



# Annual Workshop for the ECOWAS Energy Information System

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# Presentation plan

## 1 Legal Framework

## 2 Methodology and data collection

- Brief description of the data collection process
- Tools used for data collection
- Description of the main actors
- Type of data collected and level of dissemination (energy, socio-eco, demo...) Type of data collected and level of dissemination (energy, socio-eco, demo...)
- Survey data ?(date of survey)/ estimates
- Statistical quality assurance process and validation mechanisms...
- Limitations / constraints identified

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## Tools used in the development of the national energy balance and indicators from statistics

- Automated ( IT system) or manual ( computer spreadsheet) tools...?
- Energy demand planning tools...

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## Dissemination of statistics

- Website
- Report and periodicity

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## Energy efficiency



# Legal Framework

In Cape Verde, the Ministry of Industry, Commerce and Energy, through the Directorate of Energy Service, is responsible for the Energy Sector , which includes energy statistics.



**Ministério da Indústria,  
Comércio e Energia**

Direção Nacional de Indústria, Comércio e Energia

**Energy Service Directorate**



## Some responsibilities defined in legislation

- Prepare the national energy balance;
- Contribute, together with other services, to the elaboration of the energy balance;
- Produce and disseminate regular statistics, studies and analyses of the energy sector;
- Establish systems for strategic monitoring, evaluation and control of energy resources, energy demand and the energy information system;
- Collaborate with other services in the calculation of greenhouse gas emissions;

.....



# Legal Framework



## The basic law on national petroleum system specifies:

- Oil operators must send statistical and operational data to the state whenever requested;
- Operators must inform the government about characteristics of imported petroleum products.



## The basic law on the electricity sector, specifies:

Operators with operating licenses are required to report statistical and operational data to the government whenever requested.



# Methodology and data collection

## Petroleum products

Data type	Source Type	Tools	Responsible entity	Frequency
<b>Imports</b> (gasóleo, fuelóleo, GPL, JET A1, gasolina)	administrative	Excel	Oil companies	Monthly
<b>International marine and aviation bunkers</b> (gasóleo, fuelóleo, JET A1 e lubrificantes)	administrative	Excel	Oil companies	Monthly
<b>Stock</b> (gasóleo, fuelóleo, GPL, JET A1, gasolina e Querosene)	administrative	Excel	Oil companies	Monthly
<b>Consumption</b> (gasóleo, fuelóleo, GPL, JET A1, gasolina e Querosene)	administrative	Excel	Oil companies	Monthly
<b>Energy Industry own use</b> (gasóleo, fuelóleo, GPL, gasolina e Querosene)	administrative	Excel	Oil companies	Annual
<b>Stock changes</b> (gasóleo, fuelóleo, GPL, gasolina e Querosene)	administrative	Excel	Oil companies	Annual
<b>Losses</b> (gasóleo, fuelóleo, GPL, gasolina e Querosene)	administrative	Excel	Oil companies	Annual
<b>Installed capacity</b>	administrative	Excel	Oil companies	Annual



## Methodology and data collection

### Electricity

Data type	Source Type	Tools	Responsible entity	Frequency
Total production per technology (fuel, Solar PV and Wind)	administrative	Excel	Electricity utilities	Monthly
Losses	administrative	Excel	Electricity utilities	Monthly
Energy Industry own use	administrative	Excel	Electricity utilities	Monthly
Load diagram	administrative	Excel	Electricity utilities	Monthly
Peak Load	administrative	Excel	Electricity utilities	Monthly
Installed capacity	administrative	Excel	Electricity utilities	Monthly
Fuel consumption	administrative	Excel	Electricity utilities	Monthly
Final consumption by category (desalination, public lightning,....)	administrative	Excel	Electricity utilities	Monthly



## Methodology and data collection

### Electricity – Micro Grids

Data type	Source Type	Tools	Responsible entity	Frequency
Installed capacity (off-grid)	administrative	Excel	Electricity utilities	Monthly
Total production	administrative	Excel	Electricity utilities	Monthly
Losses	administrative	Excel	Electricity utilities	Monthly
Energy Industry own use	administrative	Excel	Electricity utilities	Monthly
Fuel consumption	administrative	Excel	Electricity utilities	Monthly

### Electricity - distributed generation

Data type	Source Type	Tools	Responsible entity	Frequency
Installed capacity	administrative	Excel	DNICE	Weekly
Total production (estimate or	administrative	Excel	DNICE/Microproduc res	Weekly



## Methodology and data collection

### Biomass

Data type	Source Type	Tools	Responsible entity	Frequency
Firewood production	administrative	Excel	FAO (Estimate)	Annual
Charcoal production	administrative	Excel	FAO (Estimate)	Annual
Firewood consumption	administrative	Excel	FAO (Estimate)	Annual
Charcoal consumption	administrative	Excel	FAO (Estimate)	Annual
Charcoal imports	administrative	Excel	INE (National Statistical Institute)	Annual





## Methodology and data collection

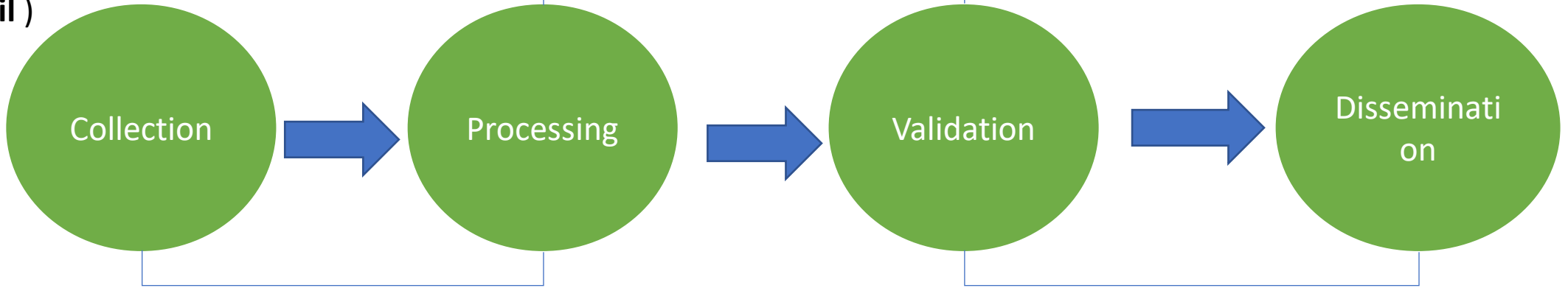
### Other data

Data type	Source Type	Tools	Responsible entity	Frequency
Price of electricity	administrative	Excel	ARME (Economic regulator)	Three-monthly
Price of petroleum products	administrative	Excel	ARME (Economic regulator)	Monthly
GDP	administrative	Excel	INE or Central Bank of Cabo Verde	Annual
Socio-demographic data – (population, householders, ...)	administrative	Excel	INE (National Statistical Institute)	Annual



# Data Quality Verification and Validation Process

**Data Providers  
(Statistical Data  
sent by email )**



Director checks quality and validates calculations . AFREC , IEA and ECREE check e validate the report

Technician checks the quality of the data received ( if there is no error, etc.)

Website



## Limitations / constraints

- Poor institutional capacity (human resources);
- Improve the interaction between the different institutions;
- Improved statistical data processing;
- Make inventories of firewood and coal consumption to update them;



## Tools used in the development of the national statistics

The energy balance and indicators are calculated using predefined excel sheets.  
For example AFREC questionnaires, using the following methodologies:

Statistics	Responsible entity	Unit	Methodology
Energy Balance	DNICE	tep	IEA & AFREC
Percentage of population with access to electricity - SDG 7.1.1	INE / DNICE	%	World Bank
Proportion of population with primary reliance on clean fuels and technology - SDG 7.1.1	INE/DNICE	%	World Bank
Renewable Energy share in the total final Energy consumption - SDG 7.2.1	DNICE	%	IEA & IRENA
Energy intensity measured in terms of primary Energy and GDP - SDG 7.3.1	DNICE	Tep/millions CVE	IEA & IRENA



## Tools used in the development of the national statistics

Statistics	Responsible entity	Unit	Methodology
Energy intensity measured in terms of final Energy Consumption and GDP	DNICE	Tep/millions CVE	IEA
Energy Intensity in Electricity.	DNICE	MWh/millions CVE	IEA
Total CO2 eq emissions of the energy sector.	DNICE	Gg CO2 eq	IPCCC 2006
CO2 emissions per capita.	DNICE	t CO2/capita	IEA



## Tools used in the development of the national statistics

Statistics	Responsible entity	Unit	Methodology
Electricity consumption per capita	DNICE	MWh/capita	IEA
Average anual electricity price	DNICE	CVE	IEA
Average annual price of petroleum product ( gasoline, diesel, fuel, GPL-Butane, kerosene	DNICE	CVE	IEA

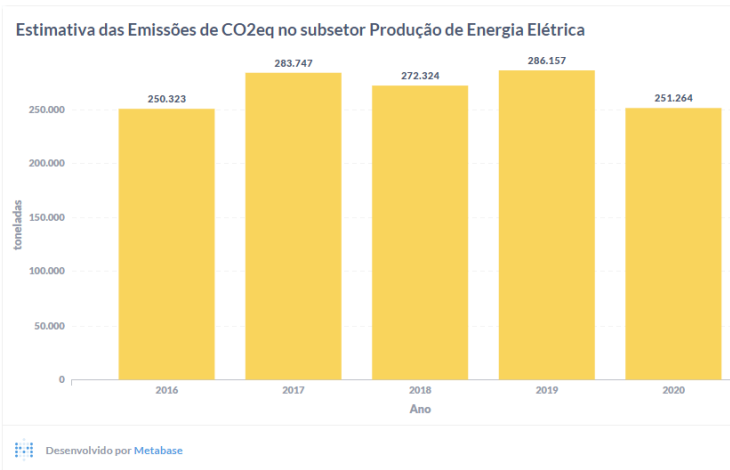
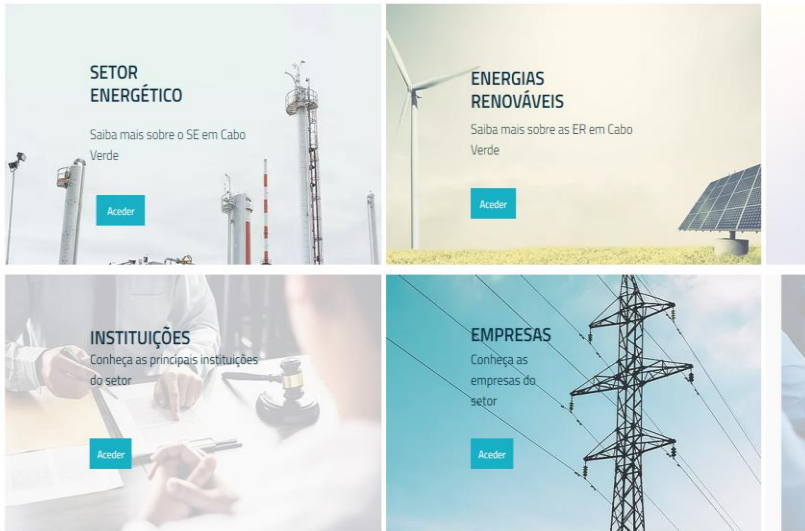


# Dissemination of statistics

The dissemination of statistical information began in 2021, with annual updates through the following website:

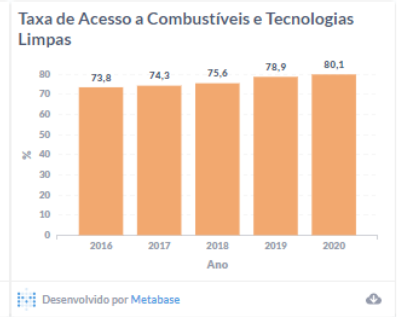
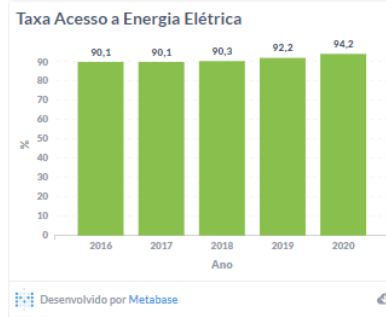
- [www.portalenergia.cv](http://www.portalenergia.cv) - Energy indicators, emissions, prices, electricity, etc.
- [www.energiasrenovaveis.cv](http://www.energiasrenovaveis.cv) - renewable energies, distributed generation, installed capacity;

[www.portalenergia.cv](http://www.portalenergia.cv)



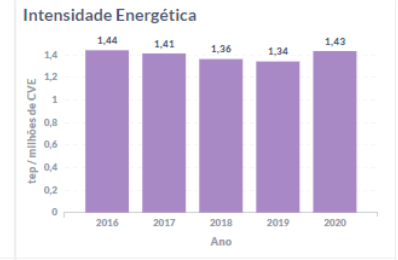
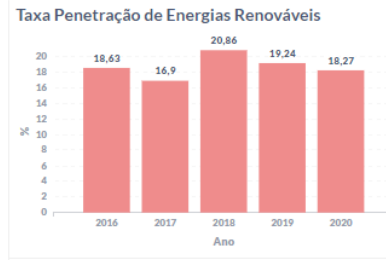
• Estimativas das emissões de CO2eq são consideradas provisórias.

## Indicadores



Desenvolvido por Metabase

- Os valores para a taxa de acesso a energia elétrica e a taxa de acesso a combustíveis e tecnologias limpas para 2020 são estimativas;
- Como combustíveis e tecnologias limpas para cozinhar considera-se o gás butano e a energia elétrica;
- Fonte: INE - Instituto Nacional de Estatística: [www.ine.cv](http://www.ine.cv)



Desenvolvido por Metabase

- A taxa de penetração inclui a produção de energia elétrica através da geração distribuída (microprodução).
- Em 2019 e 2020 a intensidade energética é considerada estimativa, tendo em conta que o PIB - Produto Interno Bruto é provisório para estes anos;
- CVE - Escudos Caboverdiano;
- Tep - Toneladas equivalente de petróleo



Desenvolvido por Metabase



# Dissemination of statistics

www.energiarenovaveis.cv

ENERGIAS RENOVÁVEIS CABO VERDE

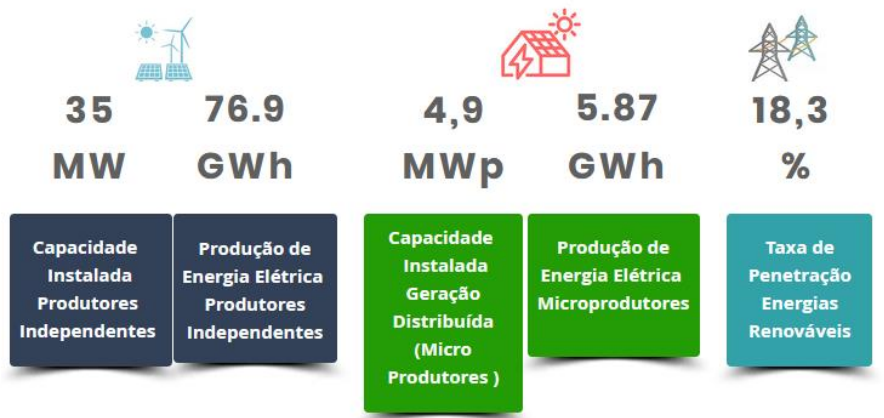
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INÍCIO RENOVAÉIS CONCURSOS IPP ESTATÍSTICAS DOCUMENTOS MEDIA

arme LUXEMBOURG AID & DEVELOPMENT

**WORKSHOP DE APRESENTAÇÃO E DISCUSSÃO DOS REGULAMENTOS DE RELAÇÕES COMERCIAIS E DA QUALIDADE DE SERVIÇO DO SETOR ELÉTRICO**

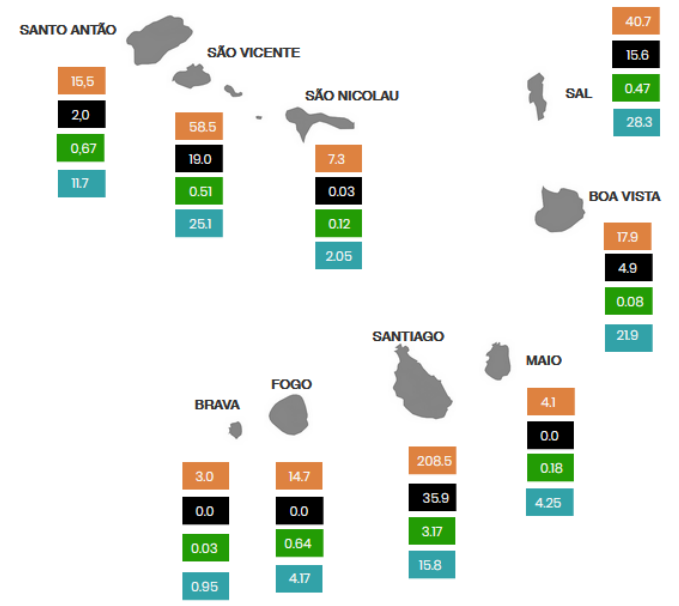
Mais notícias...



ENERGIAS RENOVÁVEIS CABO VERDE

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clique nos botões abaixo para ver os dados

**Dados 2020**

- TODOS OS DADOS
- PRODUÇÃO TÉRMICA (GWh)
- PROD. INDEPENDENTE (GWh)
- PROD. GERAÇÃO DIST. (GWh)
- PENETRAÇÃO RENOVÁVEL (%)





# Dissemination of statistics



We report annually to **ECREE** on the monitoring of the implementation of the national renewable energy and energy efficiency plan and the SE4LL action agenda.

Every year we report to the International Energy Agency the annual energy price, through the IEA excel model

ELECTRICITY						
price in national currency per MWh						
	Price for TRANSPORT	Price for HOUSEHOLDS	Price for SERVICES	Price for INDUSTRY	Price for ELEC. GENERATION	Price for OTHER SECTORS*
2000	--	--	--	--	x	--
2001	--	--	--	--	x	--
2002	--	--	--	--	x	--
2003	--	--	--	--	x	--
2004	--	--	--	--	x	--
2005	--	--	--	--	x	--
2006	--	--	--	--	x	--
2007	--	--	--	--	x	--
2008	--	--	--	--	x	--
2009	--	--	--	--	x	--
2010	--	--	--	--	x	--
2011	--	--	--	--	x	--
2012	--	--	--	--	x	--
2013	--	--	--	--	x	--
2014	--	--	--	--	x	--
2015	--	30262	30441	35522	x	--
2016	--	24981	25462	29228	x	18847
2017	--	26116	26876	21376	x	20461
2018	--	27320	28058	22580	x	21665
2019	--	28187	28930	23457	x	22542
2020	--	29685	29611	26032	x	26915
2021	--	--	--	--	--	--



# Energy efficiency

**The following diplomas were approved for energy efficiency in 2021:**

1. National system of equipment labeling, which forces the entry of equipment with the high level of efficiency in the country;
2. Intensive energy consumers - which obliges the big energy consumers (industry, services, etc) to periodically do energy audits and implement measures to rationalize energy.
3. Energy Efficiency in Buildings Code - with recommendations on efficient construction;
4. For transport, the political charter for electric mobility has been approved. Cape Verde obtained funding from NAMA FACILITY to implement the Project “Promotion of Electric Mobility in Cape Verde “(ProMEC) - from 2021 until 2025.
5. By 2022 all these diplomas will be implemented.

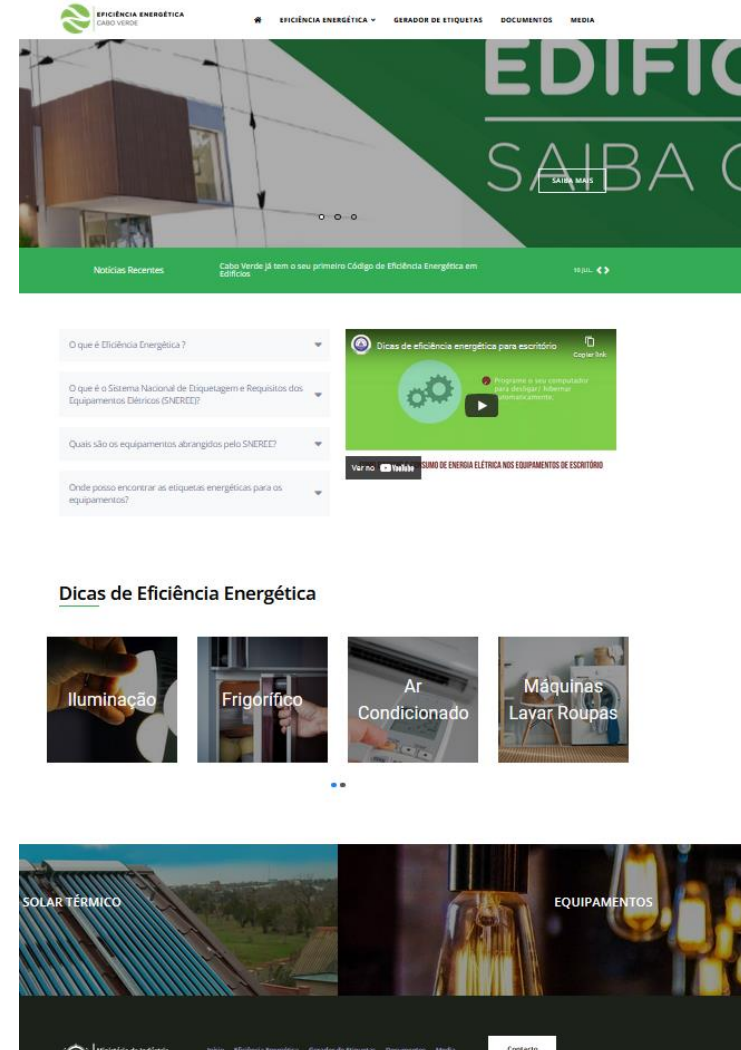




# Energy efficiency

[www.eficienciaenergetica.cv](http://www.eficienciaenergetica.cv)

We have a website for energy efficiency, with information about energy efficiency in equipment, buildings, solar thermal and national labeling system



OBRIGADA  
MERCÍ  
THANK YOU

Jaqueline Pina - Helder Lima ;

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National Directorate of Industry, Commerce and Energy

