



2017 ENERGY REPORT CARD

SURINAME

This document presents Suriname's Energy Report Card (ERC) for 2017, which was prepared using multiple online resources (see list of References), as the Member State did not submit any data/information in support of the ERC. The ERC provides an overview of energy sector performance in Suriname by focusing on two priority sub-sectors: Electricity and Transportation. The ERC also includes energy efficiency, climate change, energy sector workforce, training and capacity building information, subject to the availability of data.

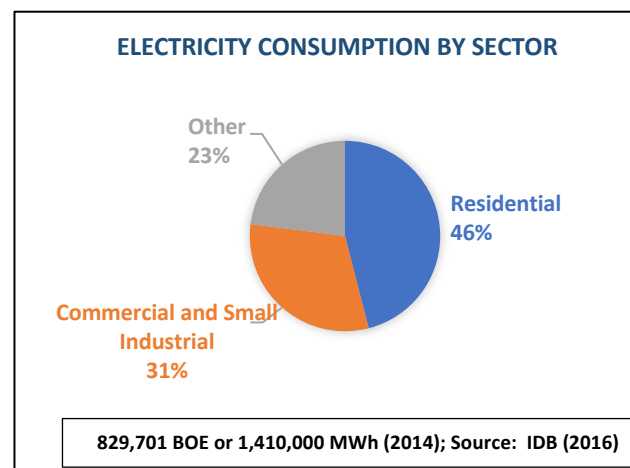
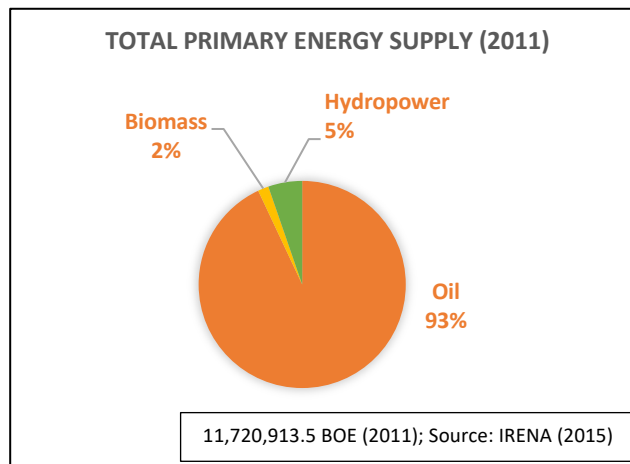
December 2018

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“AT-A-GLANCE” SUMMARY OF SURINAME’S ENERGY SECTOR

| KEY DATA & INFORMATION – ENERGY SECTOR | |
|---|---------------------------------------|
| Population | 591,919 (2017 est.) ¹ |
| GDP (USD) Per Capita | \$14,900 (2017 est.) ² |
| Debt as % of GDP | 69.3% of GDP (2017 est.) ² |
| Human Development Index | 0.720 ³ |
| National Development Plan/ Overall Country Development Strategy | Yes ⁴ |
| National Energy Policy | Draft ⁵ |
| Renewable Energy (RE) Policy | |
| RE Target | |
| Energy Performance Standards/Appliance Labelling | |
| Number of Persons Employed in Energy Sector | |
| Total Oil Import (BOE) per day | |
| Total Oil Export (BOE) per day | |
| Total Installed Capacity (MW) | 410 (2015) ⁶ |
| Total Installed RE (MW) | 189 (2015) ⁶ |
| Electricity System Losses (%) | |
| Energy Use (kWh) Per Capita | 3,294 ⁷ |
| Energy Intensity | 7,707 ⁸ |
| Oil Imports as % of GDP | |
| Climate Change Policy | Yes ⁹ |
| National Determined Contributions (NDC) | Yes (2015) ¹⁰ |
| National Repository for Energy Data | |



SURINAME’S ENERGY SECTOR PERFORMANCE AGAINST TARGETS







| Indicator | Base /Current Performance (Year) | National Target | National Target (Proposed by CARICOM – CSERMS Report) ⁶ | <i>Indicative RE Oil Displacement^{11,12} Potential Annually**</i> |
|--|----------------------------------|-----------------|--|---|
| RE as % of Installed Capacity | 46%(2015) ⁶ | | 52% by 2027 | <ul style="list-style-type: none"> 1 MW wind displaces 1,760 barrels of oil equivalent (BOE) 1 MW hydro displaces 3,300 BOE 1 MW solar displaces 1,210 BOE |
| *Energy Intensity (BTU/US\$1 Unit of output) | | | | Energy Intensity (EI)¹³: <ul style="list-style-type: none"> EI measures how energy benefits the economy and is calculated by taking the ratio of total primary energy use (all of the fuels and flows that a country uses to get energy) to GDP (the total money made in a country). EI indicates how effectively an economy uses their fuels and flows. |
| % Reduction in Energy Sector Emissions (NDC) | | | | |

*The energy efficiency target for CARICOM is 33% reduction in energy intensity by 2027, compared to a reference of Average Annual Energy Intensity of ~13,000 BTU per USD of GDP in 2015.

**Based on capacity factors of 0.32 for wind. 0.6 for hydro and 0.22 for solar.¹¹

KEY ENERGY SECTOR STAKEHOLDERS: SURINAME

Key electricity stakeholders include:







| | |
|---|--|
| GOVERNMENT MINISTRIES, DEPARTMENTS AND AGENCIES: |  Ministry of Natural Resources  Suriname Energy Authority (Energie Autoriteit Suriname - EAS)  Staatsolie |
| ELECTRIC UTILITY(IES): |  Energie Bedrijven Suriname (EBS) – state-owned |
| INDEPENDENT/OTHER POWER PRODUCER(S): |  Suriname Aluminum Company (Suralco)  Staatsolie Power Company |
| REGULATOR: |  No regulatory framework (Jharap, 2014) ¹⁴ |

Key Stakeholders: Road Transportation Sub-sector

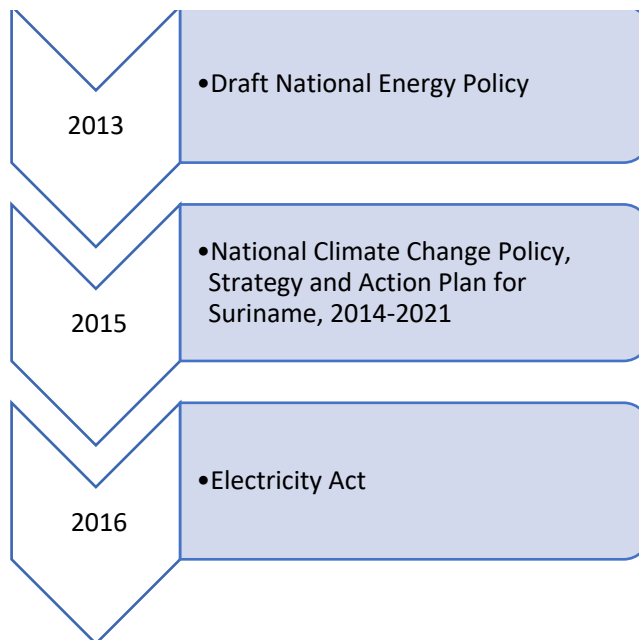
- Staatsolie

POLICY, LEGAL AND REGULATORY FRAMEWORK: SURINAME

Electricity Sector: Policy, Legal and Regulatory (PLR) Framework

| | | |
|---|--|---|
| ✓ | Energy Policy and Energy Action Plan |  |
| ✓ | RE Target | |
| ✓ | EE Target | |
| ✓ | Electricity Regulator |  |
| ✓ | Net billing/Net metering ¹⁵ |  |
| ✓ | Interconnection Policy/Standards | |
| ✗ | Feed-in-tariff | |
| ✗ | RE/EE Act | |
|  | Completed/ In place |  |
| | Draft/ In Development |  |
| | Not yet started/ Not established | |

Key Achievements: PLR Framework Timeline for the Electricity Sector¹⁶



Policies and Legislation Relevant to the Transportation Sector

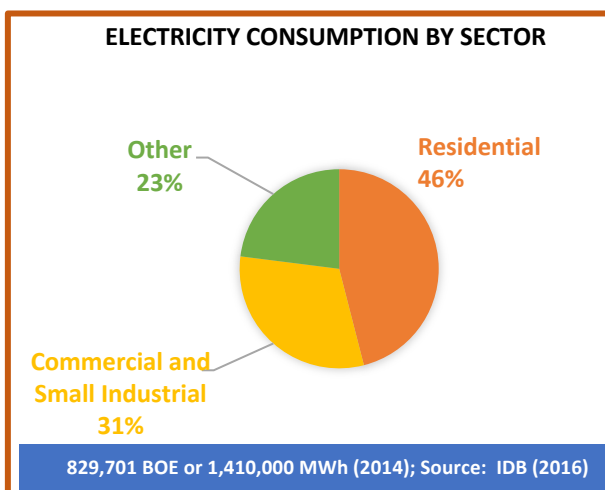
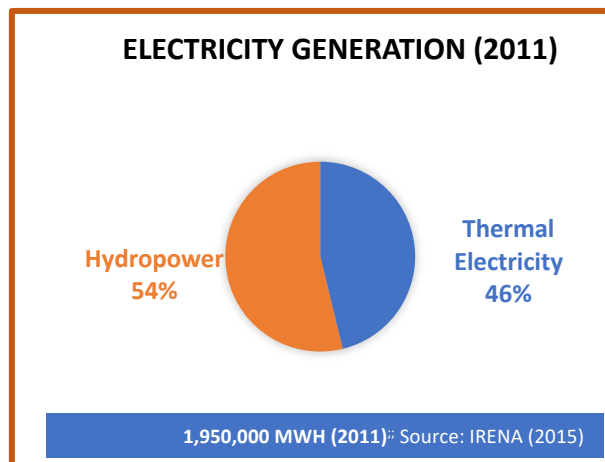
| | |
|--------------------------|---|
| Policies |  |
| Legislation & Regulation |  |

Climate Change Framework - Suriname

| | |
|--|--|
| Climate Change Policy | Yes ⁹ |
| National Determined Contributions | Yes (2015) ¹⁰ |
| Emissions Reduction Target | |
| Priority Sectors for NDC | Forests and Renewable Energy ¹⁰ |
| National Communications (NC) to the UNFCCC | NC1 submitted in 2006; NC2 submitted in 2016 ¹⁷ |
| Greenhouse Gas (GHG) Inventory | |

ELECTRICITY SUBSECTOR & ENERGY EFFICIENCY: SURINAME

| KEY DATA & INFORMATION | |
|--|--------------------------------|
| CONVENTIONAL ENERGY | |
| 1. Total Fuel Use – Electricity Subsector (barrels) | |
| 2. Total Installed Capacity (MW) | 410 (2015) ⁶ |
| 3. Installed Conventional Capacity – Electric Utility (MW) | |
| 4. Installed Conventional Capacity – IPPs (MW) | |
| 5. Base Load (MW) | |
| 6. System Peak Demand (MW) | |
| 7. Total Generation (MWh) | 1,950,000 (2011) ¹⁸ |
| 8. Total Sales (MWh) | 1,410,000 (2014) ¹⁹ |
| 9. Total Number of Customers | 145,000 (2014) ¹⁹ |
| RENEWABLE ENERGY | |
| 10. Total Installed RE Capacity (MW) | 189 (2015) ⁶ |
| 11. RE Capacity – Electric Utility (MW) | |
| 12. RE Capacity – IPPs (MW) | |
| 13. RE as % of Total Installed Generating Capacity | 46% (2015) |
| 14. RE Target | |
| TARIFFS | |
| 15. Residential Tariff (US\$/kWh) | |
| 16. Commercial (US\$/kWh) | |
| 17. Industrial/Large Power (US\$/kWh) | |
| 18. Street Lights (US\$/kWh) | |
| EFFICIENCY | |
| 19. Electricity System Heat Rate | |
| 20. Electricity System Losses (%) | |
| 21. Energy Use (kWh) Per Capita | 3,294 ⁷ |
| 22. Energy intensity index (EII) BTU/US\$1 Unit of output | 7,707 ⁸ |
| 23. EE Target | |
| MANAGEMENT OF ENERGY DATA/KNOWLEDGE | |
| 24. Name of Energy Knowledge Management System | |
| 25. Name of Energy Data Management System | |



| RE Resource | Installed Capacity (MW) | Year Commissioned |
|--------------|-------------------------|-------------------|
| Wind | | |
| Solar | | |
| Hydro | 189 ⁶ | |
| Geothermal | | |
| Biomass/ WTE | | |
| Total | | |

RE as % of installed Power Capacity = 46%

| RE Resource Potentials | Potential Capacity (MW) | Assessment Conducted? |
|------------------------|-------------------------|-----------------------|
| Wind | | |
| Solar | | |
| Hydro | 1700 ⁶ | |
| Geothermal | | |
| Biomass/ WTE | | |
| Total | 1700 | |

TRANSPORTATION SUBSECTOR: SURINAME

| Key Transportation Data and Information | | Breakdown of Fuel Use in the Transportation Sector | | |
|---|--|--|----------------|----------------|
| Barrels of oil used | | | Quantity (BOE) | Type of Fuel/s |
| Energy-related transportation targets? | | | | |
| Sustainable /Alternative fuels used? | | | | |
| Total Imports for Alternative Fuels | | | | |
| Conventional Vehicle Stock/Vehicle Registration | | | | |
| Trucks | | Road | | |
| Cars | | Railway | | |
| Buses | | Aviation | | |
| SUVs | | Marine | | |
| Hybrid vehicle stock | | | | |
| Electric vehicle stock | | | | |
| Fuel Quality Standards? | | | | |

WORKFORCE: ENERGY SECTOR, SURINAME

Number of Persons Employed in the Energy Sector

| NAME OF ENTITY | PRIVATE OR PUBLIC? | NUMBER OF PERSONS EMPLOYED | BREAKDOWN BY GENDER AND EMPLOYMENT LEVEL | |
|----------------|--------------------|----------------------------|---|---|
| | | | Females: Managerial Level: Supervisor: Technical: Administrative: | Males: Managerial Level: Supervisor: Technical: Administrative: |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Number of Persons Trained in the Energy Sector in 2017

| NAME OF ENTITY | PRIVATE OR PUBLIC? | NUMBER OF PERSONS TRAINED | BREAKDOWN BY GENDER AND EMPLOYMENT LEVEL | |
|----------------|--------------------|---------------------------|---|---|
| | | | Females: Managerial Level: Supervisor: Technical: Administrative: | Males: Managerial Level: Supervisor: Technical: Administrative: |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

References

- ¹ Central Intelligence Agency. (2018). *The World Factbook 2017*. Retrieved from <https://www.cia.gov/library/publications/download/download-2017/index.html>
- ² Central Intelligence Agency. (2018). *The World Factbook: Central America – Suriname*. Retrieved from <https://www.cia.gov/library/publications/the-world-factbook/geos/ns.html>
- ³ United Nations Development Programme. (2018). *Human Development Reports: Table 2. Human Development Index Trends, 1990-2017*. Retrieved from <http://hdr.undp.org/en/composite/trends>
- ⁴ Government of the Republic of Suriname. (2017). *2017-2021 Policy Development Plan*. Retrieved from <http://www.planningofficesuriname.com/wp-content/uploads/2018/02/2017-2021-DEVELOPMENT-PLAN.pdf>
- ⁵ Government of the Republic of Suriname. (2013.) National Report in preparation of the Third International Conference on Small Island Developing States (SIDS). Retrieved from <https://sustainabledevelopment.un.org/content/documents/11859475suriname.pdf>
- ⁶ Worldwatch Institute. (2015). *Caribbean Sustainable Energy Roadmap and Strategy (C-SERMS) Baseline Report and Assessment*. Retrieved from http://www.worldwatch.org/system/files/C-SERMS_Full_PDF.pdf
- ⁷ Calculated using generation and population figures.
- ⁸ Calculated using total energy supply and GDP.
- ⁹ Caribbean Community Climate Change Centre. (2015). *National Climate Change Policy, Strategy and Action Plan for Suriname, 2014-2021*. Retrieved from <http://dms.caribbeanclimate.bz/M-Files/openfile.aspx?objtype=0&docid=6508>
- ¹⁰ Republic of Suriname. (2015). *Intended Nationally Determined Contribution Under UNFCCC*. Retrieved from <https://www4.unfccc.int/sites/NDCStaging/Pages/All.aspx>
- ¹¹ Ministry of Science, Energy, Technology and Mining. (2013). *Grid Impact Analysis and Assessment for Increased Penetration of Renewable Energy into the Jamaican Electricity Grid*. Retrieved from https://www.mset.gov.jm/sites/default/files/pdf/Grid%20Impact%20Analysis%20for%20Renewable%20Energy%20Penetration_2.pdf
- ¹² Sustainable Energy Ireland – Renewable Energy Information Office. (2011). Energy Unit Conversion Tool. Retrieved from https://ec.europa.eu/energy/intelligent/projects/sites/iee-projects/files/projects/documents/make-it-be_energy_unit_conversion_tool.xlsx
- ¹³ J.M.K.C. Donev et al. (2018). *Energy Education - Energy intensity*. Retrieved from https://energyeducation.ca/encyclopedia/Energy_intensity.
- ¹⁴ R. Jharap (Independent Consultant). (2014). *Rapid Assessment and Gap Analysis Energy Sector Suriname*. [online] Available at: https://www.seforall.org/sites/default/files/Suriname_RAGA_EN_Released.pdf
- ¹⁵ Climatescope. (2016). Suriname Net Metering. Retrieved from <http://2016.global-climatescope.org/en/policies/#/policy/5429>
- ¹⁶ Climatescope. (2016). Suriname Electricity Act. Retrieved from <http://2016.global-climatescope.org/en/policies/#/policy/5429>. {Note: Extract from website: Under Suriname’s Electricity Act of 2016, retail

electricity consumers that own renewable energy generation systems can feed their surplus to the national grid and get credited for it.}

¹⁷ United Nations Framework Convention on Climate Change. (2018). *Process and Meetings: National Communication submissions from Non-Annex I Parties*. Retrieved from <https://unfccc.int/process-and-meetings/transparency-and-reporting/reporting-and-review-under-the-convention/national-communications-and-biennial-update-reports-non-annex-i-parties/national-communication-submissions-from-non-annex-i-parties>

¹⁸International Renewable Energy Agency IRENA. (2015.) *Renewable Energy Policy Brief Suriname*. Retrieved from http://www.irena.org/DocumentDownloads/Publications/IRENA_RE_Latin_America_Policies_2015_Country_Suriname.pdf

¹⁹ Inter-American Development Bank. (2016). *Suriname: Support To The Institutional And Operational Strengthening Of The Energy Sector III – Loan Proposal*. Retrieved from <http://idbdocs.iadb.org/wsdocs/getdocument.aspx?docnum=40310342>