



**DEPARTMENT OF ENERGY**

# **Energy Sector Updates**

*2021 Virtual Energy Investment IECs*

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**Energy Policy and Planning Bureau**

# OUTLINE

## 01. WHERE ARE WE RIGHT NOW?

a look at the country's energy profile, our power sources, and our current power situation

## 02. WHERE DO WE WANT TO BE IN THE FUTURE?

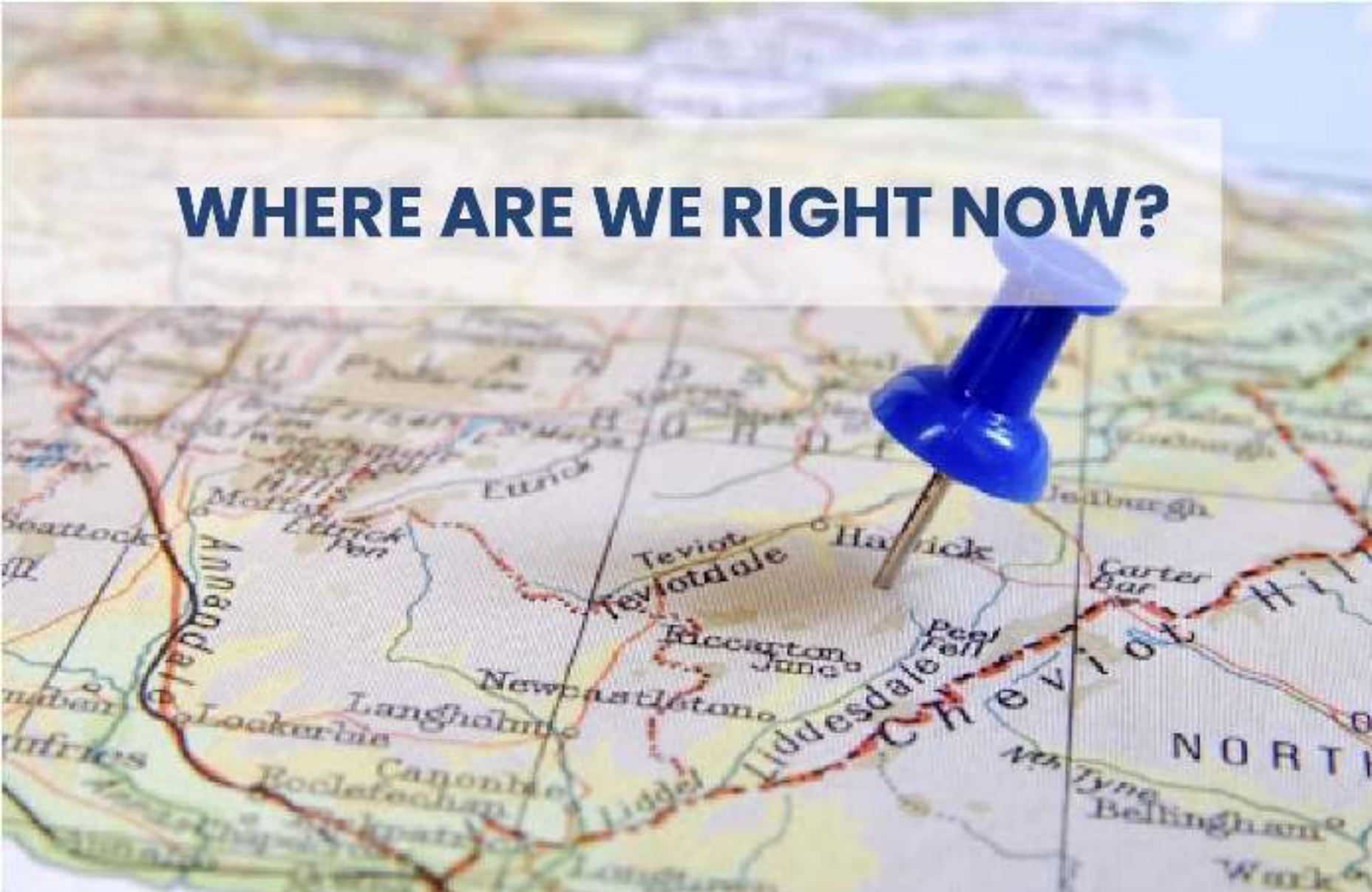
Department of Energy (DOE) envisions the country's energy future

## 03. HOW DO WE GET THERE?

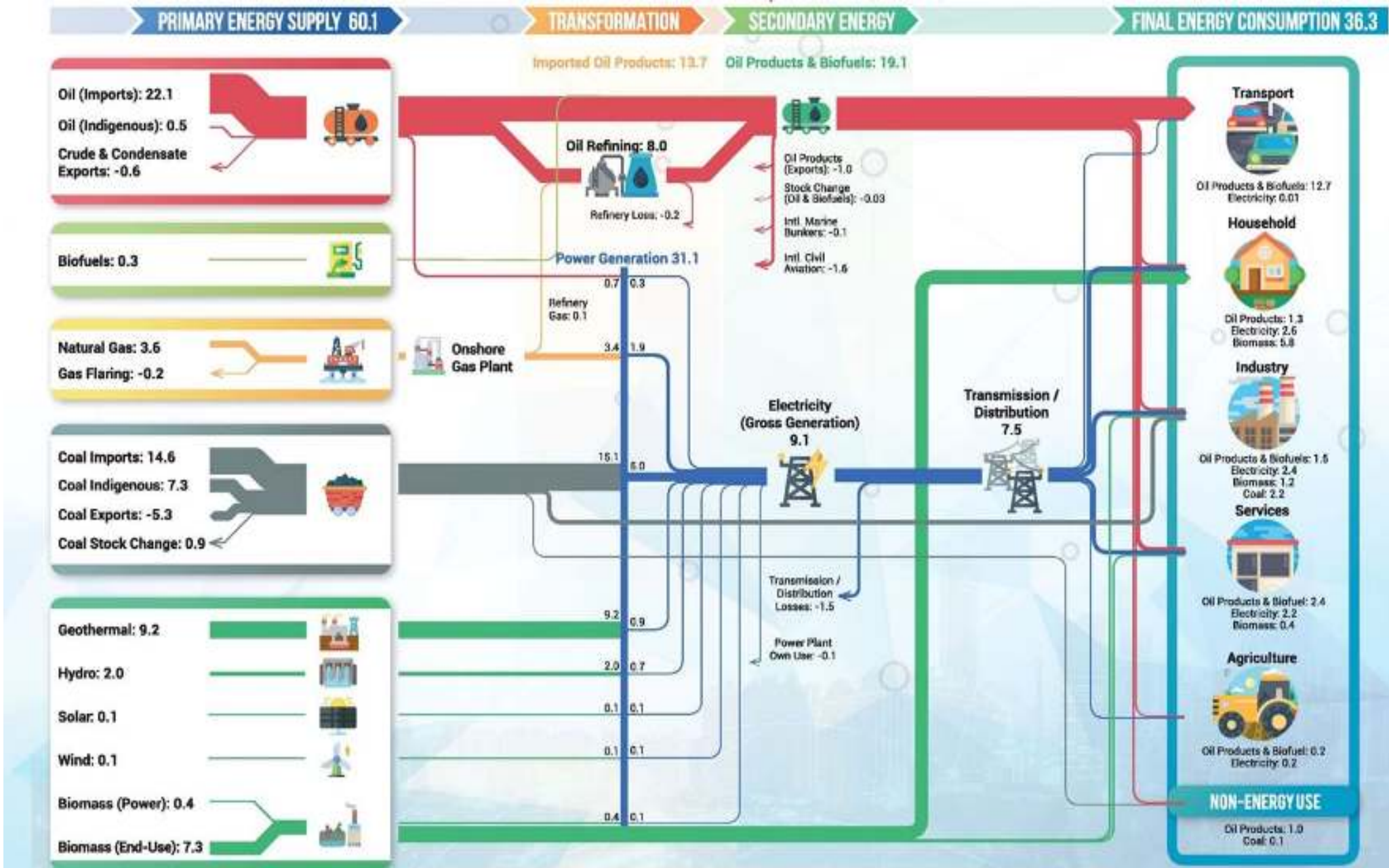
the various strategies we have been undertaking to help us realize our energy goals



# WHERE ARE WE RIGHT NOW?



# 2019 Reference Energy System, in MTOE

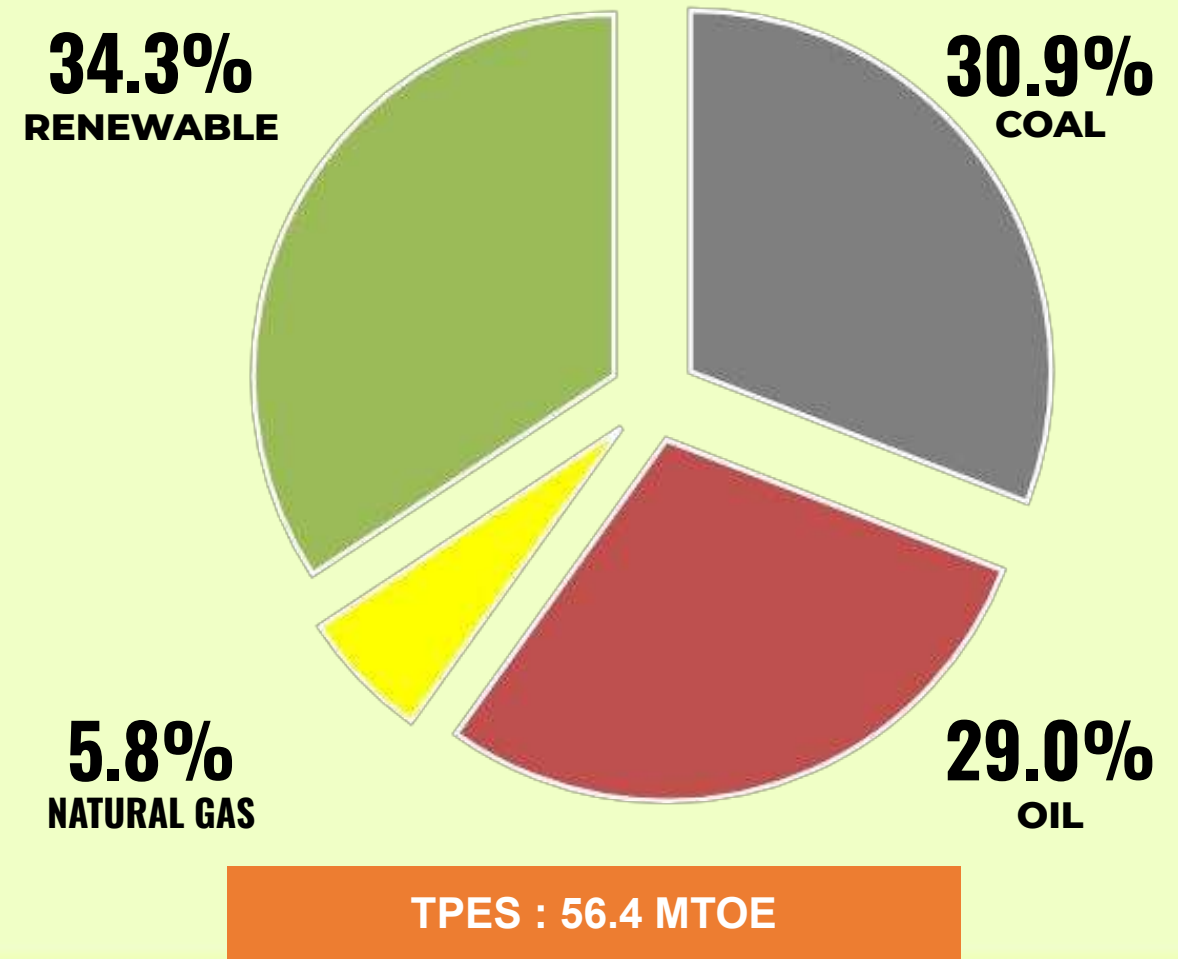


# PH ENERGY PROFILE

	2018	2019
OIL	33.5%	32.1%
RENEWABLE	33.1%	32.8%
COAL	27.4%	29.1%
NATURAL GAS	6.0%	6.0%
<b>TPES</b>	<b>59.7 MTOE</b>	<b>60.1 MTOE</b>

	2018	2019
INDIGENOUS	50.9%	51.4%
IMPORTED	49.1%	48.6%

## 2020 Total Primary Energy Supply



# 2020 FINAL ENERGY DEMAND MIX: Total : 32.4 MTOE

## BY SECTOR



9.8 MTOE | **30.4%**  
Transport



4.6 MTOE | **14.2%**  
Services



10.0 MTOE | **31.0%**  
Households



0.4 MTOE | **1.3%**  
Agriculture



6.2 MTOE | **19.2%**  
Industry



1.3 MTOE | **3.9%**  
Non-Energy Use

## BY FUEL



16.0 MTOE | **49.5%**  
Oil



1.6 MTOE | **5.0%**  
Coal



7.2 MTOE | **22.1%**  
Electricity



0.5 MTOE | **1.5%**  
Biofuels



7.1 MTOE | **21.8%**  
Biomass



0.04 MTOE | **0.1%**  
Natural Gas



# 2020 CAPACITY AND GENERATION MIX

## Installed Generating Capacity TOTAL: 26,250 MW



10,944 MW | 42%  
Coal



7,617 MW | 29%  
Renewable Energy



4,237 MW | 16%  
Oil Based



3,453 MW | 13%  
Natural Gas

## Power Generation TOTAL: 101,756 GWh



58,176 GWh | 57%  
Coal



21,609 GWh | 21%  
Renewable Energy



19,497 GWh | 19%  
Natural Gas



2,474 GWh | 2%  
Oil Based



# WHERE DO WE WANT TO BE IN THE FUTURE?

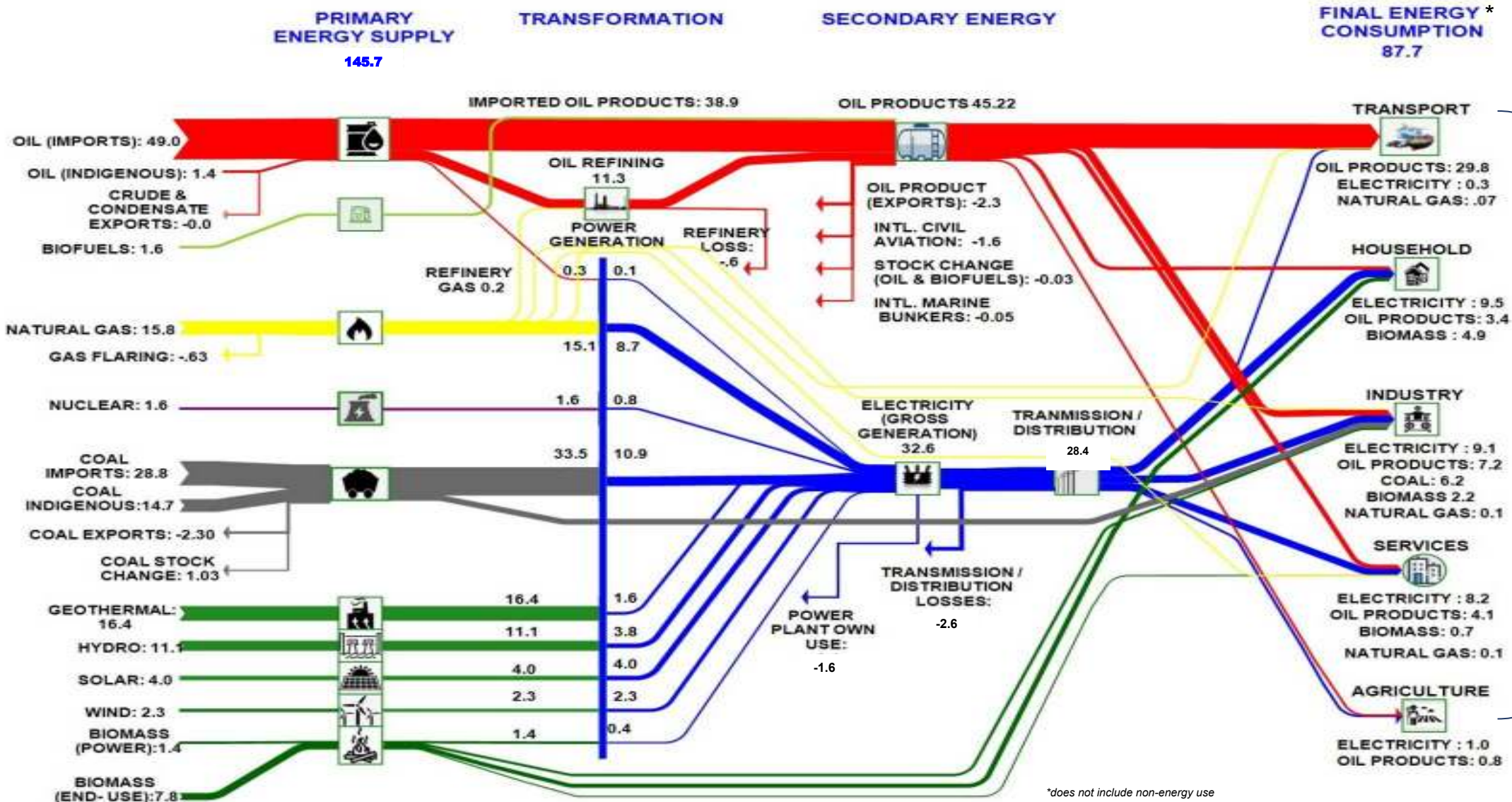
PHILIPPINE ENERGY PLAN  
2018-2040



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# 2040 CLEAN ENERGY SCENARIO (CES) Energy Flow, in MTOE



ENERGY EFFICIENCY

\*does not include non-energy use

# Philippine Energy Plan Targets

## Boost Indigenous Energy Production

- Reserves : 766 MMT Coal, 57 MMB Oil, 6 TCF Gas
- Production: 282 MMT Coal, 115 MMB Oil, 4 TCF Gas
- RE – 45,337 MWe

## Install Additional Capacities

- 75,325 MW Generating Capacity under CES
- Complete the Programmed Transmission and Inter-Island Connection
- Put up about 13 MTPA LNG Terminals
- Expand Oil Storage Capacity
- Establish Strategic Petroleum Reserve

## Promote & Expedite Investment

- Develop Local Energy Plans
- Operate full on-line processing of permits and licenses
- Set Minimum Energy Performance Standards

## Promote Consumer Welfare

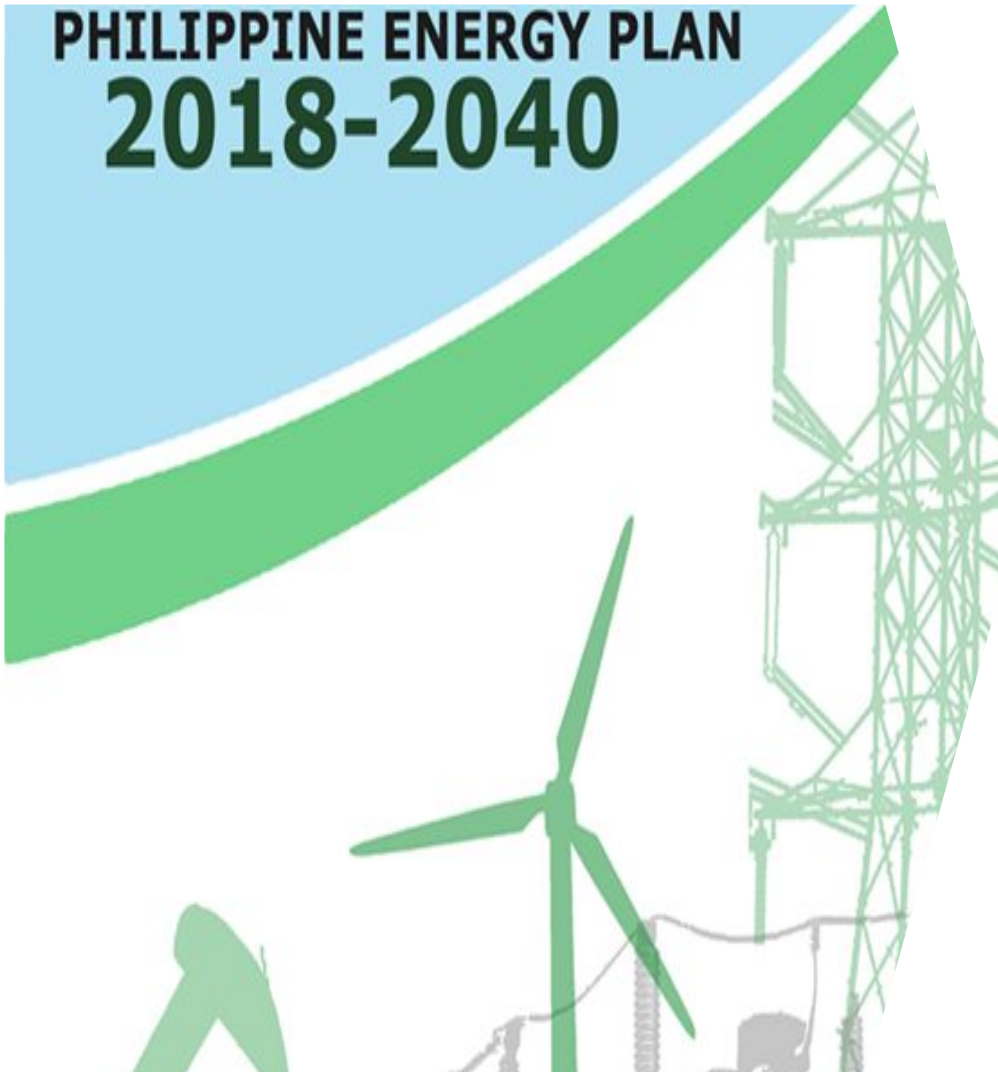
- 100% Household Electrification
- Ensure 24/7 Energy Supply
- Advocate Efficiency as a Way of Life for Filipinos

## Strengthen Partnerships – local and international

- Adoption of new and more efficient technologies
- Policy Review
- Promote investments in the energy sector



# INVESTMENT AND EMPLOYMENT OPPORTUNITIES IN THE ENERGY SECTOR



**PHILIPPINE ENERGY PLAN  
2018-2040**

Sector	Investment (PhP Billion)	Job Generation
Renewable Energy (RE)	2,984.4	131,240
Energy Efficiency & Conservation	1.6	390
Alternative Fuels & Technologies	0.6	1,050
Oil and Gas	0.1	
Coal	609.3	1,000
Downstream Oil Industry	10.3	1,437
Downstream Natural Gas	64.6	4,825
Power Development		
<i>Generation – CES</i>	6,198.8	626,073
<i>Transmission</i>	350.6	
<i>Distribution</i>	821.2	
<b>TOTAL</b>	<b>11,041.4</b>	<b>766,015</b>

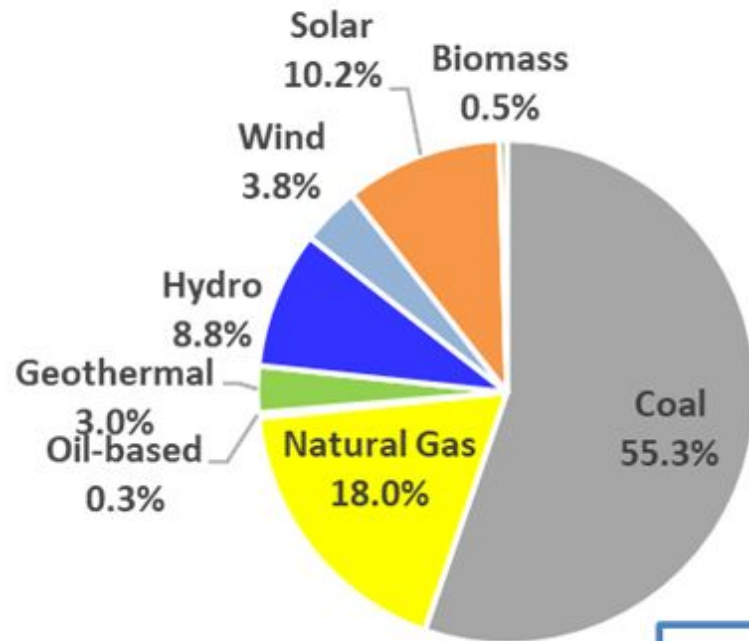


# REFERENCE SCENARIO VS CLEAN ENERGY SCENARIO

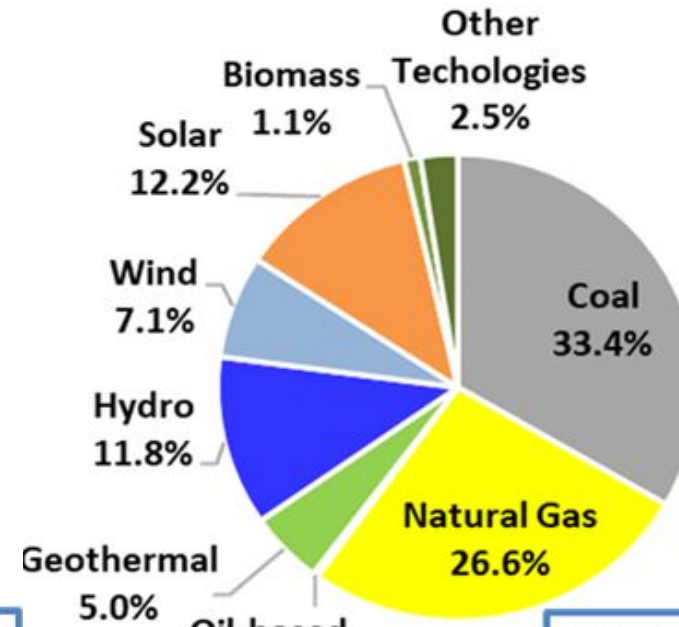
	Capacity	Total Capacity Additions								Total Capacity Additions by 2040	
	2018	2019		2020		2021-2030		2031-2040		REF	CES
		REF	CES	REF	CES	REF	CES	REF	CES		
<b>Coal</b>	8,844	956	956	3,250	3,250	5,850	4,800	12,570	1,500	22,626	10,506
<b>Oil-Based</b>	4,292	-	-	25	25	90	50	0	0	115	75
<b>Natural Gas</b>	3,453	330	330	8	8	968	828	13,480	17,040	14,787	18,207
<b>Renewable</b>	<b>7,226</b>	<b>576</b>	<b>576</b>	<b>1,291</b>	<b>1,291</b>	<b>17,537</b>	<b>18,530</b>	<b>14,885</b>	<b>24,940</b>	<b>34,289</b>	<b>45,337</b>
Geothermal	1,944	-	-	-	-	697	697	0	900	697	1,597
Hydro	3,701	-	-	-	-	6,127	6,800	1,532	3,082	7,659	9,882
Biomass	258	7	7	85	85	310	310	0	890	402	1,292
Solar	896	478	478	1,115	1,115	8,904	8,904	10,657	13,567	21,154	24,064
Wind	427	91	91	91	91	1,500	1,820	2,696	6,501	4,378	8,503
Other Technology						0	0	0	1,200		1,200
<b>Total</b>	<b>23,815</b>	<b>1,862</b>	<b>1,862</b>	<b>4,574</b>	<b>4,574</b>	<b>24,446</b>	<b>24,209</b>	<b>40,935</b>	<b>44,680</b>	<b>71,817</b>	<b>75,325</b>



# REFERENCE SCENARIO VS CLEAN ENERGY SCENARIO



**2040 REF**  
Total Generation: 394.5 TWh



**2040 CES**  
Total Generation: 378.8 TWh

**Power Generation Mix by 2040**

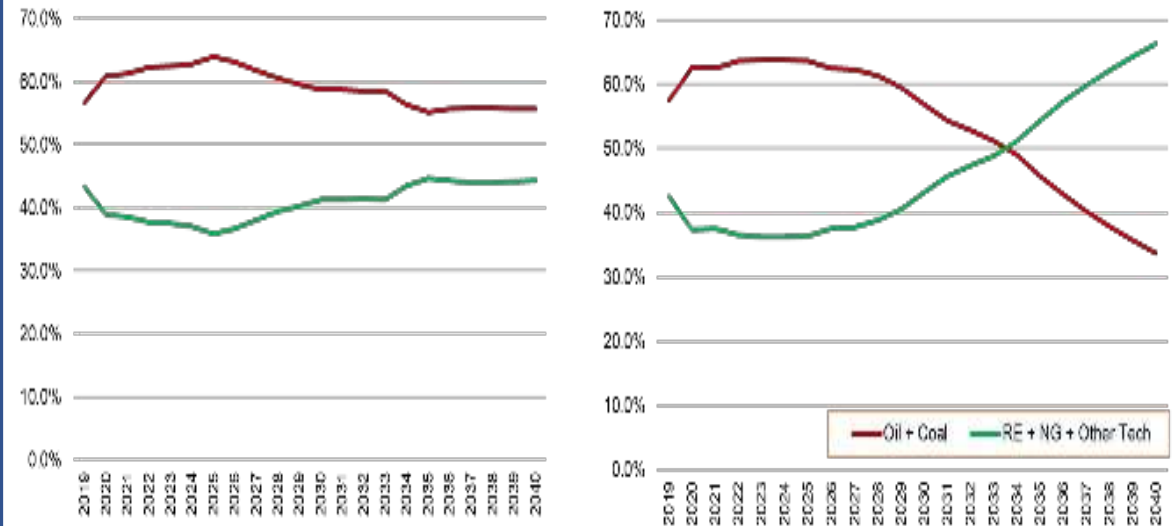


# Clean Fuels and Technologies Dominating the Power Mix



**By 2040: share of Clean energy (Renewable + Natural Gas) is seen to increase to 63.8% under the CES vis-à-vis 44.3% share under the Reference Scenario**

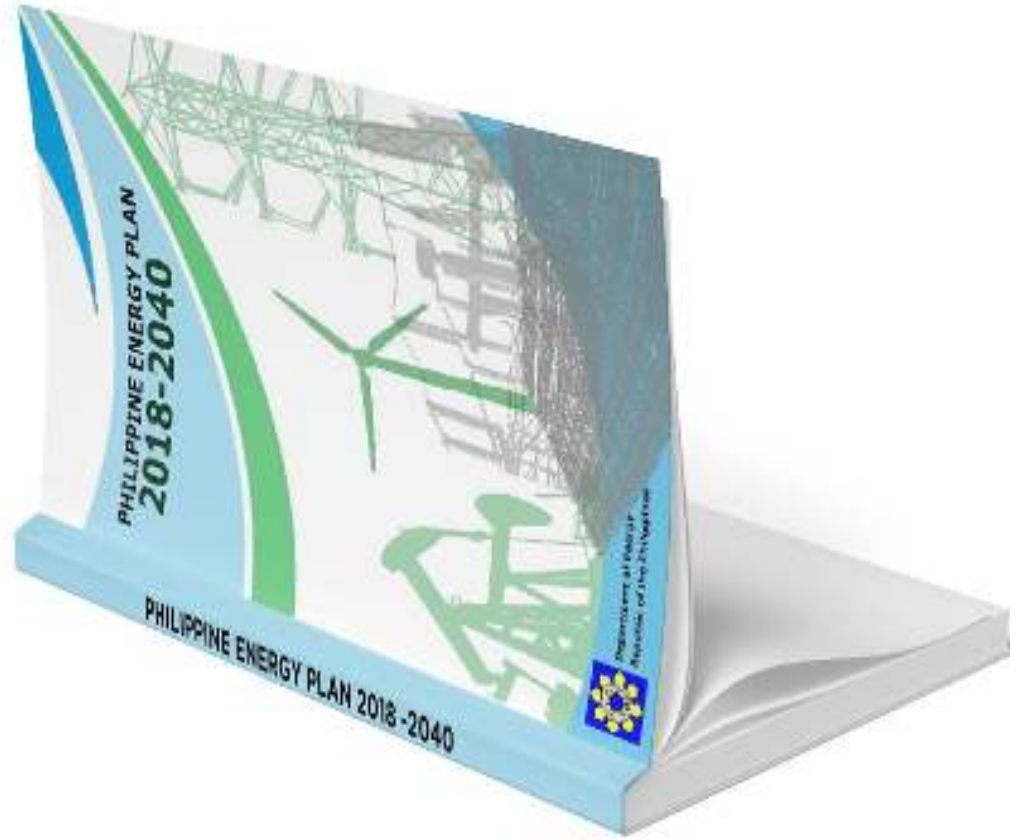
**Power Mix: 2019 to 2040, Fuel Shares: Reference and Clean Energy Scenario**



Reference Scenario

Clean Energy Scenario





# Enabling Policies and Programs

Policies, programs and laws for the benefit of consumers and industry players

- RPS
- GEAP
- Net Metering
- **GEOP**
- RE Paradigm Shift
- National Wealth Tax
- GHG Reduction

CONVENTIONAL AND RENEWABLE ENERGY



- Uniform Bill Format
- Murang Kuryente Act of 2019
- Suspension of UC-EC
- CSP
- **RCOA**
- Benefits to Host Communities

POWER SECTOR



- Fuel Cost Unbundling
- Fuel Quality and Facility and Process Standards Development
- Strategic Petroleum Reserve/Interim Oil Stockpiling

DOWNSTREAM OIL INDUSTRY



- **Energy Efficiency and Conservation Act of 2019**
- GHG Reduction
- Energy Performance Standards
  - Energy Labeling
  - Energy Audit

ENERGY EFFICIENCY AND CONSERVATION



- Multi-partite Monitoring Team (MMT)
- Climate Change Mitigation and Adaptation
- Energy Sector NDCs
- GHG Reduction

ENVIRONMENTAL MANAGEMENT



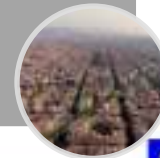
- Energy Resiliency Policy
- Task Force on Energy Resiliency (TFER)
- National Energy Contingency Plan (NECP)

ENERGY RESILIENCY



- **LGU Energy Code (DOE and DILG Joint Memorandum Circular No. 2020-01)**
- EVOSS
- EO 30 and EPNS
- EODBC Act of 2018
- AO 23

INVESTMENT PROMOTION



- Consumer Offices of the DOE, ERC, NEA, and DUs

CONSUMER WELFARE



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**THANK YOU AND MABUHAY!**