

Costa Rica: Use of environmental accounts for policy making on circular economy and bioeconomy

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Ninth Joint OECD-UNECE Seminar on SEEA Implementation

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Geneva, Switzerland

Costa Rica

Population: 5 213 374 (2022)

Extension: 51 179 km²

Territorial sea: 22 200 km²

Forest cover: 52%

GDP per cápita: USD 16 437 (2023)



Governance and policies

National Strategy for Circular Economy

ENEC



Its central element is to maintain products and materials at their maximum level of application for as long as possible, while minimizing environmental impact.

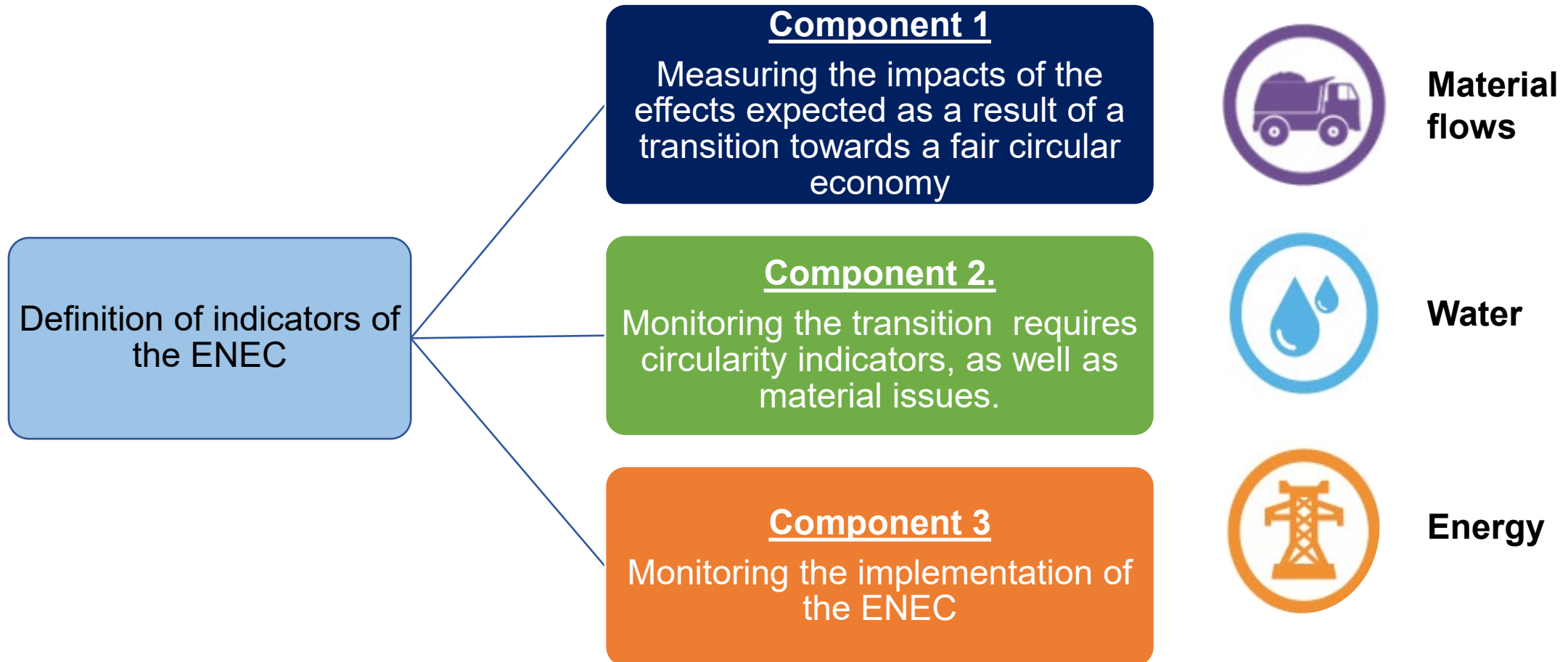
Costa Rica Sostenible
País líder en economía circular, innovación y sostenibilidad para Latinoamérica








Modelo de desarrollo económico sostenible, basado en un **sistema productivo circular y resiliente**, que está fortalecido por una **red de centros de innovación** experta en la consolidación de las cadenas productivas y los negocios circulares como motor de **transformación territorial incluyente**.

Ministry of Environment and Energy, 2023. National Strategy for Circular Economy. Ministry of Environment and Energy, MINAE. San José, Costa Rica. 191 pp.







The conceptual framework to measure the transition towards a circular economy consults specific indicators of the Environmental Accounts.



To measure the ***impact*** of the ENEC, indicators of the material flow account and water account are proposed.

	Goal	Indicator	Description	
	Maximize the circularity of materials	Direct Material Input (DMI)	It represents all the materials that are available for the production system of the national economy.	
	Increase the efficiency with which material resources are used within an economy and their regeneration	Resource productivity	It shows possible disconnections between the growth of the economy and the national consumption of materials.	
	Ensure sustainable management of water resources	Water intensity	It describes the pressure that the economy exerts on water resources to carry out the country's production.	

To monitor ***the transition*** proposed in the ENEC, energy and water indicators are consulted.

	Goal	Indicator	Description	
	Support national policies for the decarbonization of the energy matrix and production systems	Energy intensity	It reflects the speed at which energy consumption is decoupled from the growth of the economy.	
	Increase the renewability of natural resources, as well as their productivity and sustainable management through regenerative systems.	- Final water use (offstream and instream) -Treated wastewater	Final water use by economic activities and households (offstream) and by hydroelectric generation (instream) Proportion of wastewater collected in sewers that is treated	 
	Promote the regeneration of natural systems and the preservation of biodiversity through the sustainable use of natural resources.	Water losses	Physical water losses from water utilities.	

Bioeconomy: Supply and Use Table

Pilot exercise 2018



*“The production, use, conservation and regeneration of **biological resources**, including the knowledge, science, technology and innovation related to said resources, to **provide information, products, processes and services to all economic sectors**, with the purpose of advancing towards a sustainable economy.”*

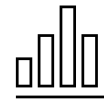
(Government of Costa Rica, 2020;
German Bioeconomy Council, 2018)

Bioeconomy pilot account for Costa Rica

Joint work between the BCCR and ECLAC



The starting point for the exercise were:



National Accounts

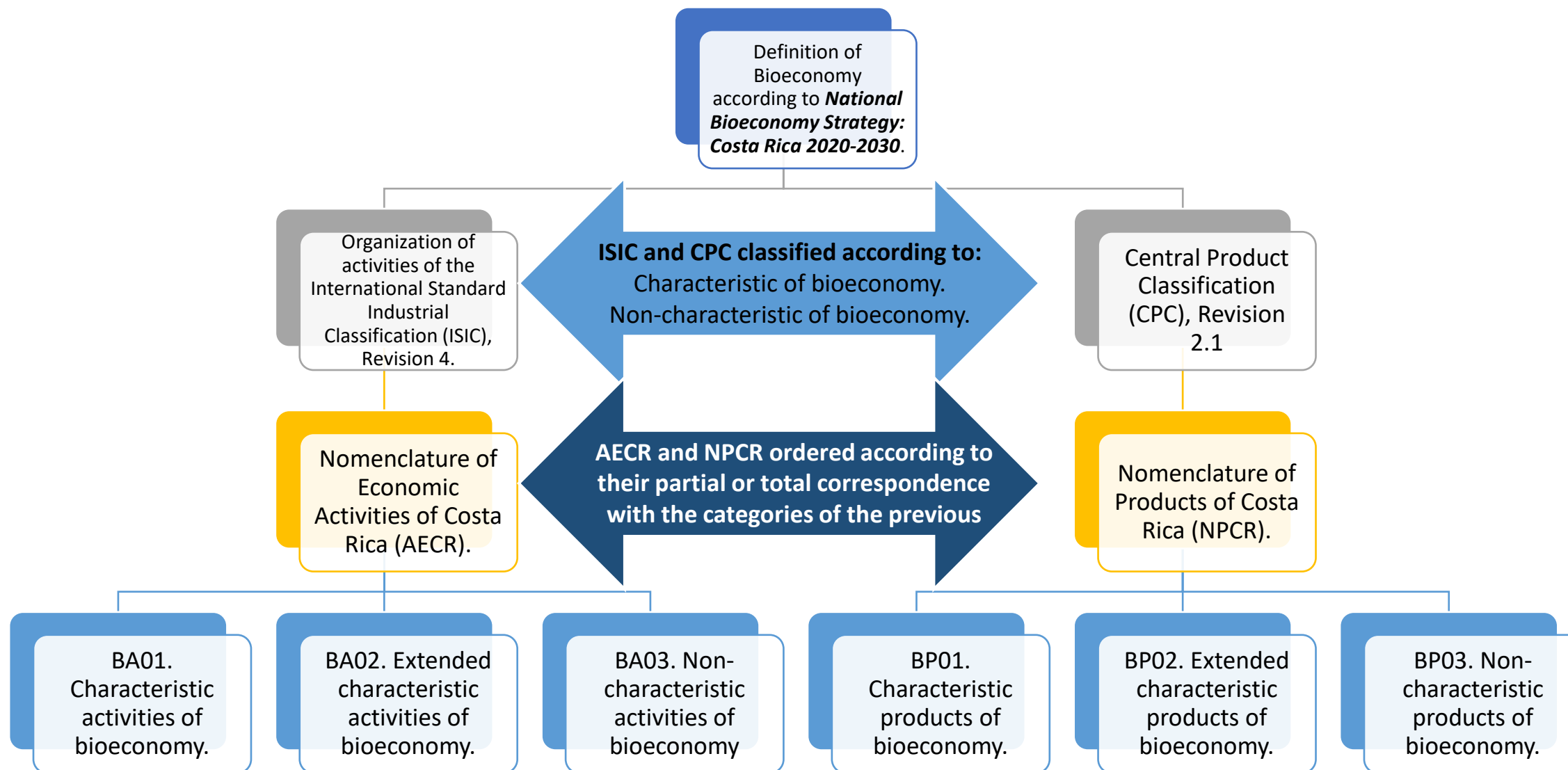


Environmental Accounts.

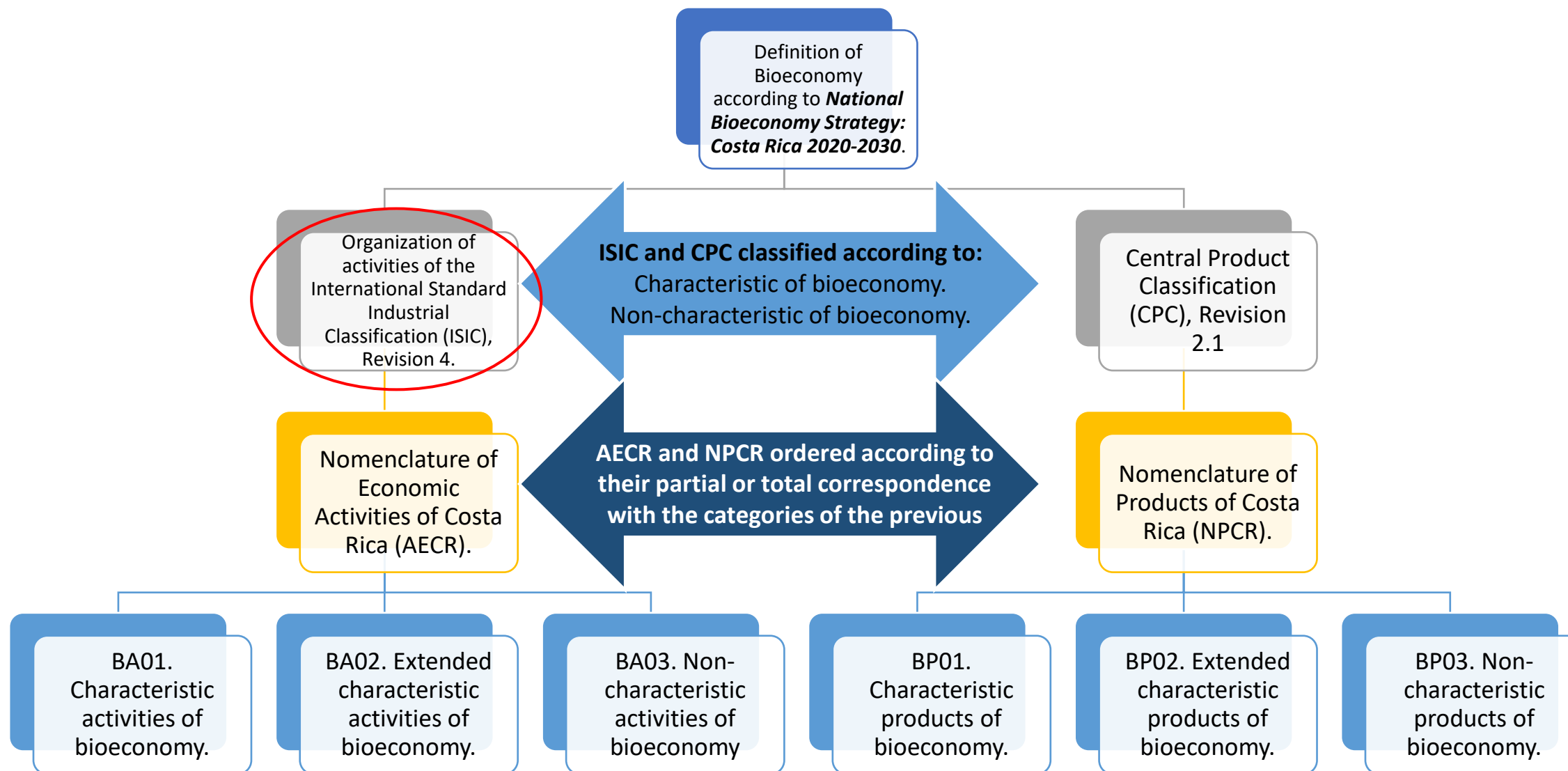
The details of the exercise are summarized in the document published by ECLAC. Available at:
<https://repositorio.cepal.org/server/api/core/bitstreams/326d9cd4-6652-4353-8a9f-fe8e473a51db/content>



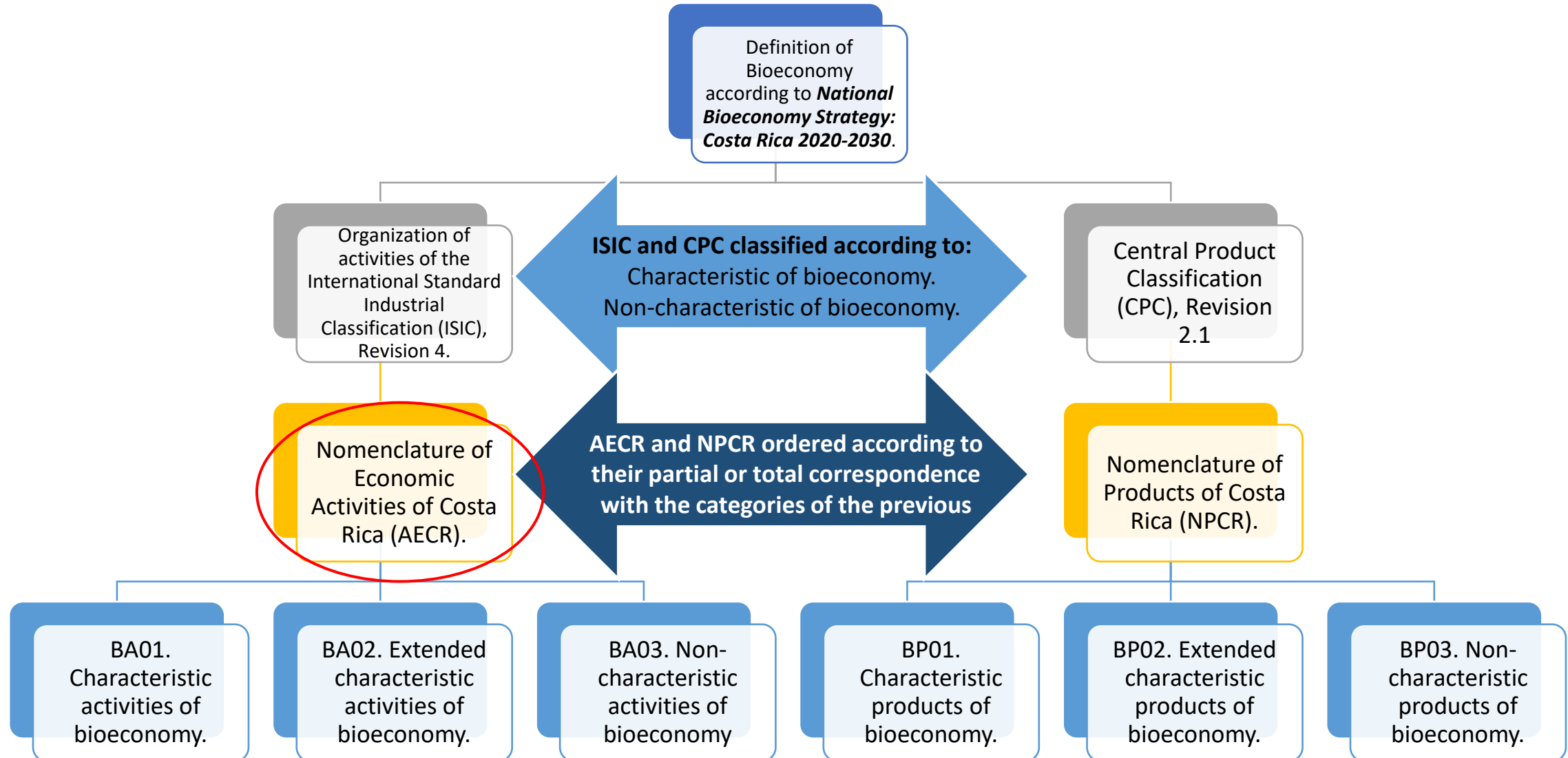
For this pilot exercise, a reclassification of the activities and products was carried out according to their correspondence with bioeconomic concepts.



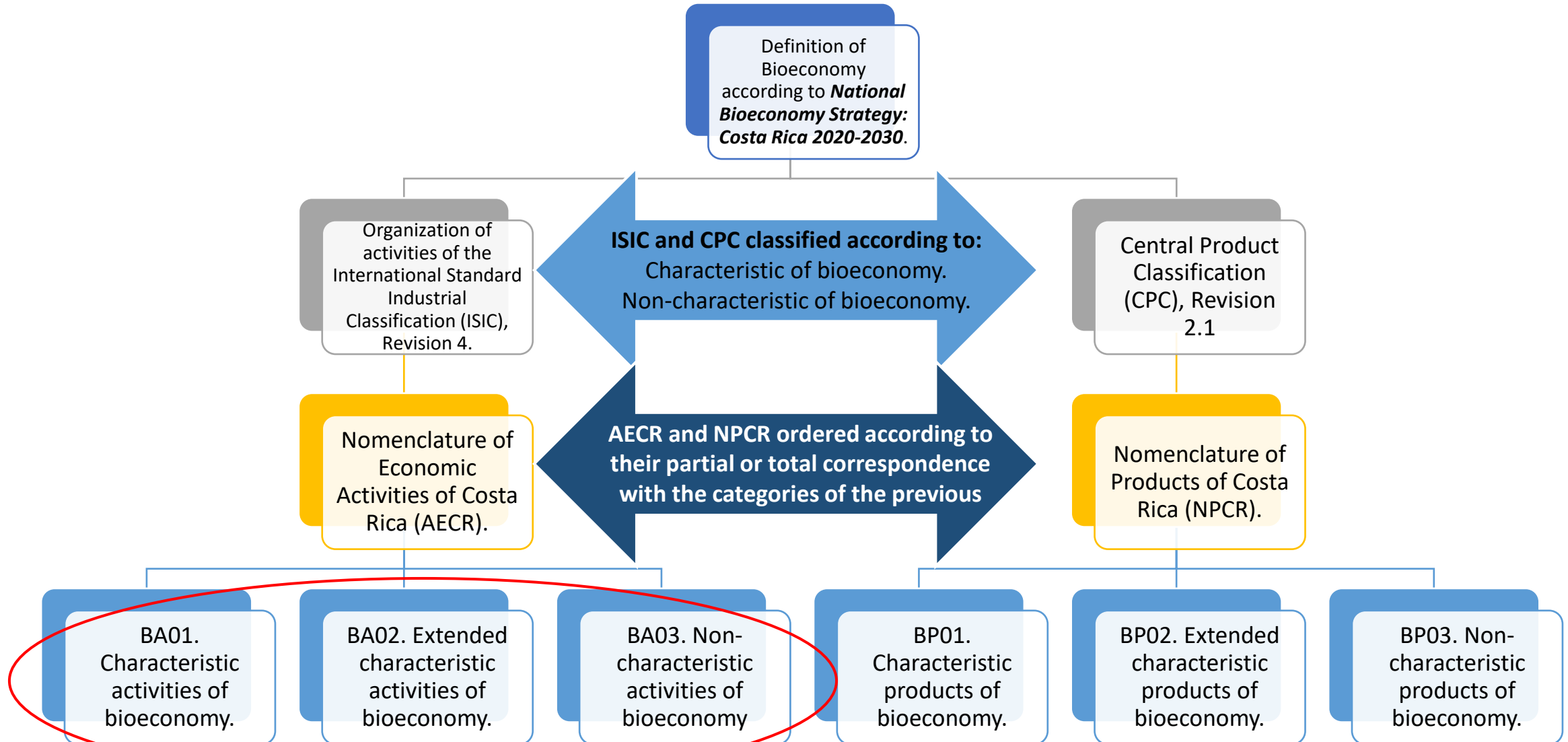
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In approximately 50% of the activities and products there is some relationship with bioeconomy concepts.

Bioeconomic Activities

- A total of 55 groups, and 110 classes of economic activities of the ISIC are identified as bioeconomic.
- Regarding the Nomenclature of Economic Activities of Costa Rica (AECR) which has 144 activities, they are classified as follows:
 - **64** Characteristic activities
 - **4** Extended Characteristic activities
 - **76** Non-characteristic activities of bioeconomy.

Products and services

- A total of 1082 products out of 2890 of the Central Product Classification (CCP) correspond to the bioeconomy.
- Regarding the Costa Rican Product Nomenclature (NPCR), 184 products in total:
 - **72** Characteristic products of bioeconomy
 - **20** Extended characteristic products of bioeconomy
 - **92** Non-characteristic products of bioeconomy.

From there we get a regular supply and use table for bioeconomy....

	Gross value of production			Imports	Taxes on products	Distribution margins	Total Supply
	Characteristic activities in bioeconomy	Extended characteristic activities in bioeconomy	Non-characteristic activities in bioeconomy				
Characteristic products	10 745	104	1 658	3 755	1 047	2 890	20 200
Extended characteristic products	827	252	6 352	1 199	185	- 5 047	3 768
Products not considered bioeconomic	177	141	43 657	9 001	1 973	2 157	57 105

	Intermediate consumption			Exports	Final consumption	Gross capital formation/ Variation of existences	Total Use
	Characteristic activities in bioeconomy	Extended characteristic activities in bioeconomy	Non-characteristic activities in bioeconomy				
Characteristic products	4 041	6	1 620	4 249	9 982	301	20 200
Extended characteristic products	748	51	1 125	573	941	330	3 768
Products not considered bioeconomic	2 273	147	16 780	9 766	21 276	6 863	57 105

From the reclassification of activities and products, and following the analysis structure of the SUT, it is possible to know the contribution of the Bioeconomy in the country's production

	A	B	A - B = C	%
	Gross value of production	Intermediate consumption	Gross value added	
Characteristic activities	11 749	7 063	4 686	12,6
Extended characteristic activities	498	204	294	0,8
Non-characteristic activities	51 666	19 525	32 141	86,6
Total	63 913	26 792	37 121	100

Higher implicit tax rate on bioeconomic products, and employment in bioeconomy

Implicit tax rate

Characteristic products	8,37%
Extended characteristic products	2,49%
Products not considered bioeconomic	4,49%

Employment

	Total	Participation
Characteristic activities	394 935	17%
Extended characteristic activities	19 924	1%
Non-characteristic activities	1 904 637	82%
Total	2 319 496	100%

Final use of energy in activities characteristic to bioeconomy.

	Terajules	%
Characteristic activities	40 785	22,9
Extended characteristic activities	380	0,2
Non-characteristic activities	63 937	35,9
Household final consumption	57 384	32,2
Total	12 221	6,9
Total use	178 267	100

Lessons learned

- Importance of the use of environmental accounts to monitor the transition of a country to circular economy.
- The bioeconomy pilot exercise was is a very good starting point to know the importance of bioeconomy in the country. It is available and easy to carry if you have the right inputs.

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