

Proposed Market-Based Instruments to Support the Local Activated Carbon Industry*

I. INTRODUCTION

Over the years, activated carbon (AC) has become one of the major coconut export products of the country. However, the AC industry is presently suffering from a recurring shortage of its main raw material, which is coconut shell, as some companies utilize the same as mere fuel with lower application value. This could potentially lower export earnings, thereby, affecting job generations as well as tax collections.

This study aims to propose market-based instruments (MBIs) to help support the local AC industry, thereby yielding more revenues for the government and creating more jobs in the country.

II. BACKGROUND INFORMATION

A. Overview of the Philippine Coconut and AC Industries

The coconut tree, popularly known as the “Tree of Life,” is one of the most useful palms in the world. To date, coconuts can be processed into a wide range of products. The primary processing of coconuts can produce desiccated coconut, milk and powder, and coconut water with coconut shells as byproducts, which could further be processed to produce coconut shell charcoal (CSC) and AC.

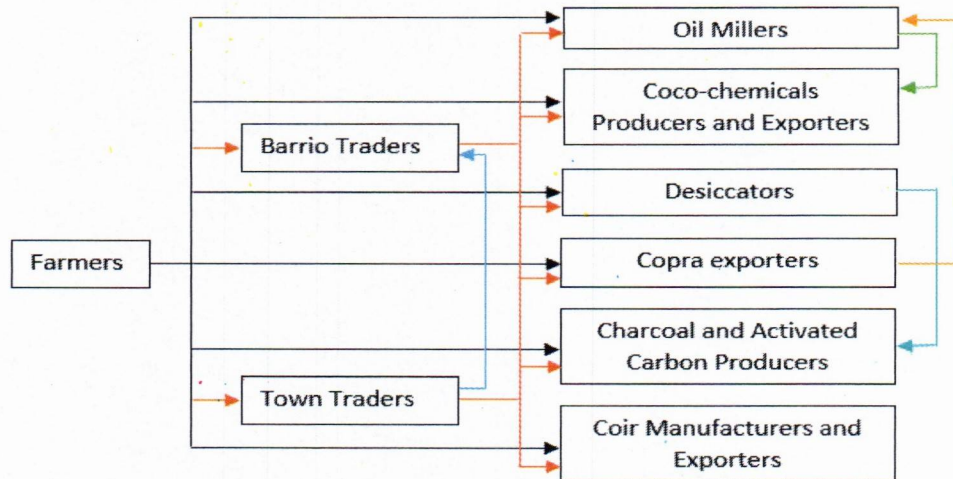
Figure 1 shows the marketing chain of coconuts. A small number of the nuts produced by the farmers are directly sold to processors such as oil millers, coco-chemical producers, desiccators, AC and CSC producers, and exporters, among others, while traders buy the majority of the nuts from the barrios or the towns. Barrio traders can sell their nuts to town traders and processors. Meanwhile, producers of AC and CSC can procure coconut shells from farmers, barrio traders, town traders, and desiccators (Clarete, R and Roumasset, J., 1983, as cited by Moreno, Kuwornu, & Szabo, 2020). However, the farmers have the least power

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over their products, while traders and processors mostly benefit from the local coconut market profit (Gurbuz & Manaros, 2019). Seventy percent of the country’s coconut produced were estimated to be exported, while the remaining 30% were consumed domestically (Ani & Aquino, 2016).

Figure 1

Simplified Marketing Channel of Coconut



Note. Moreno, M., Kuwornu, J., & Szabo, S. (2020, April 6). *Overview and constraints of the coconut supply chain in the Philippines*. *International Journal of Fruit Science*, S524-S541. Retrieved from <https://doi.org/10.1080/15538362.2020.1746727>

The Philippines is one of the major producers of coconuts globally, and it provides a significant number of income and employment. The volume of coconut production increased from 14.73 million metric tons (MT) in 2015 to 14.77 million MT in 2019, or an annual average volume of 14.42 million MT. Likewise, the value of coconut production increased from P96.09 billion in 2015 to P120.70 billion in 2017. On average, the volume and value of coconut production shared 16.86% and 10.91%, respectively, of the country’s total crop production. (See Table 1.)

Table 1*Total Number of Coconuts Produced in the Philippines, 2015 – 2019*

Year	Volume (In '000)			Value (In Million Pesos)		
	Coconut	Total crop production	% Share to total	Coconut	Total crop production	% Share to total
2015	14,735.19	84,324.60	17.47	96,093.80	835,890.00	11.50
2016	13,825.08	81,631.90	16.94	108,654.10	857,094.30	12.68
2017	14,049.13	91,552.50	15.35	120,700.60	940,388.70	12.84
2018	14,726.17	87,499.20	16.83	91,768.40	977,944.80	9.38
2019	14,765.06	83,327.20	17.72	72,025.70	884,441.50	8.14
Average	14,420.13	85,667.10	16.86	97,848.52	899,151.86	10.91

Note. Philippine Statistics Authority (PSA) (2020). Selected statistics on agriculture (ISSN-2012-0362). Retrieved March 15, 2021 from https://psa.gov.ph/sites/default/files/2_SSA2020_final_signed.pdf

From 2015 to 2019, the coconut sector's average gross value added (GVA)¹ amounted to P81.72 billion or grew by 0.46% annually. It shared 4.72% of the GVA of the total agriculture, forestry, and fishing. (See Table 2.)

Table 2

*GVA of the Coconut Sector, 2015 – 2019
(In Million Pesos; at 2018 Constant Prices)*

Year	Coconut (including Copra)	Growth rate (%)	Total GVA of agriculture, forestry, and fishing	% Share of coconut to total agriculture, forestry, and fishing
2015	83,131	-	1,688,344	4.92
2016	78,361	-5.74	1,672,085	4.69
2017	79,151	1.01	1,743,134	4.54
2018	83,528	5.53	1,762,616	4.74
2019	84,403	1.05	1,783,855	4.73
Average	81,715	0.46	1,730,007	4.72

Note. PSA. (2020). OpenSTAT Retrieved March 15, 2021 from <https://openstat.psa.gov.ph/> PSA. (2020). Selected statistics on agriculture (ISSN-2012-0362). Retrieved March 15, 2021 from https://psa.gov.ph/sites/default/files/2_SSA2020_final_signed.pdf

The Philippines' coconut production volume averaging 14.42 million MT from 2015 to 2019, or 41.02% of the average total, was the second-largest production in Southeast Asia, following the lead of Indonesia's 17.27 million MT. (See Table 3.)

¹ This refers to the difference between gross output of agricultural production and intermediate consumption used in the production process. (Philippine Statistics Authority, 2017)

Table 3*Total Coconut Produced in the ASEAN region, 2015 -2019 (In '000 MT)*

Country	2015	2016	2017	2018	2019	Average	% Share to Total
Brunei Darussalam	0.42	0.41	0.41	0.42	0.43	0.42	0.00
Cambodia	60.00	70.00	70.00	69.00	69.37	67.67	0.19
Indonesia	17,500.00	17,400.00	17,200.00	17,100.00	17,128.60	17,265.72	49.11
Malaysia	505.61	504.77	517.59	495.53	536.61	512.02	1.46
Myanmar	508.67	490.28	489.69	511.93	530.83	506.28	1.44
Philippines	14,735.19	13,825.08	14,049.13	14,726.17	14,765.06	14,420.13	41.02
Singapore	0.09	0.13	0.13	0.13	0.13	0.12	0.00
Thailand	904.09	904.09	761.91	858.24	806.03	846.87	2.41
Timor-Leste	8.00	7.20	7.20	7.20	7.50	7.42	0.02
Vietnam	1,439.12	1,469.96	1,499.23	1,571.71	1,677.04	1,531.41	4.36
TOTAL	35,661.19	34,671.92	34,595.29	35,340.31	35,521.58	35,158.06	100.00

Note. FAOSTAT. (2020). *Coconut production volume* [Data Set]. Retrieved March 12, 2021 from <https://www.fao.org/faostat/en/#search/coconut%20volume%20of%20production>

Coconut products are considered as major exports of the country. From 2015 to 2020, the exportation of coconut oil had the largest value averaging US\$976.55 million or 54.67% of the country's total coconut export, followed by desiccated coconut (14.16%), AC (6.20%), virgin coconut oil or VCO (6.19%), and oleochemicals (4.76%). (See Table 4.)

Table 4*Value of Coconuts Exports by Type of Products, 2015 to 2020 (Amounts in Million US Dollar)*

Type of product	2015	2016	2017	2018	2019	2020	Average	% Share to total
Coconut Oil	843.16	1,016.30	1,507.74	967.82	838.94	685.32	976.55	54.67
Desiccated Coconut	160.05	194.68	340.83	338.41	249.26	234.82	253.01	14.16
AC	81.53	104.20	112.16	129.31	127.10	110.47	110.79	6.20
VCO	279.67	118.67	76.14	63.92	50.67	74.39	110.58	6.19
Oleochemicals	64.70	79.24	80.60	113.08	87.41	85.29	85.05	4.76
Coconut Water	71.15	67.27	96.34	88.61	57.11	2.92	63.90	3.58
CSC	32.34	14.98	21.71	52.28	34.94	11.44	27.95	1.56
Others ¹	112.48	100.68	144.55	150.93	191.60	251.01	158.54	8.88
Total	1,645.09	1,696.03	2,380.06	1,904.37	1,637.03	1,455.65	1,786.37	100.00

Notes. Philippine Coconut Authority (Official Communication, 2021).

¹Include copra, copra meal/cake, fresh young coconut, mature coconut, grated coconut meat, coconut (uncooked/cooked by steaming), nata de coco (raw), nata de coco (prepared/preserved), coconut milk powder, coconut milk liquid, coconut concentrates, coconut flour, coconut sap sugar, coconut syrup/coco honey, bukayo, Lambanog, Makapuno, coconut chips, coconut sap vinegar, coconut vinegar, coco peat, coco twine, baled coir, other raw coir (fiber), pads/liner of coir, CSC (agglomerated), coconut shell powder, coco dust, coco husk cube, coir biologs, other of coir, other of coconut coir, coconut husk (Bunot), and others.

The volume of coconut shells used for the production of AC is estimated to be at an average of 389.62 thousand MT annually from 2015 to 2019, while other sub-industries of coconut utilized almost 1.34 million MT of coconut shells. The value of coconut shells used for AC production averaged P1,550 million during the same period. (See Table 5.)

Table 5

Usage of Coconut Shell for Production of AC and Other Coconut Products, 2015 – 2019

Particulars	2015	2016	2017	2018	2019	Average
Volume (In '000 MT)						
Total coconut produced	14,735.19	13,825.08	14,049.13	14,726.17	14,765.06	14,420.13
AC Export Volume	54.56	61.79	72.32	74.00	78.25	68.18
Estimated AC ^{1/}	77.94	88.27	103.32	105.71	111.79	97.41
Total coconut shell ^{2/}	1,768.22	1,659.01	1,685.90	1,767.14	1,771.81	1,730.42
Coconut shell used for AC ^{3/}	311.78	353.07	413.27	422.85	447.15	389.62
Coconut shell used for others ^{4/}	1,456.45	1,305.94	1,272.63	1,344.29	1,324.65	1,340.79
Value (In million pesos)^{5/}						
Coconut shell used for AC	1,240.87	1,405.24	1,644.80	1,682.93	1,779.67	1,550.70
Coconut shell used for others	5,796.65	5,197.62	5,065.07	5,350.28	5,272.12	5,336.35

Notes: Philippine Coconut Authority (Official Communication, 2021).

PSA. (2020). Selected statistics on agriculture (ISSN-2012-0362). Retrieved March 15, 2021 from https://psa.gov.ph/sites/default/files/2_SSA2020_final_signed.pdf

^{1/}Estimated using the exported volume of AC as the base amount (See Table 5), and based on the assumption that exports constituted 70% of the total production and domestic consumption is 30% (Ani & Aquino, 2016)

^{2/}Estimated based on the assumption that 12% of the mass of a whole coconut is the shell (Food and Agriculture Organization, n.d.).

^{3/}Estimated using the estimated AC as the base amount, and based on the assumption that the carbonization of coconut shells into AC may have a maximum yield of 25% (Sanni, et al., 2017).

^{4/}Estimated by subtracting the total volume of coconut shells used for AC from the total volume of coconut shells used in the production of coco shell-based products.

^{5/}Estimated using the average farmgate price of coconut shell in 2020 (3.98 per kg or 3980 per metric ton)

The AC is used to purify liquids and gases in various applications, including water purification, food and beverage processing, odor removal, and industrial pollution control (Lenntecch, n.d.). It is a product obtained from CSC through activation (PCA, n.d.). The process of activation is carried out in two stages: the first stage is the conversion of coconut shells into charcoal by carbonization process, and the second stage is the activation of CSC by reaction of steam at a temperature of 900°C - 1100°C under a controlled atmosphere in a rotary kiln (Coconut Development Board, n.d.). Different factors may affect the yield rate of AC in the production process. Research showed that the carbonization of coconut shells into AC may have a maximum yield of 25% (Sanni, et al., 2017).

In the Philippines, the volume of AC production grew from 77,944.29 MT in 2015 to 111,788.24 in 2019 or averaging 97,405.87 MT, while the volume of exported AC increased from 54,561 MT in 2015 to 70,883.32 MT in 2019 or averaging 68,184.11

MT. As of November 2020, volumes of AC produced and exported amounted to 101,261.89 MT and 70,883.32 MT, respectively. (See Table 6.)

Table 6

Volume of AC Produced and Exported, 2015 - 2020

Year	Production ¹	Export
2015	77,944.29	54,561.00
2016	88,268.57	61,788.00
2017	103,316.27	72,321.39
2018	105,711.99	73,998.39
2019	111,788.24	78,251.77
2020 ²	101,261.89	70,883.32
Average ³	97,405.87	68,184.11

Notes: Philippine Coconut Authority (Official Communication, 2021).

^{1/} Estimated based on the assumption that exports are 70% of total production and domestic consumption is 30% (Ani & Aquino, 2016).

^{2/} January to November only.

^{3/} Average from 2015 to 2019.

The AC and CSC industries use coconut shells as the same primary production input. Although the average export volume of AC and CSC have almost the same levels from 2015 to 2019, it can be noted that the average export value of AC of US\$110.86 million was relatively higher than the average export value of CSC at US\$31.25 million. If the huge volume of exported CSC can be further processed into AC domestically, the Philippines could get more export earnings in the future. (See Table 7.)

Table 7

Volume and Value of Exports AC and CSC, 2015 to 2020
(In '000 MT; in Million USD)

Year	AC		CSC	
	Volume	Value	Volume	Value
2015	54.56	81.53	60.38	32.34
2016	61.79	104.20	27.79	14.98
2017	72.32	112.16	37.38	21.71
2018	74.00	129.31	145.73	52.28
2019	78.25	127.10	76.50	34.94
2020 ¹	70.88	110.47	25.46	11.44
Average	68.18	110.86	69.56	31.25

Notes. Philippine Coconut Authority (Official Communication, 2021).

^{1/} January to November only.

In 2019, the Philippines was one of the top exporters of AC and ranked fourth globally, with export value amounting to US\$129 million or sharing 7.40% of the world's total export value of AC. China was the top exporter of AC with an export value of US\$403.70 or 23.17% of the total share, followed by the USA (16.76%) and India (9.9%). (See Table 8.)

Table 8

Top Exporters of AC in 2019

Country	Value (In million US dollar)	World share (%)
China	403.70	23.17
USA	291.99	16.76
India	172.51	9.9
Philippines	129.00	7.4
Belgium	128.53	7.37

Note. TrendEconomy. (2019). *Activated carbon imports and exports* [Data Set].

Retrieved March 18, 2021 from https://trendeconomy.com/data/commodity_h2/380210

For the number of PCA-registered entities engaged in coconut shells, there were 15 buyers, 6 manufacturers/producers, 61 traders, and 51 exporters in 2020. During the same year, there were nine AC producers and 20 CSC producers, indicating lower players in AC than in the coconut charcoal industry. (See Table 9.)

Table 9

Number of Major Players using Coconut Shells in 2020

Industry	Buyer	Manufacturer/ Producer	Trader	Exporter
AC	-	9	5	13
CSC	134	20	316	56
Coconut Shells	15	6	61	51

Notes: Philippine Coconut Authority (Official Communication, 2021).
Players could be involved in at least one or more transactions.

III. TAXATION OF COCONUT INDUSTRY

In the 1980s, the government implemented various programs directly intended to improve the country's coconut productivity, such as the coconut replanting program envisioned in Presidential Decree (PD) No. 1972 s. 1985,² coconut productivity program in Executive Order (EO) No. 1057 s. 1985,³ and accelerated hybrid planting and replanting program in EO 1064 s. 1985.⁴ Each of the said laws provides a package of tax incentives intended to encourage private sector participation in the said programs. The tax incentives included exemption from donor's tax, tariff duties, and real property tax, among others (See Annex A for the summary of tax exemptions in the three laws). However, with the objective to expand the value-added tax (VAT) base, the Tax Reform for Acceleration and Inclusion (TRAIN) Law expressly repealed the tax exemptions under said laws, insofar as the VAT exemptions and tax credits are concerned.

Meanwhile, Republic Act (RA) No. 10068,⁵ otherwise known as the "Organic Agriculture Act of 2010," is aimed at promoting organic agriculture in the country by providing a package of tax incentives to farmers whose farms have been duly certified as compliant with the Philippine National Standard (PNS) for organic agriculture. The tax incentives include, among others, seven years of income tax holiday (ITH), and exemption from import duties. Thus, coconut farmers whose farms are qualified for the PNS may avail of the said tax incentives. However, the TRAIN Law repealed the zero-rated VAT in Section 24(e) of the same law.

Also, under RA 9513,⁶ otherwise known as the "Renewable Energy Act of 2008," coconut, including coconut shells and husks, is included in the list of biomass resources that could be integrated with other conventional or renewable fuel resources as hybrid systems.⁷ Under the said law, developers of renewable facilities, including hybrid systems, are entitled to tax incentives that include seven years income tax holiday (ITH), duty-free importation of renewable energy (RE) machinery, equipment, and materials, and a zero-percent VAT rate, among others. Unlike the previous laws, the tax exemptions in RA 9513 remained the same as these were not repealed by the TRAIN Law nor the Corporate Recovery and Tax Incentives

² Entitled, "An Act to Finance the Coconut Replanting Program", (April 8, 1985).

³ Entitled, "Prescribing the Manner of Implementing the Coconut Productivity Program Prescribed by PD 1972", (October 7, 1985).

⁴ Entitled, "Implementing the Coconut Productivity Program", (November 13, 1985).

⁵ Entitled, "An Act Providing for the Development and Promotion of Organic Agriculture in the Philippines and for Other Purposes", (April 6, 2010).

⁶ Entitled, "An Act Promoting the Development, Utilization and Commercialization of Renewable Energy Resources and for Other Purposes", (December 16, 2008).

⁷ Refers to any power or energy generation facility which makes use of two or more types of technologies utilizing both conventional and/or renewable fuel sources, such as, but not limited to, integrated solar/wind systems, biomass/fossil fuel systems, hydro/fossil fuel systems, integrated solar/biomass systems, integrated wind/fossil fuel systems, with a minimum of ten (10) megawatts or ten percent (10%) of the annual energy output provided by the RE component [Section 4(w)].

for Enterprises (CREATE) Act. In HB 7458,⁸ a version of Package 2 filed in the 17th Congress, the tax incentives under RA 9513 were originally proposed to be repealed, but it was not later adopted in the substitute bill. The RE sector defended that the removal of the said tax incentives would create uncertainty and slow down investments in the sector (Flores, 2018).

Before the enactment of the CREATE Act, eligible businesses in the coconut industry, including the production of AC, could avail of the package of tax incentives given by the Philippine Economic Zone Authority (PEZA) under RA 7916,⁹ as amended by RA 8748,¹⁰ or “The Special Economic Zone Act of 1995,” as implemented by PEZA Resolution No. 7-232, and by the Board of Investments (BOI) under EO 226, or the “Omnibus Investments Code of 1987¹¹” (See Table 10 for the summary of tax incentives). The agro-processing is included in the BOI’s Investment Priority Plan (IPP) 2020, which has a validity of up to 2023, while the processing of coconut for biofuel was included in the agro-industrial economic zone. However, the CREATE Act repealed the said tax incentives and provided a single menu of tax incentives to cover all investment promotion agencies (IPAs), including the PEZA and the BOI.

Under the CREATE Act, the Fiscal Incentives Review Board (FIRB) will oversee all IPAs and approve all tax incentives unless delegated to the IPAs. The Strategic Investment Priority Plan (SIPP), to be formulated by the BOI in coordination with the FIRB and other stakeholders, will determine the priority sectors to be given by the tax incentives. Since the FIRB adopted the 2020 IPP as the transitional SIPP pursuant to Resolution No. 5-21 dated April 14, 2021, the agro-industrial sector is still included in the SIPP. Hence, the eligible businesses in the coconut industry, including the AC production, may avail of such tax incentives, which may include ITH, followed by a 5% special CIT (SCIT) rate, or the enhanced deductions (ED), duty exemption on the importation, and VAT exemption on importation and VAT zero-rating on local purchases under Sections 294 to 296 of the National Internal Revenue Code (NIRC) of 1997, as amended by RA 11534. (See Table 10.)

⁸ Entitled, “An Act Amending Sections 20, 22, 27, 28, 34, 40, 50, 73, 112, 119, 203, 204, 220, 222, 228, 237, 237-A, 248, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 275, 290, 291, 292 and Adding Sections 293, 294, 295, 296, 297, 298, 298-A, 299, 300, 301, 302, 303, 304, 305, and 306 Under Chapters I, II, III, IV, V And VI, All Under the National Internal Revenue Code of 1997, as Amended, and for Other Purposes”, (March 21, 2018).

⁹ Entitled, “An Act Providing for the Legal Framework and Mechanisms for the Creation, Operation, Administration, and Coordination of Special Economic Zones in the Philippines, Creating for This Purpose, the Philippine Economic Zone Authority (PEZA), and for Other Purposes”, (February 24, 1995).

¹⁰ Entitled, “An Act Amending Republic Act No. 7916, Otherwise Known as the “Special Economic Zone Act of 1995”, (June 1, 1999).

¹¹ Approved July 16, 1987.

Table 10

Comparative Tax Incentives under the FIRB, PEZA, and BOI

FIRB (CREATE Act)				PEZA (PEZA Resolution No. 07- 232) ¹²	BOI (EO 226)
1. Qualified business enterprises may avail of the ITH, ED, and 5% SCIT rate as follows:				1. Four years ITH;	1. Six years ITH for pioneer firms or four years for non-pioneer firms. If a non-pioneer firm is located in a less developed area, it shall generally be entitled to six years ITH ¹³ ;
Location	Tier I	Tier II	Tier III	2. GIE tax of 5% in lieu of all national and local taxes after the ITH period;	2. Tax credit on raw materials, supplies, and semi-manufactured products;
A. Exporters				3. Tax- and duty-free importation of production equipment and machineries, breeding stocks, farm implements including spare parts and supplies of the equipment and machineries;	3. Additional deduction from taxable income for labor expense (cannot be simultaneously enjoyed with the ITH incentive);
NCR	4 ITH + 10 ED/SCIT	5 ITH + 10 ED/SCIT	6 ITH+ 10 ED/SCIT	4. Exemption from export taxes, wharfage dues, impost and fees;	4. Duty-free importation of capital equipment, spare parts and accessories until July 19, 2022; and
Metropolitan areas or areas contiguous and adjacent to the NCR	5 ITH + 10 ED/SCIT	6 ITH +10 ED/SCIT	7 ITH +10 ED/SCIT	5. Exemption of payment of local government fees such as Mayor's Permit, Business Permit, Permit on the Exercise of Profession/Occupation/Calling, Health Certificate Fee, Sanitary Inspection Fee, and Garbage Fee; and	
All other areas	6 ITH + 10 ED/SCIT	7 ITH + 10 ED/SCIT	7 ITH + 10 ED/SCIT	6. VAT zero-rating on local purchases to include	
B. Domestic market activities					
NCR	4 ITH + 5 ED	5 ITH + 5 ED	6 ITH+5 ED		
Metropolitan areas or areas contiguous and adjacent to the NCR	5 ITH + 5 ED	6 ITH + 5 ED	7 ITH+5 ED		
All other areas	6 ITH + 5 ED	7 ITH + 5 ED	7 ITH+5 ED		

¹² Approving the guidelines for registration and administration of incentives to Agro-industrial economic zone developers/operators and locators under RA 7916, as amended.

¹³ Firms locating within Metro Manila shall not be granted ITH unless they are: within a government industrial estate; service-type projects with no manufacturing facilities; power generating plants; or exporters with expansion projects.

FIRB (CREATE Act)	PEZA (PEZA Resolution No. 07- 232) ¹²	BOI (EO 226)
<ol style="list-style-type: none"> 1. Duty exemption on importation of capital equipment, raw materials, spare parts, or accessories; and 2. VAT exemption importation and VAT zero-rating on local purchases. 	telecommunications, power, and water bills;	<ol style="list-style-type: none"> 5. Additional deduction from taxable income for necessary and major infrastructure works (cannot be simultaneously enjoyed with the ITH incentive)

Businesses in the coconut industry not eligible for any of the mentioned tax incentives are subject to the regular taxes imposed under the NIRC of 1997, as amended. For instance, the taxable income of domestic corporations is subject to the 25% CIT effective July 1, 2020, from all sources within and without the Philippines pursuant to Section 27 of NIRC of 1997, as amended by RA 11534, but corporations with net taxable not exceeding P5 million and with total assets not exceeding P100 million¹⁴ are subject to 20% CIT.

Meanwhile, a minimum corporate income tax (MCIT) of 2% of gross income is imposed beginning on the fourth taxable year immediately following the year in which a company commenced its business operations if the MCIT is greater than the computed RCIT and shall be paid in lieu thereof. Any amount of the MCIT paid in excess of the RCIT shall be carried forward and credited against the RCIT for the three immediately succeeding years. However, effective July 1, 2020, until June 30, 2023, the MCIT rate is 1% under the NIRC of 1997, as amended by RA 11534.

The sale of non-food agricultural products like CSC and AC, among others, is subject to the 12% VAT. Section 109(A) of the NIRC of 1997, as amended, only exempts agricultural food products in their original state from the 12% VAT. These may include agricultural food products that have undergone the minimal process of preparation or preservation for the market, such as freezing, drying, salting, broiling, roasting, smoking, or stripping. In the same section, copra is expressly considered in its original state, thereby, is exempted from the 12% VAT.

There are other taxes that may be imposed on businesses in the coconut industry, such as documentary stamp tax, final withholding taxes on passive income, and percentage taxes, among others.

¹⁴ Excluding land on which particular business entity's office, plant, and equipment are situated during the taxable year.

IV. MBIS TO SUPPORT THE LOCAL AC INDUSTRY

A. Proposed Tax on the Usage of Coconut Shells

To better address the recurring shortage of coconut shells in the AC industry, the possibility of imposing a tax on companies using the same as merely fuel, which has a lower application value, may be explored. With the variety of sub-industries of coconut, the growth of the AC is hampered by much competition for the use of coconut shells as its main input. The proposed tax will serve as a tool to discourage these companies from using coconut shells and divert their usage to the production of AC. This measure is expected to yield higher revenues for the government as the value of exported AC is increasing over the years. However, to consider the effectiveness of the proposed tax, it should have positive behavioral effects that will change the consumption pattern of coconut shells. Moreover, the tax should be effective, efficient, and easy to administer.

The nature of the proposed tax can be considered an excise tax, in addition to the 12% VAT. One of the purposes of an excise tax is to impose an additional tax on certain goods to change their consumption pattern as well as raise additional government revenues. Presently, in the Philippines, several excise taxes are imposed on certain goods and services such as alcohol, minerals, non-essential goods and services, and sweetened beverages, among others. However, to date, there is no excise tax intended to discourage the usage of certain inputs and divert the same to relatively productive activity.

It is also worth mentioning that a number of levies were imposed on coconut products under special laws. Section 13 of RA 1145 imposed a levy of 10 centavos for every 100 kilograms of desiccated coconut to fund the objectives of the said law, which the Philippine Coconut Administration (PCA) collected. Section 8 of RA 6260 imposed 55 centavos on the first domestic sale of every 100 kilograms of copra or its equivalent in terms of other coconut products to fund the then Coconut Investment Fund. Meanwhile, PD 276 levied P15 per 100 kilograms of copra resecada or its equivalent in other coconut products on every first sale to establish a Consumers Stabilization Fund. However, PD 1841 amended the rate to P50 for every 100 kilograms of copra resecada for the Coconut Industry Stabilization Fund.

Although the proposed tax has the potential to alter the consumption pattern for the coconut shells in favor of AC production, the following arguments should be noted:

- a. **Administrative and enforcement costs** - The proposed tax may be deemed administratively not feasible due to the inherent complications of the coconut value chain. The use of coconut shells as byproducts from the production process of farmers and other producers is difficult to monitor. It might reach a point where the cost of enforcing said tax would be higher than the actual collection. Hence, it is better for the government to focus on revenue collection efforts on transactions that yield higher net revenue.

- b. **Uncertain impact**– Imposing a tax does not guarantee that it will shift the usage of coconut shells to the production of AC. The sufficient effectiveness of the proposed tax remains uncertain because it depends on the punctual performance of different economic agents in the market, which is also uncertain.
- c. **Political considerations** - Taxes, especially new ones, are not easily accepted politically. In the Philippines, farmers have a higher poverty incidence than other industry groups. Thus, the proposed additional tax on coconut shells may be seen as an additional tax burden and may therefore be considered anti-poor.
- d. **Go against the present energy and fiscal policies** – RA 9513 promotes the use of biomass resources, including coconut shells, for renewable fuel sources by providing a set of tax incentives. Thus, the proposed tax on companies using the same fuels and other products or activities except for the production of AC may be deemed contrary to the objectives of RA 9513.

In view of the foregoing, the proposed tax is not feasible. However, there are other policy options that could be used to give some leverage on the AC industry, which include both command-and-control instruments (CCIs) and MBIs. CCIs include regulations, bans, permits, etc., which are prescriptive and provide the private sector with relatively little flexibility in achieving its goals. At the same time, MBIs, consisting of taxes, fees charges, levies, etc., can be used to provide producers and consumers with incentives to change their behavior toward more efficient use of resources (INTOSAI Working Group for Environmental Protection and Management, 2016). The following are some alternative policy measures:

- a. **Regulations** – the use of the proposed tax will have very high monitoring and enforcement costs because of the complex marketing chain of the coconut industry. Thus, implementing regulations may be deemed a better fit. As the regulatory body, the PCA may consider imposing restrictions on the usage of coconut shells to reduce inefficiencies associated with excessive utilization of these resources in other major sub-coconut industries. In this way, the PCA can directly alter the consumption pattern of coconut shells and promote their usage in AC production.
- b. **Tax incentives** – The PCA may coordinate with the BOI for the inclusion of the AC production in the SIPP. In this way, eligible producers of AC could avail of the tax incentive package under the CREATE Act. Moreover, since AC's average export value is higher than CSC, the industry's chances of being included in the SIPP may be higher than the CSC sector. This will further encourage the domestic production of AC as coconut charcoal production has less chance of receiving tax incentives due to its smaller contribution to the economy.

- c. **Direct subsidies** – Policymakers may consider providing direct subsidies to the AC industry like cash subsidies or direct loans to buy more advanced machinery or technology development. This would help the modernization of the country's AC sector.

IV. CONCLUSION

Considering the consistently growing value of the AC sector in the country's economy in terms of export earnings, job generation, and tax collections, the intention of a policy intervention to support the industry is recognized. However, a tax is not feasible considering the inherent complexity of the marketing chain of coconuts, which would make its administration and compliance difficult. Moreover, the Philippines' experiences with the imposition of certain levies on coconut products were surrounded by issues. Thus, the proposed tax may have an uncertain behavioral impact and may not be easily accepted politically.

Alternatively, there are other policy measures such as direct regulations, tax incentives, and subsidies, among others, that are worth exploring to help the AC sector that has the potential to generate more revenues for the government.

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Annex A

Tax Incentives on Coconut Sector under Special Laws

Laws/ Approved date	Tax exemptions/ Preferential tax treatment	TRAIN implications
PD 1972 s. 1985 (April 8, 1985)	1. Copra millers/refiners and other exporters of coconut products that voluntarily form associations and/or cooperatives in accordance with the provisions of PD 1960 were exempted from payment of the basic export duty and the additional export duty on coconut products subject to certain conditions [Abolished in 1986].	Repeal of Section 3 of PD 1972, Sections 4 and 5 of EO 1057, s. 1985, and Section 4 of EO 1064, s. 1985, insofar as VAT tax exemption and the tax credit is concerned
	2. The members' contributions to the funding scheme established by the law are allowed to be deducted from income taxes and are exempt from donor's tax; and Any and all benefits received from the fund are exempt from all taxes, fees, imposts, charges of whatever kind and nature, including but not limited to the income tax and the donors and the donee's taxes.	- do -
EO 1057 series of 1985 (October 7, 1985)	Any person or entity which contractually undertakes to contribute to the financing or participates in an approved Project or the Program as herein prescribed shall be granted the following incentive benefits: 1. Exemption from: a. Export duties [Abolished in 1986]; b. Donor's tax; c. Tariff duties; and d. Real property tax for 10 years from the date of approval of the project 2. Tax credit with a face value equal to its contribution against any or all taxes;	- do -

Laws/ Approved date	Tax exemptions/ Preferential tax treatment	TRAIN implications
EO 1064 s. 1985 (November 13, 1985)	<p>Any person or entity participating in the financing of the Project or of any planting and/or replanting program under PD 1972 shall be entitled to the following benefits and incentives:</p> <ol style="list-style-type: none"> 1. The amounts spent or invested in the Program can be used as tax credits or rebates against the export duties [Abolished in 1986] paid by the exporter; 2. Exemption from tariff duties and taxes on the importation of machinery and equipment; 3. Exemption from donor and donee taxes on contribution in the Program; 4. Ten years exemption from the RPT on lands and improvements in the Project. 	- do -
RA 9513 (December 16, 2008)	<p>The following are the tax incentives on RE projects and activities</p> <ol style="list-style-type: none"> 1. Seven years ITH; 2. Special realty tax rates on equipment and machinery; 3. Net operating loss carry-over of seven years; 4. Ten percent CIT rate (after the ITH); 5. Accelerated depreciation; 6. Zero-percent VAT rate on the sale of RE sources; 7. Tax exemption on carbon credits; and <p>Tax credit on domestic capital equipment and services</p>	N/A
RA 10068 (April 6, 2010)	<p>The following tax incentives shall be provided to farmers whose farmers have been duly certified as compliant with the PNS:</p> <ol style="list-style-type: none"> 1. Exemption from the payment of duties on the importation of agricultural equipment, machinery, and implements 	Repeal of Section 24(e) of RA 10068.

Laws/ Approved date	Tax exemptions/ Preferential tax treatment	TRAIN implications
	as provided under RA 9281, which amends RA 8435 or the Agriculture and Fisheries Modernization Act;	
	2. Identification by LGUs of local taxes that may be offered as incentives to organic input production and utilization;	
	3. Zero-rated VAT on transactions involving the sale/purchase of bio-organic products, whether organic inputs or organic produce; and	
	4. Income tax holiday and exemption for 7 years, starting from the date of registration of organic food and organic input producers on all income taxes levied by the National Government.	