BANCO CENTRAL DE COSTA RICA

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Press release

Costa Rica improves energy efficiency and reduces CO_2 emissions from energy use

Service activities show lower energy consumption per production unit, while the activities with the highest energy intensity are manufacture of sugar, passenger transport, and water, air and road freight transport.

The results of the latest update of environmental accounts carried out by the Banco Central de Costa Rica (BCCR) show an improvement in energy efficiency and a reduction of carbon dioxide (CO_2) emissions derived from energy use, while the percentage of physical water losses by water utilities remains stable.

Some of the main results of the environmental accounts up to 2015 are:

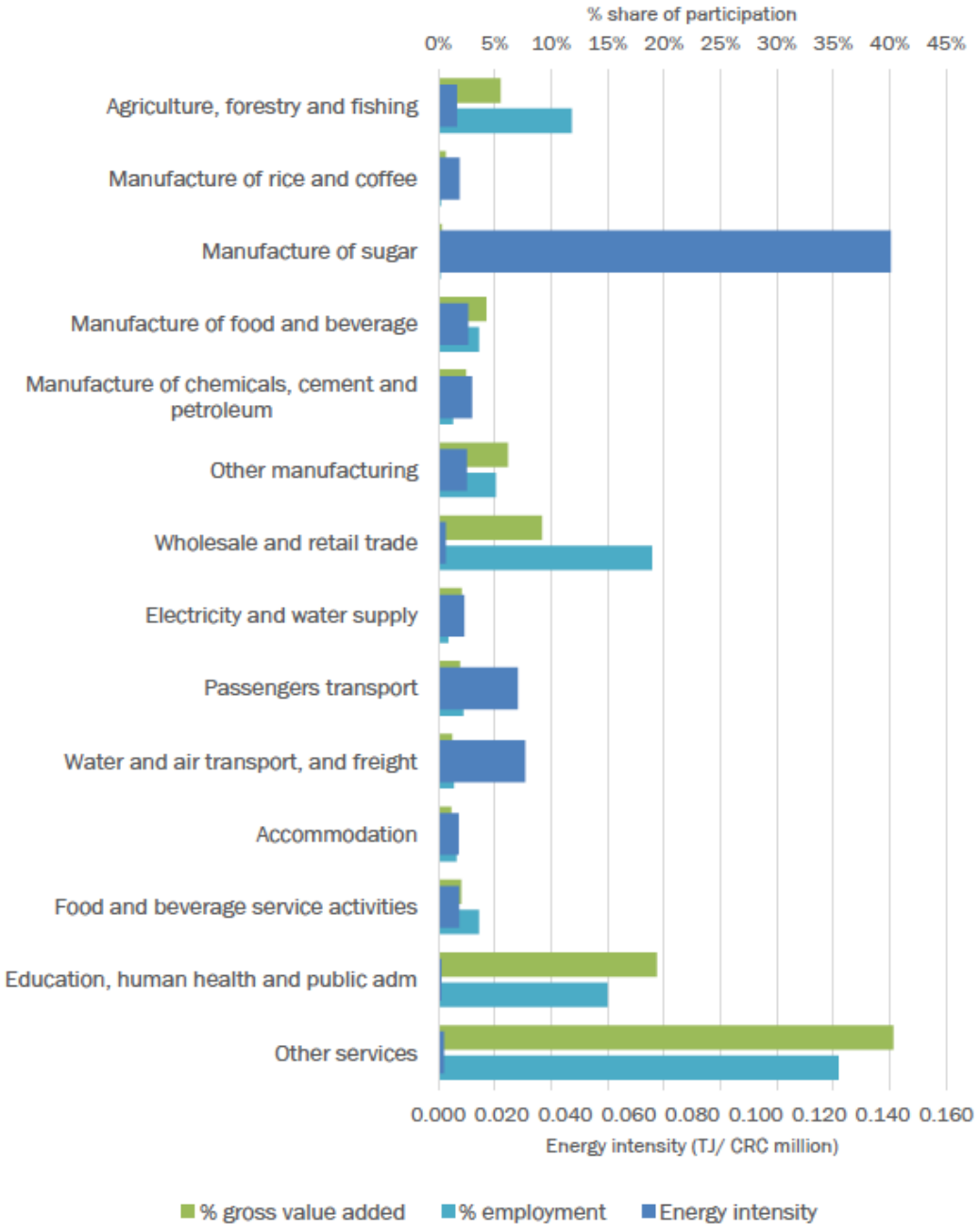
i. Energy intensity measured in terajoules[i] (TJ) per million colones decreased from 0.0075 in 2014 to 0.0072 in 2015, representing a change of -4.2%.
ii. Total CO_2 emissions per year derived from energy use — measured in gigagrams[ii] (Gg) — decreased from 10,039.3 in 2014 to 9,566.6 in 2015, representing an annual variation of -4.7%.
iii. Hydroelectricity generation as a percentage of the total of electricity generation increased from 66% in 2014 to 75% in 2015.
iv. Physical water losses of water utilities as a percentage of total water extracted for distribution remained at around 54% for the period 2012-2015.

Energy Account

Information on energy intensity (the amount of energy required to obtain the production value of one colón) can be derived from this account. Figure 1 shows values for energy intensity and the contribution to the country's total added value and employment by economic activity for 2015. **In general terms, service activities showed a lower energy consumption per production unit, while the activities that made more intensive use of energy were manufacture of sugar, passenger transport, and water, air, and road freight transport.**

[i] A joule is the International System unit used to measure energy. A terajoule (TJ) is one trillion joules (10^{12} J).
[ii] A gigagram (Gg) is one billion grams (10^9 g).

Figure 1. Costa Rica: Energy intensity and share of gross added value and employment by economic activity, 2015



Source: Banco Central, Energy Account and Supply and Use Tables, 2015.

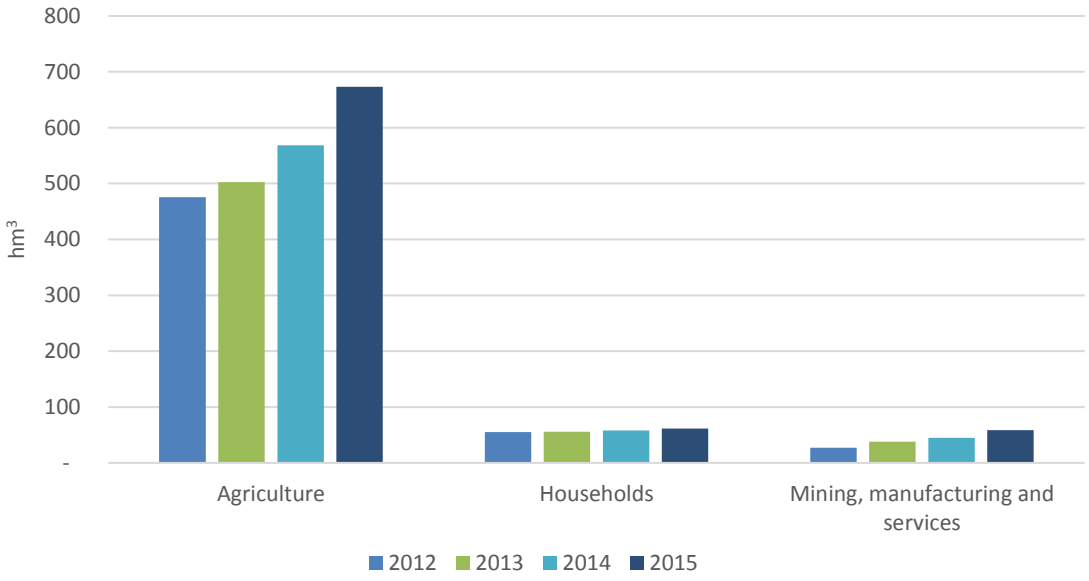
The updated Energy account includes adjustments and corrections to the 2011-2013 series that was previously published, and it also incorporates data from 2014 and 2015. Moreover, new sources of information were used to classify energy products, therefore increasing the

robustness of the environmental statistics. One of the main adjustments of the updated account is the use of emission factors validated according to the energetic equivalence of the Energy Balance published by the Secretariat of Planning of the Energy Sub-sector (SEPSE) of the Ministry of the Environment and Energy (MINAE).

Water Account

This account allows identifying the total water abstractions for offstream uses, as well as water consumption in physical terms. In 2015, water consumption by the agricultural activity was 673 cubic hectometers[iii] (hm^3), with an average annual growth rate of 12% since 2012. Household consumption was 61 hm^3, with an average annual growth rate of 4% in the same period. Manufacturing and services activities consumed 58 hm^3, with an average annual growth rate of 29% during this period (Figure 2). **The percentage of physical water losses from water utilities when supplying final users is around 55%, showing a decrease of one percentage point between 2014 and 2015.**

Figure 2. Costa Rica: Final use of water by activity and households, 2012-2015



Source: Banco Central, Water Account 2012- 2015.

As part of the improvements to the Water account, the 2013-2015 series was added, which incorporates greater levels of detail on water concessions, the use of official information from sewerage management companies for the estimation of residual waters, and additional information from municipalities that provide water services to their inhabitants. Finally, to ensure the comparability of information, the results previously published for 2012 were revised.

[iii] The cubic hectometer is a volume unit. A cubic hectometer (hm^3) corresponds to a million cubic meters (10^6 m^3).

General aspects of environmental accounts

The Banco Central de Costa Rica, recognizing the contribution of natural resources to the country's economy and sustainable development, as well as the need to measure and understand the impact of environmental changes on productive processes, created the Environmental Statistics Unit to strengthen and update existing environmental accounts, develop other environmental accounts useful for the country's macroeconomic analysis, and contribute to economic research and modeling.

The Banco Central currently has three environmental accounts for Costa Rica: Water, Energy and Forest. The first two are updated annually, while the Forest account is published less frequently because the information required to construct it is not updated on an annual basis.

Before their publication, the results of environmental accounts are reviewed and validated by the National Council of Environmental Accounts (CNCA), which is led by the Ministry of the Environment and Energy (MINAE), with the collaboration of the National Statistics and Censuses Institute (INEC), the Ministry of Finance (MH), and the Ministry of National Planning and Economic Policy (Mideplan).

In addition to updating and strengthening the Water, Energy and Forest accounts, the Banco Central has started efforts to construct the Environmental Protection Expenditure account, the Material Flow account, and the Ecosystem account; whose results will be made available to the public in future publications.

The methodology for preparing the environmental accounts is based on the System of Environmental Economic Accounting – Central Framework, an international statistical standard officially recognized in 2012. This conceptual framework allows a rigorous description of the interactions between the economy and the environment, including stocks and flows of environmental assets. This system is also consistent with the System of National Accounts.

Detailed information about the environmental accounts of Costa Rica is available in the website of the Banco Central de Costa Rica: http://www.bccr.fi.cr/cuentas_ambientales/index.html

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