



GOVERNMENT OF BERMUDA

# **National Fuels Policy**

**Government of Bermuda**

**24 July 2018**

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## Glossary

Abbreviation	Meaning
The Act	Electricity Act 2016
The Authority	The Regulatory Authority of Bermuda
BAU	Business as usual
GHG	Greenhouse gas
GTD	Generation, transmission, and distribution
IRP	Integrated Resource Plan
LCF	Low-carbon fuel
LNG	Liquefied natural gas
LPG	Liquefied petroleum gases (normally comprised of propane, butane, or a mixture of the two)
MMBtu	Million British Thermal Units
NFP, or the Policy	National Fuels Policy
tCO <sub>2e</sub>	Metric tons of Carbon Dioxide (equivalents)
The Utility	The electricity utility of Bermuda, Bermuda Electric Light Company

## Introduction

The Government of Bermuda is creating a National Fuels Policy (‘the Policy’) to direct the fuels sector towards an affordable, sustainable, safe, and secure energy future, in line with international best practice.

Public concerns over the high costs of imported fossil fuels, and an increased understanding of how they impact the environment and public health, indicate the need to chart a more sustainable course for the energy sector. Historically, Bermuda has imported fossil fuels to meet energy needs for transport, to generate electricity, and for stationary uses such as heating and cooking in homes and businesses. All sectors of the economy are therefore dependent on imported fuels.

The Electricity Policy (2015) and Electricity Act (2016) acknowledge Bermuda’s dependence on fossil fuels and the benefits of diversifying the electricity matrix. They promote using cleaner energy sources and technologies for electricity generation, while prioritising economic efficiency. The National Fuels Policy acknowledges and builds on the purposes of the Electricity Policy and Act, expanding their focus to consider all the ways that fuels provide energy in Bermuda.

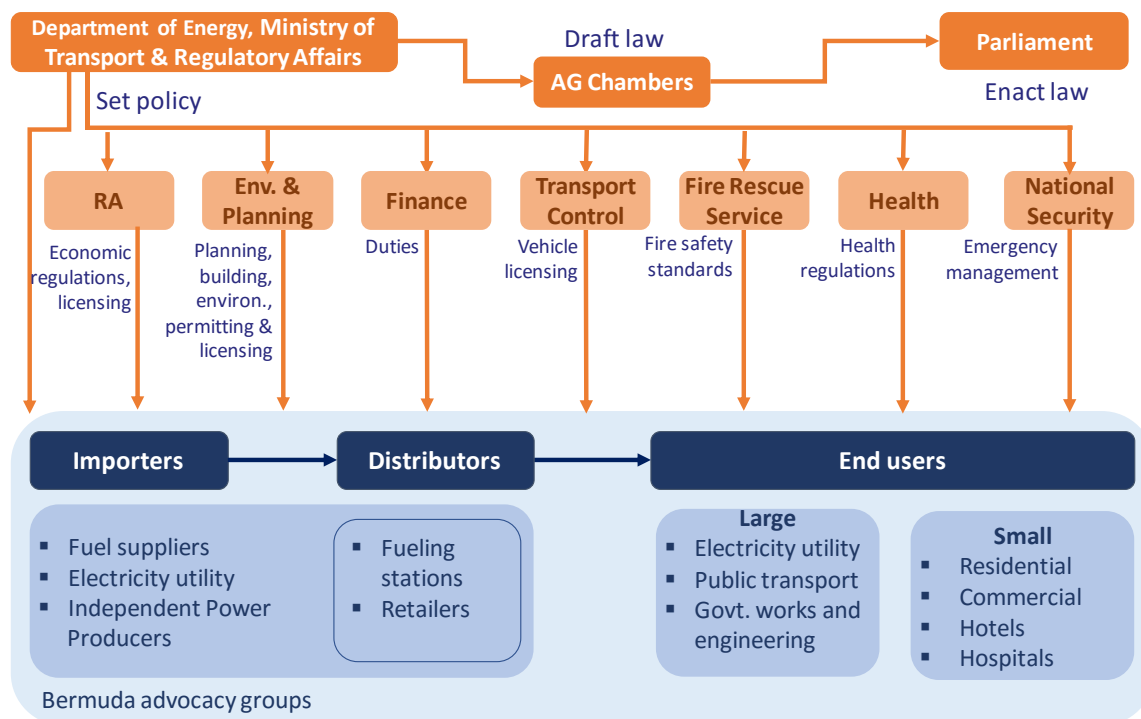
This Policy defines ‘**fuels**’ as materials that are burned to generate energy for electricity, transport, and stationary uses. In line with Government policies on sustainable development, energy, and transport, this Policy recognises that some fuels are more harmful to public health and the environment than others. To distinguish between them, the Policy identifies two fuel types: low-carbon fuels (LCF), and conventional fossil fuels. LCF are defined as fuels that have significantly lower carbon intensity than conventional fossil fuels, produce fewer emissions, and therefore serve as cleaner alternatives, such as biofuels and natural gas. Several jurisdictions, including the European Union, American States including California, and the United Kingdom have adopted LCF standards for the transport sector since 2007. LCF standards set targets to reduce the lifecycle carbon intensity of fuels (the carbon emissions produced by the production and combustion of the fuel) by a defined amount compared to a baseline year.

LCF can often provide economic benefits, both in terms of the cost of energy, and in terms of their lower environmental and public health costs due to less harmful pollution. In this Policy, LCF include municipal and agricultural waste, biomass, biofuels, natural gas, liquefied petroleum gases (LPG, propane and butane), and hydrogen fuel. Conventional fossil fuels include diesel oil, heavy fuel oil, kerosene, and petrol (also known as gasoline or motor spirit).

The ‘**fuels sector**’ is defined in this Policy as the entire value chain of fuels used in Bermuda: importing, storing, distributing, selling, using, disposing, recycling, and regulating. By this definition, this sector encompasses a broad collection of stakeholders.

Many different actors and organisations are involved in the fuel sector, including public and private entities. Figure 1 shows how this Policy views the key actors in our fuel sector. Entities that govern and regulate the sector are in the top half in orange, while those that transact in the sector are in the bottom half in blue.

**Figure 1: Actors in Bermuda’s Fuels Sector**



Note: Names of government departments, and responsibilities of individual departments, may be subject to change in the future.

The entities governing the fuel sector each have distinct responsibilities:

- The **Department of Energy** has led the drafting and consultative process for preparing the National Fuels Policy.
- The **Attorney General’s Chambers** drafts any fuels legislation approved by Cabinet, and, eventually, Parliament.
- **Parliament** is responsible for enacting fuels legislation pursuant to this Policy.
- The **Regulatory Authority** (“the Authority”) is responsible for economic regulation of the fuels sector, including issuing sector-specific licences.
- The **Departments of Health, Planning, and Environment and Natural Resources** enforce occupational health, planning, and environmental standards for the fuels sector, respectively.
- The **Ministry of Finance** is responsible for setting duties on imported fuels.
- The **Transport Control Department** is responsible for vehicle licensing.
- The **Fire and Rescue Service** enforces fire safety standards for the fuel sector.
- The **Ministry of National Security** is responsible for ensuring the fuel sector functions as smoothly as possible during emergencies.

Key entities that transact in the sector include (i) fuel **import** companies who bring fuels to the island; (ii) fuel **distribution, transport, and retail** companies, who store, transport and

sell fuels; and (iii) **end users** who consume fuels in large and small quantities. Given Bermuda is a small market, often the same entities cover the fuel importing and distributing functions. Finally, **advocacy groups** and the general public influence the future direction of the sector through public discourse and raising awareness.

The Government has formulated this Policy through detailed analysis and various rounds of consultations with public and private stakeholders in the fuels sector. A draft was subsequently issued for public consultation.

This Policy is structured as follows:

- The document establishes a set of **eight goals** that shall guide specific policy making and measures that Government entities will adopt.
- The **vision** shows the intended outcome of the Policy in terms of desired changes to the fuels mix from today to 2035.
- Finally, the Policy presents **five main policies** as priority directions for our fuel sector, with specific actions for each to help the country progress towards its goals.

## Goals

The Government has identified eight goals to guide the specific measures of this Policy: safeguarding fuel security, making fuels least cost, guaranteeing public safety and fuel quality, promoting environmental sustainability, fostering economic growth, ensuring affordability, and increasing administrative effectiveness.

### **Safeguard fuel security**

Safeguarding fuel security means protecting our energy supplies to ensure:

- Reliability—this means the fuels sector allows users to access the energy services and resources they need, when they need them
- Resilience—this means the fuels sector can cope with shocks and can meet changing demand over time.

### **Make fuels least cost**

Least-cost fuels means fuels that are economically justified for their end use, and where all processes in the value chain work as efficiently as possible to minimise economic and social costs. Least-cost analysis considers impacts along several dimensions for the fuel in question, including the environmental, social, and economic impacts.

### **Guarantee public safety and fuel quality**

Public safety and fuel quality mean protecting people’s health and running machinery correctly. Upholding these is critical in the fuels sector, because:

- Fuels generate energy through combustion, which is potentially hazardous to people and the environment
- The quality of fuels affects the wear on the transport and energy generation equipment used to burn them, and the level of harmful pollution that the equipment emits.

### **Promote environmental sustainability**

Promoting environmental sustainability means to:

- Lower pollution levels for the air, land, and sea
- Lower greenhouse gas emissions from using fossil fuels
- Reduce negative impacts and minimise harm to native wildlife and biodiversity.

### **Foster economic growth**

Fostering economic growth focuses on enabling the production and consumption of goods and services to improve people’s economic wellbeing and increase the availability and quality of jobs in Bermuda.

### **Maintain affordability**

The costs for meeting the day-to-day energy needs of Bermudian households should remain affordable to all residents. This ensures all Bermudians can enjoy a basic standard of living.



### **Uphold national values**

Upholding national values refers to doing commerce with other countries and entities that share our national values of respect for people and the environment.

### **Increase administrative effectiveness**

Administrative effectiveness means all Government policies are practical and work as intended.

In pursuing these goals, the Government will apply the following principles:

- **Technological neutrality**—the Government will promote all policy measures that reduce costs and increase sustainability, rather than favour specific technologies. Specifically related to LCF, the Government’s approach is not to favour one specific fuel over another; but to make sure that all options are considered in the process, and the one that is least cost and most sustainable is selected
- **Net economic benefit**—the Government will promote all policy measures that can reduce the cost of fuel in the country while improving energy security and enhancing environmental sustainability.

## Vision

The Government’s vision for the fuels sector is shaped by achieving indicative targets and an aspirational fuels matrix by 2035. The indicative targets cover three fuel subsectors: transport, electricity, and stationary uses (cooking and heating). These indicative targets provide a measuring post to track the country’s performance in achieving the Policy’s goals. The targets depend on certain assumptions about the future. Depending on the evolution of the market, the targets may be exceeded, or they may not be met. The targets are non-binding, meaning that no party will receive a fine or penalty if they are not met; but they guide action towards a desired future outcome that based on what we know today seems feasible.

The indicative targets for the period 2017 to 2035, compared to the future ‘business as usual’ (BAU) scenario, are:

- Increase the share of LCF to over half of the primary fuels mix. The indicative target uses Natural Gas as a reference; but, consistent with the definition of LCF, other options that are proven to be as competitive in terms of cost and performance but deliver greater sustainability (or vice versa, same sustainability but greater cost-effectiveness or performance) may be promoted
- Obtain energy savings of about a fifth of total energy consumption
- Reduce GHG emissions by about a quarter.

The Policy’s aspirational scenario is titled the ‘national fuels policy’ (NFP) scenario, and is compared with the BAU scenario, which is forecasted based on current trends.

Table 1 presents cumulative results, comparing the two scenarios over the 2017 to 2035 period. Table 2 compares the two scenarios in the year 2035. Where relevant, the final column in both tables show the difference in percentage terms between the two scenarios.

**Table 1: Targets for the Fuels Sector 2017-2035**

Name	Unit	NFP scenario <sup>1</sup>	BAU scenario <sup>2</sup>	Difference NFP – BAU
<b>Energy use over period (2017–2035)</b>	MMBtu <sup>3</sup>	97,846,564	117,283,286	<b>-17%</b> (energy saved)
Cumulative energy use for electricity sub-sector	MMBtu	41,145,600	48,469,808	<b>-15%</b> (energy saved)
Cumulative energy use for transport sub-sector	MMBtu	53,758,830	65,714,910	<b>-18%</b> (energy saved)
Cumulative energy use for stationary use sub-sector	MMBtu	2,942,134	3,098,567	<b>-5%</b> (energy saved)

<b>Cumulative GHGs over period (2017–2035)</b>	tCO <sub>2</sub> e <sup>4</sup>	12,829,179	17,158,680	<b>-25%</b> (fewer GHG emitted)
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<sup>1</sup> NFP—National Fuels Policy scenario.

<sup>2</sup> BAU—business as usual scenario.

<sup>3</sup> MMBtu—millions of British Thermal Units, a common unit that measures energy, especially to compare across different subsectors (such as electricity and transport).

<sup>4</sup> tCO<sub>2</sub>e—metric tonnes of carbon dioxide equivalents, a unit used to quantify GHG emissions, emissions reductions and carbon credits.

**Table 2: Comparing NFP and BAU Scenarios: Results in 2035**

Name	Unit	NFP	BAU	Difference: NFP – BAU
Total fuels consumption (2035)	MMBtu	4,302,529	5,978,149	<b>-28%</b>
LCF consumption (2035)	MMBtu	2,471,827	235,674	
LCF as % of fuels mix (2035)	%	57%	4%	<b>54%</b>

Electricity sub-sector fuels mix in 2035*				
Diesel	MMBtu	-	532,171	
Heavy Fuel Oil	MMBtu	-	2,090,385	
LCF (e.g. Natural Gas)	MMBtu	2,250,701	-	
Waste to Energy	MMBtu	68,151	68,151	
<b>Total for electricity</b>	<b>MMBtu</b>	<b>2,318,851</b>	<b>2,690,707</b>	<b>-14%</b>

Transport sub-sector fuels mix in 2035				
Diesel	MMBtu	1,025,866	1,545,461	
Petrol	MMBtu	337,299	1,063,383	
Jet Fuel	MMBtu	466,051	509,590	
<b>Total for transport</b>	<b>MMBtu</b>	<b>1,829,216</b>	<b>3,118,434</b>	<b>-41%</b>
Electricity from Electric Vehicles**	MMBtu	499,930	-	

Stationary uses fuels mix in 2035 (cooking and heating)				
LPG	MMBtu	152,976	167,523	
Kerosene	MMBtu	1,485	1,485	
<b>Total for stationary uses</b>	<b>MMBtu</b>	<b>154,461</b>	<b>169,008</b>	<b>-9%</b>

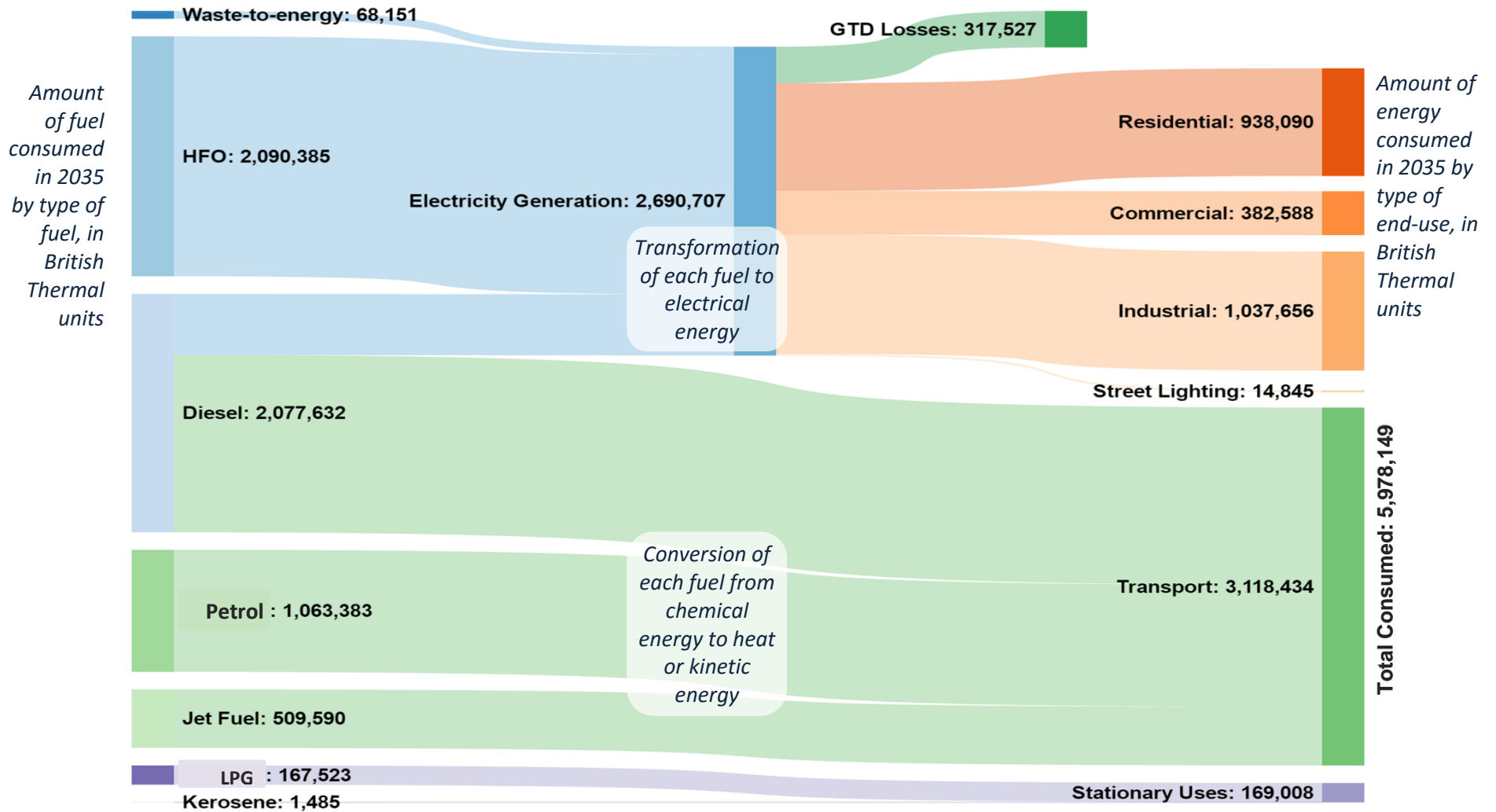
\* This excludes electricity generation technologies that are not fuel based, such as renewable-based technologies

\*\* Electricity used for electric vehicles is already accounted for in the electricity sub-sector category and therefore not included for transport.

Figures 2 and 3 show the fuels energy matrix in 2035, under the BAU and NFP scenarios respectively. These figures give a visual representation of the flow of energy from fuels, starting

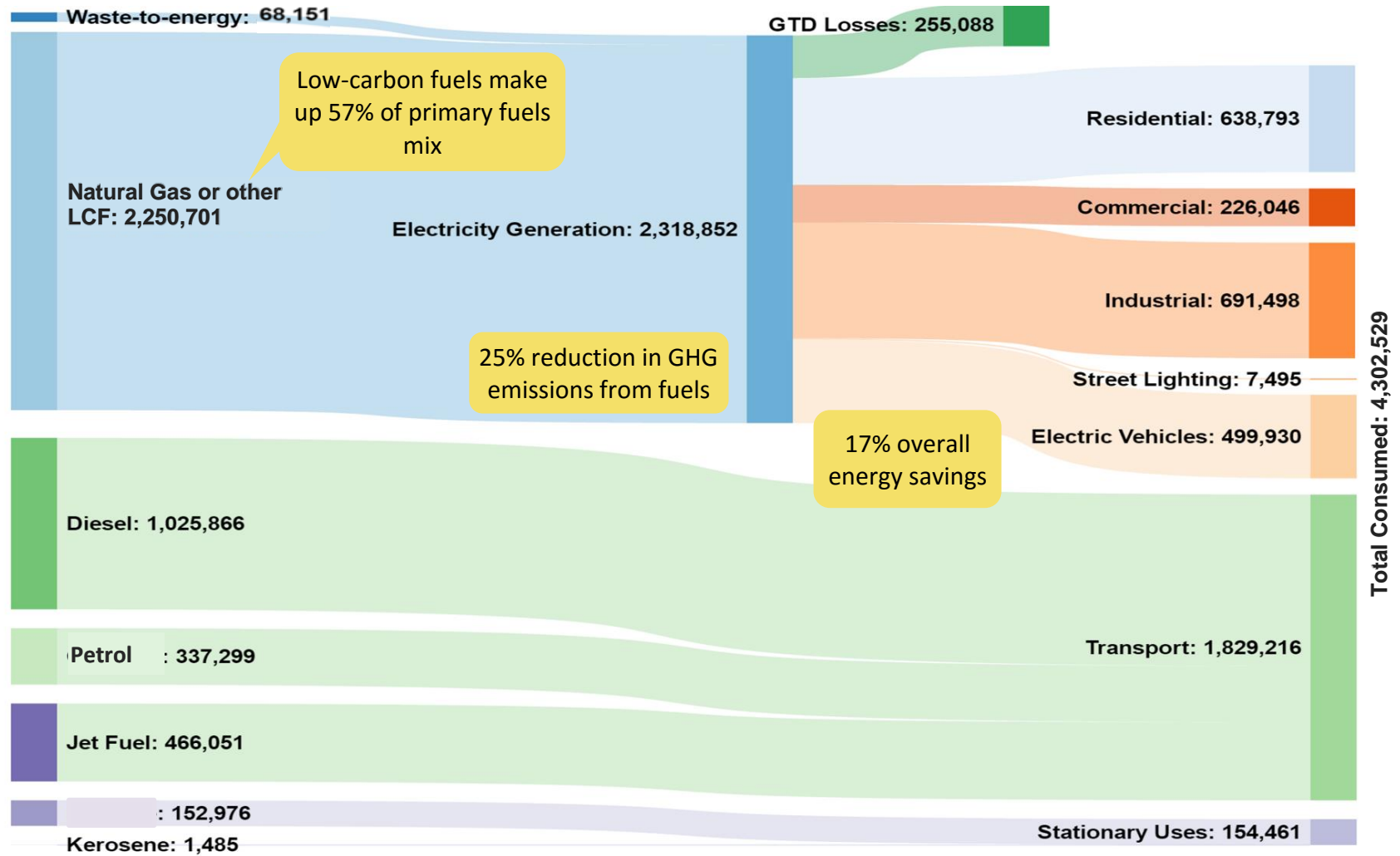
on the left with primary fuels, which are converted to different end uses of energy on the right. On the left-hand side, the different types of fuel used on the island are broken up by volume (measured in millions of British thermal units, MMBTu). In the middle, the different fuels used for electricity generation are grouped to show their conversion to electricity. On the right-hand side, the total units of energy consumed in Bermuda are shown broken up by the type of end use: electricity (broken up into different sectors), transport, and stationary uses (cooking and heating).

**Figure 2: Fuels Matrix in 2035 in the Business as Usual Scenario (in MMBtu)**



Note: The Bermuda Electricity Policy (2015) provides the basis for the electricity sub-sector assumptions. Assumptions under the Integrated Resources Plan (IRP) may vary. \* GTD: Generation, transmission, and distribution

Figure 3: Fuels Matrix in 2035 in the National Fuels Policy Scenario (in MMBtu)



Note: The Bermuda Electricity Policy (2015) provides the basis for the electricity sub-sector assumptions. Assumptions under the IRP may vary.

\* GTD: Generation, transmission, and distribution

The key differences between the two scenarios are:

- For the **electricity** subsector, the NFP scenario supposes that Bermuda will transition to a LCF for most of its electricity generation, while phasing out heavy fuel oil and diesel-based generation. For analytical purposes, natural gas in its liquefied form (LNG) is used as a proxy for the new LCF to be used in Bermuda, consistent with the aspirational energy matrix in the Electricity Policy (2015), and given that data on this solution are widely available. However, pursuant to the Electricity Policy (2015) and Electricity Act (2016), the Government does not prescribe that natural gas should be adopted to the exclusion of other options. The Integrated Resource Plan (IRP) process defines which power generation solution shall be adopted. Through the IRP, the electricity utility (“the Utility”) must propose a generation and a procurement plan to the Authority. The Authority, in accordance with its statutory powers and with the Electricity Act, must review the IRP to decide whether it satisfies the requirements of the law, Government policy, and Ministerial directions and declarations. The Authority must also conduct a public consultation on the IRP to ensure that the electricity sector plan meets public needs and expectations. The Policy is open to any LCF that is at least as cost-effective and performing but delivers greater sustainability impact; or that delivers at least the same sustainability impact but offers better cost-effectiveness or performance
- In the **transport** subsector, the NFP scenario assumes that this Policy (combined with technological and market changes) will catalyse improvements in vehicle fuel efficiency, and that we will begin more widely adopting electric vehicles in 2022 across consumer classes. Analysis shows electric vehicles are already viable in Bermuda, assuming the current taxation regime on fuels. However, a lag of a few years is expected, due to demand and supply side barriers, which the NFP will seek to address. In addition, the steadily decreasing cost of electric vehicles and the infrastructure needs of compressed natural gas or LPG-fuelled vehicles means that electric vehicles are more economically viable for Bermuda than gas-powered internal combustion engines
- For the **stationary use** subsector, including heating and cooking for non-residential and residential uses, the NFP scenario assumes that a portion of users across categories will upgrade to more fuel-efficient equipment or replace fuel sources and technologies to reduce emissions. This Policy recognises the lack of data on energy efficiency uptake and potential in the stationary use sector, and seeks to fill this gap to provide information for a better-functioning market. In the meantime, the NFP scenario assumes that two out of three users will transition to more fuel-efficient equipment for stationary uses by 2035. The basis for this projected improvement is anecdotal evidence of fuel efficiency opportunities on the island, and experience of other similar countries (Belize and Cayman Islands). On the other hand, kerosene consumption is expected to stay the same between the NFP and BAU scenarios, given it is consumed in small quantities for specialised services today.

## Policies

The National Fuels Policy rests on five broad policies, detailed in sections 1 to 5 below. Each policy will be achieved through a set of specific actions. The Government's five policies for the fuels sector are to:

1. Enable a least-cost fuels sector
2. Ensure a secure supply of fuels
3. Promote efficient procurement of fuels
4. Maintain a safety regime for the fuels sector to protect public health and the environment
5. Promote low-carbon alternatives, energy efficiency, and fuel conservation for transport and stationary uses of fuels.

### 1 Enable a least-cost fuels sector

It is the Government's policy to enable a least-cost fuels sector by ensuring that activities in the value chain—from importing to selling fuel to end-users—are efficient. The supply chain for fuels imported to the island has five key steps:

1. Local fuel importing companies (wholesalers) buy fuels overseas
2. Vessels transport the fuels to Bermuda by sea
3. Wholesalers offload fuels at a fuel terminal (or at a sea port, if shipped in containers)
4. Fuels are transported to retailers (or directly to end-users in some cases) either by road or by pipeline, depending on the use, charging a wholesale price
5. Retailers sell or distribute fuels to end-users, charging a retail price.

The first two steps are open to competition in international markets, so can be assumed to be efficient. The third and fourth steps are potential bottlenecks in the supply chain, where competition may not easily occur due to Bermuda's small market size and isolated geographic location. Furthermore, the wholesale and retail prices of imported fuels are set through an informal process with the Ministry of Finance and not codified in law.

To achieve this policy, the Government will:

- Regulate essential infrastructure for fair rates and terms of access
- Formalise the rules for pricing fuels
- Publish the maximum retail price of fuels.

Through these three actions, Government intends to promote competition and transparency across activities in the value chain, where possible. Specifically:

- By regulating rates for using essential infrastructure, such infrastructure will be priced at the efficient cost of providing it
- By regulating access to essential infrastructure, new entities can enter the market and compete more effectively



- By formalising the rules for setting prices of imported fuels in law and publishing retail prices, there will be greater transparency, accountability, and predictability in the market. In addition, there will be an avenue for legal recourse in case of allegations of unfair behaviour.

### **1.1 Regulate essential infrastructure for fair rates and terms of access**

The Government recognises the importance of providing fair access terms and pricing for using certain essential infrastructure facilities, such as fuel pipelines, transport corridors, or telecommunications networks, for encouraging competition in related markets.

The Government defines essential infrastructure as any facility that meets the following criteria:

- The operator can restrict or deny the facility's use by competing operators
- The facility is impossible or very difficult to duplicate, whether from a technical, economic, or legal perspective
- Access to the facility is essential to allow effective competition in a downstream or upstream activity
- Denying other operators access to the facility would be against the public interest, because the industry is critical to the national economy, and effective competition would benefit consumers and foster competition in other sectors.

To ensure that essential infrastructure can always be accessed on fair rates and terms, the Government will:

- Empower the Authority to regulate the pricing and terms of access for existing essential infrastructure facilities
- Protect the legitimate interests of essential infrastructure owners by allowing the imposition of an access fee and other terms and conditions that are fair and reasonable
- Empower the Authority to identify and regulate any future essential infrastructure on the island.

The Ferry Reach fuel importing terminal and the pipeline to Pembroke Plant meet the Government's definition of essential infrastructure. The Terminal is an importing facility at Ferry Reach that is used to offload liquid fuel from tankers, from where fuel is transported to various storage and distribution sites. The fuel pipeline runs from Ferry Reach Terminal to Pembroke Plant to transport liquid fuels to the Utility's generating plants.

The Authority will regulate the fuel pipeline using a cost of service approach. The terms of access are simple to determine, because the pipeline only has a single user during any one period.

The Authority will also regulate Ferry Reach Terminal using a cost of service pricing approach with various categories of access terms. This structure ensures efficient use of the asset, as various types of users require access to the terminal: those with a known level of demand, and those with more a fluctuating and unpredictable demand. A cost of service structure also guarantees a reasonable rate of return for the owner.

## **1.2 Formalise the rules for pricing fuels**

The Government will formalise the rules for pricing fuels by:

- Defining a process for setting the maximum retail price of imported fuels
- Establishing rules for how operators may request margin adjustments
- Empowering the Authority to define and enforce the maximum retail price charged for imported fuels.

The Government will define a process through law, in which the Authority sets the maximum retail price of fuels. The process will also establish rules for how fuel importers and retailers may request adjustments to the maximum permitted retail and wholesale margins.

The Authority will be responsible to set a maximum retail price for imported fuels defined by the Minister, including but not limited to diesel, petrol, LPG, and kerosene. The Authority will set the maximum price while attending to the flexible needs of the market for buying and importing fuels.

## **1.3 Publish the maximum retail price of fuels**

The Government will publish the approved maximum retail price of imported fuels through official channels each month. Fuel retailers will be required to display the approved maximum price of fuels sold at fuel stations and at other points of sale.

## **2 Ensure a secure supply of fuels**

It is the Government's policy to ensure a secure supply of fuels, for safeguarding basic services and long-term quality of life for all Bermudians. Fuel security is crucial for the island, given we rely on imported fuel products for nearly all energy consumption. The energy produced from imported fuels is integral not only to transport, tourism, aviation, and shipping sectors; but also to water desalination and treatment, and for generating electricity for residential, commercial, and industrial sectors. To guarantee fuel security, the sector's infrastructure needs to be reliable and resilient to shocks and changes.

Critical infrastructure refers to facilities that serve the most important needs of residents. It is central to national security and public wellbeing. Many of our basic needs rely on several critical infrastructure facilities in the fuels sector, which are controlled and operated by different entities. The Government must be able to enforce measures that prevent critical infrastructure owners from abandoning or mishandling critical infrastructure, which could seriously impact public wellbeing.

The Government and other actors must continue to work together to ensure that basic services can be delivered to the public during emergencies. Bermuda is vulnerable, due to its size and location, to extreme weather and external events that can disrupt sections of critical national infrastructure. In the past, major fuel importers have carried out emergency response exercises in collaboration with various government departments, and this working relationship continues today.

To achieve this policy, the Government will:

- Enforce reliable maintenance and operation of critical infrastructure
- Continue to coordinate effective cooperation during emergencies
- Maintain public infrastructure for secure and efficient transport of goods and fuels.

### **2.1 Enforce reliable maintenance and operation of critical infrastructure**

The Government will enforce reliable operation and maintenance of critical infrastructure by setting rules and standards for operators through licensing conditions. Failure to meet the conditions will result in a penalty, which may include a fine, imprisonment, an order to remedy, or loss of the owner's licence to operate the facility.

### **2.2 Continue to coordinate effective cooperation during emergencies**

The Government will continue to encourage effective cooperation between major stakeholders in basic infrastructure and services. Doing so will ensure a coherent and effective response to emergencies.

The Government is preparing legislation to formalise and supplement the emergency and disaster planning arrangements that are coordinated by the Emergency Measures Organisation. This would require all Government departments and non-Government entities involved in overseeing and delivering basic services to coordinate in responding to emergency situations, such as an oil spill, natural disaster, or health crisis.

**2.3 Maintain public infrastructure for secure and efficient transport of goods and fuels**

The Government will ensure public infrastructure is well-maintained to allow for secure and efficient transport of goods and services between importing terminals and delivery locations.

### **3 Promote efficient procurement of fuels**

It is the Government's policy to promote efficient procurement of fuels and the related infrastructure needed for electricity generation, transport, and stationary uses, in both the private and public sectors. Efficiency is key to ensure a least-cost and high quality sector that prioritises clean, economically sustainable fuels. Efficient procurement means allocating costs in an optimal way for each step of the process for buying fuels. At the same time, the Government promotes procurement methods that uphold Bermudian values on an international stage, while putting efficiency at the forefront of procurement decisions.

The Government supports enabling competition as a means to increase efficiency. Competing firms tend to strive to keep costs low by allocating costs efficiently and innovating. Competition may occur at all stages of the fuel supply chain. Buying fuels overseas and shipping them to Bermuda are already subject to some market competition. From the consumers' perspective, competition can also increase efficiency in how fuels are purchased, especially in large contracts such as for electricity generation, the public sector, and the commercial sector.

To achieve this policy, the Government will:

- Encourage efficient and effective procurement of infrastructure for using cleaner alternative fuels
- Ensure transparent and competitive fuel procurement for electricity generation
- Ensure transparent and competitive fuel procurement for the public sector
- Promote competition in fuel procurement for commercial contracts.

#### **3.1 Encourage efficient and effective procurement of infrastructure for using cleaner alternative fuels**

This Policy reaffirms the Electricity Policy (2015) and Electricity Act (2016), which require the Utility to obtain approval from the Authority for its IRP and accompanying procurement plan. The IRP must outline a plan for procuring resources for electricity generation that meets the purposes of the Act and Government policy. The procurement plan for importing any new fuel and associated infrastructure for electricity generation must be assessed and approved by the Authority before the Utility may pass on the costs of procuring the resources to its customers.

The purposes of the Act include:

- "To promote the use of cleaner energy sources and technologies, including alternative energy sources"
- "To promote economic efficiency and sustainability in the generation, transmission, distribution and sale of electricity."

The Utility is required to consider new generation capacity in its IRP. It must consider procuring alternative fuel types to the island, complying with the purposes of the Act and with Government policy. In addition, the Utility must replace its heavy fuel oil generating plants that need to be decommissioned due to their age.

The Government endorses cleaner, economically efficient alternative fuels, such as LCF, for Bermuda's electricity generation matrix. The Government supports the Utility and the

Authority in considering the viability of procuring any kind of LCF and the ancillary infrastructure, following the IRP process required by Policy and Law.

The Government supports processes that promote efficient competition to keep costs low. The Utility must propose to the Authority a procurement plan for any alternative energy sources and the associated infrastructure for electricity generation. Effective and efficient procurement options for alternative fuel and associated infrastructure may include:

- The Utility owning and operating the infrastructure required to deliver the alternative fuel to the generating plant at Pembroke, and competitively procuring the alternative fuel through a long-term contract with a third party
- The Utility competitively procuring a third party to deliver the alternative fuel directly to the generating plant at Pembroke through a long-term contract. The third party would be responsible for buying the alternative fuel and for building, owning, and operating all ancillary infrastructure for delivering the fuel
- The Utility competitively procuring the alternative fuel through a long-term contract, and competitively procuring a third party to build, own, and operate all ancillary infrastructure for delivering the fuel.

### **3.2 Ensure transparent and competitive fuel procurement for electricity generation**

The Government will:

- Require all bulk generation licensees who use fuels to generate electricity to procure the fuel in a competitive and transparent way
- Empower the Authority to assess the procurement process used by bulk generators for fuel contracts for electricity generation.

### **3.3 Ensure transparent and competitive fuel procurement for the public sector**

The Government will make procurement for the public-sector fuel contract transparent and competitive. In pursuit of this policy, the Government will:

- Continue to aggregate public sector demand by using a single entity, the Ministry of Public Works, to negotiate the contract for fuels
- Involve additional relevant public sector stakeholders, including the Departments of Public Transport and Marine and Ports, in conducting the procurement and negotiating the contract for fuels
- Encourage the participation of additional fuel suppliers.

### **3.4 Promote competition in fuel procurement for commercial contracts**

The Government will encourage competition in fuel procurement for commercial contracts, such as in the hospitality, construction, hospitals, and tourism industry. It will do so by communicating information to industry members on how to secure competitive pricing and high-quality service from fuel contracts.

## **4 Maintain a safety regime for the fuels sector to protect public health and the environment**

It is the Government's policy to maintain a safety regime that effectively protects public health and the environment from the potential harms of fuels sector activities. Bermudian residents rely on Government to put safeguards in place to ensure public safety and the integrity of our natural environment.

The existing rules and standards for handling, using, storing, and disposing of fuel generally work well to protect public safety and the environment. However, gaps may still exist. The codes applied in Bermuda come from local laws, and sometimes refer to international minimum standards set in the United States, including the International Building Code, the International Energy Conservation Code, the National Electrical Code, and the National Fire Protection Association codes. Because these standards have different origins and scope, gaps or contradictions between different standards may arise.

This Policy is a timely opportunity to review the fitness of local codes, and the organisation of different authorities that monitor and enforce those codes. Standards must be watertight and strong enough to protect the public and our natural environment. Authorities need sufficient staffing capacity and training in specialised skills to effectively monitor and enforce those standards.

To achieve this policy, the Government will:

- Assess, design, and implement an organisational plan for enforcing standards and issuing approvals
- Create a mechanism to ensure consistency and completeness in public safety and environmental standards
- Create a guide on permitting processes for private operators
- Codify emissions standards in law
- Enforce high quality and suitable composition of fuels through licensing terms and legislation
- Uphold effective and safe fuel storage and handling practices.

### **4.1 Assess, design, and implement an organisational plan for enforcing standards and issuing approvals**

The Government will commission a study to ensure administrative effectiveness in monitoring and enforcing standards and in issuing approvals. The purpose of the study is to:

- Design an organisational plan to monitor and enforce standards in the fuels sector
- Review the arrangement of authorities and mandates governing the safety, environment, emissions, transport, and building control for the sector
- Assess monitoring and enforcement capacity of responsible authorities to identify needs
- Identify opportunities for efficiency and coordination

- Identify workforce training and development needs to ensure Government departments have access to personnel with necessary skills to inspect and enforce standards
- Implement other strategies as recommended in the plan, to ensure effectiveness in the processes for enforcing standards and issuing approvals.

#### **4.2 Create a mechanism to ensure consistency and completeness in public safety and environmental standards**

The various standards and laws applied in the fuels sector have different origins and scope. This means gaps or contradictions between different standards may arise.

The Government will establish an inter-departmental mechanism such as a pre-appointed committee that meets when needed to:

- Update, revise, or replace the existing Building Authority (Petroleum) Regulations 1962 on fuel use, handling, and storage, to align with modern international standards appropriately suited to Bermuda
- Resolve potential inconsistencies in legal codes that outline standards for handling, transporting, using, and storing fuels and other hazardous materials
- Raise any potential deficiency in existing codes to agree on a solution to amend the deficiency.

#### **4.3 Create a guide on permitting processes for private operators**

The Government will create and disseminate a guide to help private actors understand public approvals processes for operating in the fuels sector. Helping the private sector better understand the relationship between different Government and quasi-government entities—as well as its own responsibilities and standards—is an important step to reduce barriers to market entry. The purpose of the guide is to:

- Explain different Government authorities' roles in inspecting and enforcing standards
- Identify the type of operations that require approval
- Outline the process for obtaining each approval and how these approvals relate to each other
- Identify timelines needed for processing and applying for approvals
- Identify the evidence that authorities require for approving operations.

#### **4.4 Codify emissions standards in law**

The Government will set and enforce binding emissions standards for all vehicles to which the Transport Control Department issues a licence. The Government will consider practical and sensitive measures to assist owners of non-compliant legacy vehicles to comply with the law.

#### **4.5 Enforce high quality and suitable composition of fuels through licensing terms and legislation**

The Government will create provisions in law, labelling requirements, and licensing conditions to enforce high quality and suitable composition of the fuels that are used to generate energy



on the island. The legal provisions are intended to define a list of substances prohibited for use as fuels.

#### **4.6 Uphold effective and safe fuel storage and handling practices**

The Government will ensure sufficiently prudent standards are in place for storing and handling fuels on the island by maintaining a coherent legal regime to:

- Protect public health and the environment from contamination and fumes arising from fuel leaks
- Ensure adequate supplies are stored for emergencies.

The Government intends to pass a law to codify emergency and disaster planning measures. This law will formalise practices for storing emergency supplies of fuel for transport and stationary uses in the event of a national disaster.

## **5 Promote low-carbon alternatives, energy efficiency, and fuel conservation for transport and stationary uses of fuels**

It is the Government's policy to promote low-carbon alternatives, energy efficiency, and fuel conservation for the transport sector and in stationary uses of fuels in homes and businesses. Improving energy efficiency means consuming less energy for an equivalent level of production or welfare, thanks to technologies, equipment, and fuels that perform better. Promoting low-carbon alternatives means replacing energy from traditional fossil fuels with lower-emission options such as biofuels or other renewable fuels, electricity generated from renewable sources, and natural gas or other gaseous fuels. Fuel conservation means not consuming fuel when it is not necessary, through more conscious practices.

Energy efficiency and conservation measures are the most economically viable way of keeping the fuels sector affordable and least-cost for Bermudian residents. They are also the most effective way to mitigate the public health and environmental costs that result from burning fossil fuels.

This Policy conforms with the Electricity Policy (2015), which prioritises increasing efficiency in the end-use of electricity. The Government will implement initiatives for energy efficiency that align with the public interest. Our specific climate conditions, fuel supply constraints, economic situation, and relative isolation mean that investing in energy-efficient appliances and creating high efficiency standards are both economically viable and beneficial to our national security interests.

Bermuda has the resources to improve energy efficiency and conserve fuels, but various obstacles in the market make it difficult to optimise efficiency. For example, information barriers create a lack of awareness among users about the cost savings available through investing in energy efficiency in homes, workplaces, and on the roads. To achieve this policy, the Government will implement initiatives to:

- Improve energy efficiency for stationary uses of fuel
- Promote energy-efficient vehicles for private transport
- Transition to fuel-efficient public transport
- Assess the market for more fuel-efficient ferries.

### **5.1 Improve energy efficiency for stationary uses of fuel**

The Government will assess the scope for improving energy efficiency in stationary uses of fuels on the island by commissioning a public survey. The purpose of the survey will be to:

- Obtain data on the penetration of different types of equipment used for heating, cooking, and process boilers in homes and businesses on the island
- Identify the major barriers preventing consumers from upgrading inefficient and costly equipment to better performing technologies.

The Government will use the data produced with the survey to improve energy efficiency in stationary uses of fuels in homes and businesses by:

- Conducting a public information initiative on the possible savings from using energy-efficient equipment for the residential and commercial sector
- Expanding fiscal incentives for energy-efficient equipment, and allow energy service companies to install such equipment at residential and commercial sites
- Encouraging private banks to offer a loan scheme with favourable terms for energy-efficiency investments for fuel conservation, which could fund:
  - Energy service companies to implement fuel-efficiency solutions for the residential and commercial sectors
  - Individuals and companies to upgrade their homes and commercial equipment for improved energy efficiency.

For example, gas-powered, solar-powered, and heat pump water heaters can provide savings of 75 percent on the cost of heating water for a residential or commercial building. Upgrading old process boilers for industrial uses can also bring considerable savings in fuel costs.

## **5.2 Promote energy-efficient vehicles for private transport**

The Government will promote energy-efficient road vehicles in Bermuda by:

- Providing more information about vehicle efficiency and lifetime costs of vehicle ownership
- Creating additional incentives for investing in energy-efficient vehicles
- Requiring automotive dealers to publicise data on lifetime vehicle ownership costs
- Buying energy-efficient vehicles to use for civil service fleet, coordinating among different Government stakeholders to ensure a coherent and prudent procurement of vehicles.

## **5.3 Transition to fuel-efficient public transport**

The Government will progressively convert the fleet of buses for public transport to more efficient vehicles, such as buses running on electric, hybrid, or alternative fuel-powered motors.

## **5.4 Assess the market for more fuel-efficient ferries**

The Government will assess the viability of introducing more fuel-efficient ferries to the public ferry service. Based on the findings, the Government will progressively convert the fleet to cleaner alternatives.