸ Art. 54 (7 - 8), Regulation 98/2021.

B. Results-Based Payments

Results-based payments should be made in relation to the results and benefits of any reduction in GHG emissions which are achieved by ministries/institutions, regional governments and business actors.⁵⁹ Moreover, said results-based payments should be made based on verification results that address specific GHG emissions reduction achievements and/or any conversion or increase in carbon reserves, as achieved by businesses and/or through certain activities.⁶⁰

According to Regulation 98/2021, results-based payments encompass the following:⁶¹

1. International, i.e. may be made by international parties to the central government or regional governments with the approval of the central government;
2. National, i.e. may be made by the central government to provincial/regency/city governments, business actors and/or community groups; and
3. Provincial, i.e. may be made by regional governments to regency/city governments, business actors and/or community groups.

The implementation of results-based payments will not result in any transfer of carbon ownership. Moreover, the mitigation results will become a part of the NDC target achievements.⁶²

In terms of results-based payments, the Minister will further draw up a general set of guidelines for the implementation of results-based payments that will include the following elements:⁶³

1. Implementation of results-based payments;
2. Procedures for the making/receiving of results-based payments by the central government, regional governments, business actors and the general community; and
3. Monitoring, evaluation and training.

Furthermore, benefit-sharing should be carried out during the implementation of any results-based payments. This should comprise beneficiaries and be realized through benefit-sharing mechanisms.⁶⁴ Said beneficiaries may include ministries/institutions, regional governments, business actors and the general public.⁶⁵

Meanwhile, benefit-sharing mechanisms that apply to beneficiaries should be implemented in accordance with: 1) The relevant authorities; 2) GHG emissions reduction results; and 3) Efforts or actions aimed at reducing GHG emissions.⁶⁶

⁵⁹ Art. 55 (1), Regulation 98/2021.

⁶⁰ Art. 55 (2), Regulation 98/2021.

⁶¹ Art. 55 (3), Regulation 98/2021.

⁶² Art. 55 (4 - 5), Regulation 98/2021.

⁶³ Art. 56 (1), Regulation 98/2021.

⁶⁴ Art. 57 (1), Regulation 98/2021.

⁶⁵ Art. 57 (2), Regulation 98/2021.

⁶⁶ Art. 57 (3), Regulation 98/2021.

C. Carbon Levies

The organization of NEK through the implementation of levies on carbon will be implemented in the form of levies that apply within the field of taxation, including central and regional taxation, customs and excise, as well as other state levies, based on carbon content and/or potential carbon emissions and/or total carbon emissions and/or action performance in relation to climate change mitigation.⁶⁷

In terms of the implementation of fund management and benefit sharing in relation to carbon trading, results-based payments and levies on carbon may be implemented through agencies responsible for the management of environmental funds or that are specifically appointed.⁶⁸

⁶⁷ Art. 58 (1), Regulation 98/2021.

⁶⁸ Art. 59 (1), Regulation 98/2021.

Conclusion

The successful implementation of Indonesia's commitment to achieving its NDC target, which is to reduce its GHG emissions level by between 29% (unconditionally) and 41% (conditionally) against the 2030 BAU scenario, particularly during this initial stage, will depend a lot on the various business sectors that are being prioritized, specifically: 1) Energy; 2) Waste; 3) Agriculture; 4) IPPU); and 5) FOLU.

Consistent with the efforts being made to reduce Indonesia's emissions, several legal instruments have been prepared by the government, including Law 7/2021 and Regulation 98/2021, which introduce carbon tax and carbon pricing mechanisms respectively.

As the implementation of the new carbon tax and carbon pricing is currently still only in its initial stage, business sectors that will be affected by the said regulations should ensure that they pay close attention to the carbon tax roadmap and carbon market roadmap, as well as other action plans that are being prepared by the relevant ministries, so that they may efficiently align their business activities with Indonesia's NDC targets. ^{AA}

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