In Small Island Economies will Consumers Benefit from the Liberalization of T&D?

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ORGANISATION OF CARIBBEAN UTILITY REGULATORS

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Introduction

- ✓ The UK and Norway were among the first countries to introduce competition into the wholesale and retail markets as well as unbundling services early in the 1990s.
- ✓ Power sector reforms were also successfully completed in Denmark, Finland, Iceland, Sweden and their associated territories, Argentina, Chile, Texas, portions of Australia.
- ✓ Successful implementation of liberalization reforms is not easy. There is a risk that costly performance problems may emerge when the transformation is implemented incompletely or incorrectly.
- ✓ California is the textbook case of reforms gone bad, though it is not at all clear that the right lessons have been learned from that experience.

Introduction

- Small Power Systems - Installed capacity of **1000MW*** or less

- World Bank Occasional Paper (1995)
  - In 1990, sixty (60) countries had capacities below 150MW;
  - another 30 had installed net capacity between 150 and 500MW,
  - and 17 countries had between 500 and 1000 MW

✓ Undoubtedly there are economic benefits to be gained from liberalization

Question

Can developing countries realize these benefits without compromising previous goals in particular security of supply?

***Robert Bacon, "Appropriate Restructuring Strategies for the Power Generation Sector: The case of Small Systems". World Bank Occasional Paper No.3 p.3 (1995)**

Generic Power Market Models

1. Monopoly Model

- Vertically Integrated
- Full monopoly power in the service territory
- Self-regulation of tariff or is regulated by some outside entity

2. Single Buyer Model

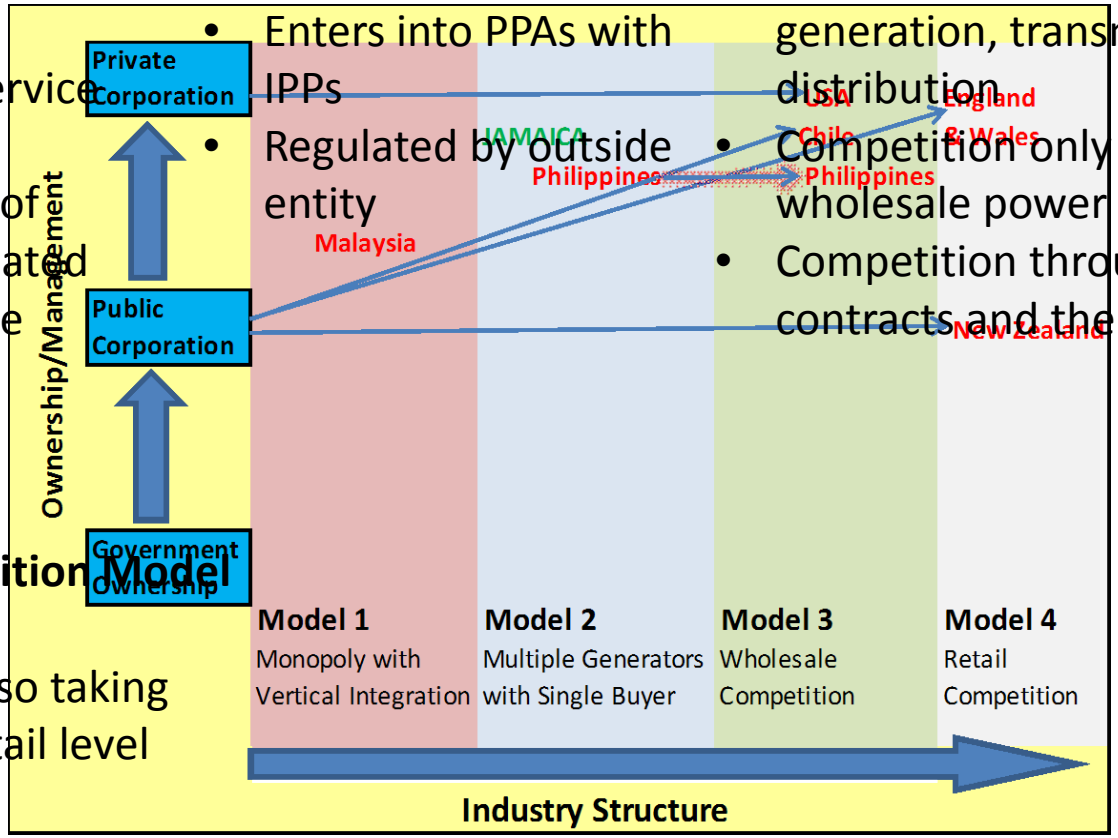
- Vertically Integrated
- Enters into PPAs with IPPs
- Regulated by outside entity

3. Wholesale Competition Model

- Unbundling of generation, transmission and distribution
- Competition only takes place at the wholesale power market level
- Competition through bilateral contracts and the spot market

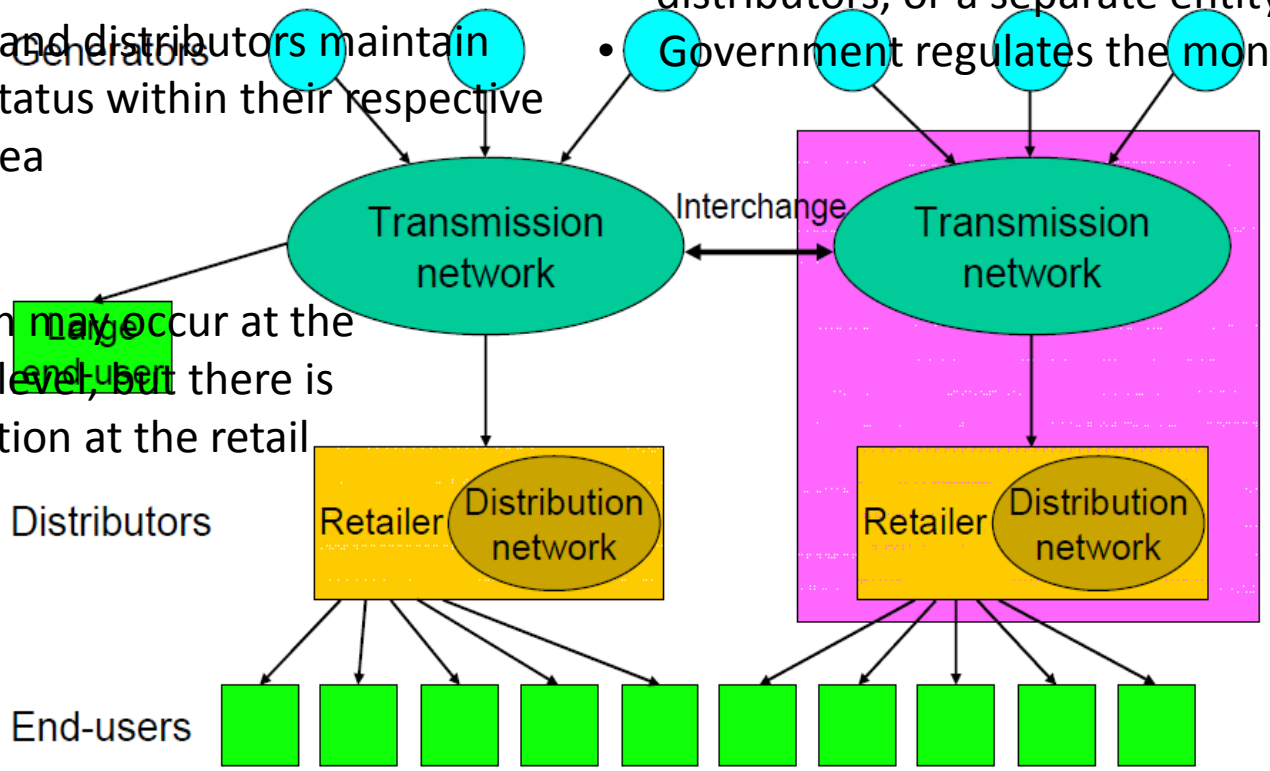
4. Retail Competition Model

- As in Model 3
- Competition also taking place at the retail level



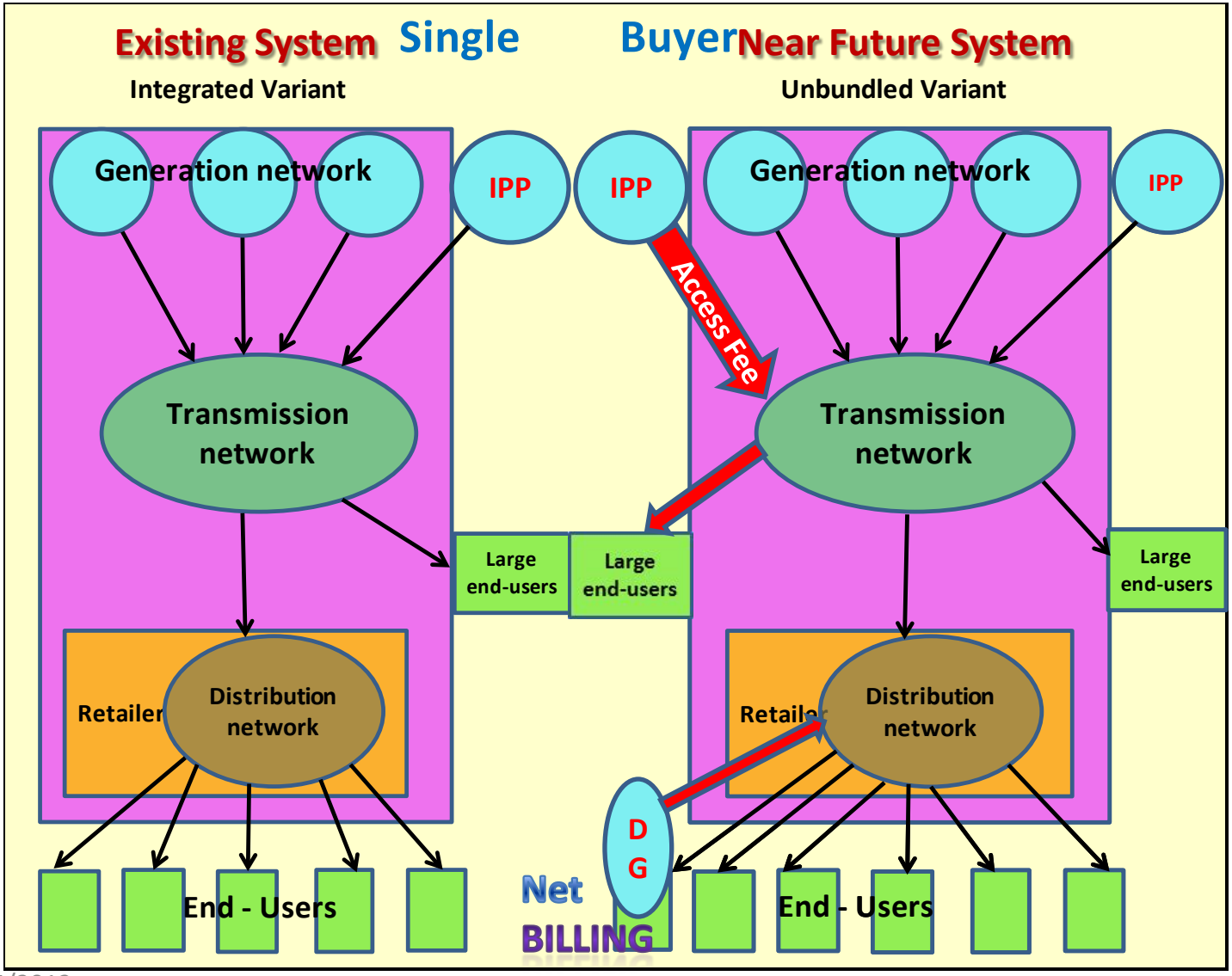
Model 2: Unbundled Monopoly

- Generation is separated from all other functions
- Generators and distributors maintain monopoly status within their respective franchise area
- Transmission is provided by generators, distributors, or a separate entity or entities
- Government regulates the monopolies
- Competition may occur at the generation level, but there is no competition at the retail level



Source: Generic Models for Electricity Industry Structure Energy Futures Australia Pty Ltd.

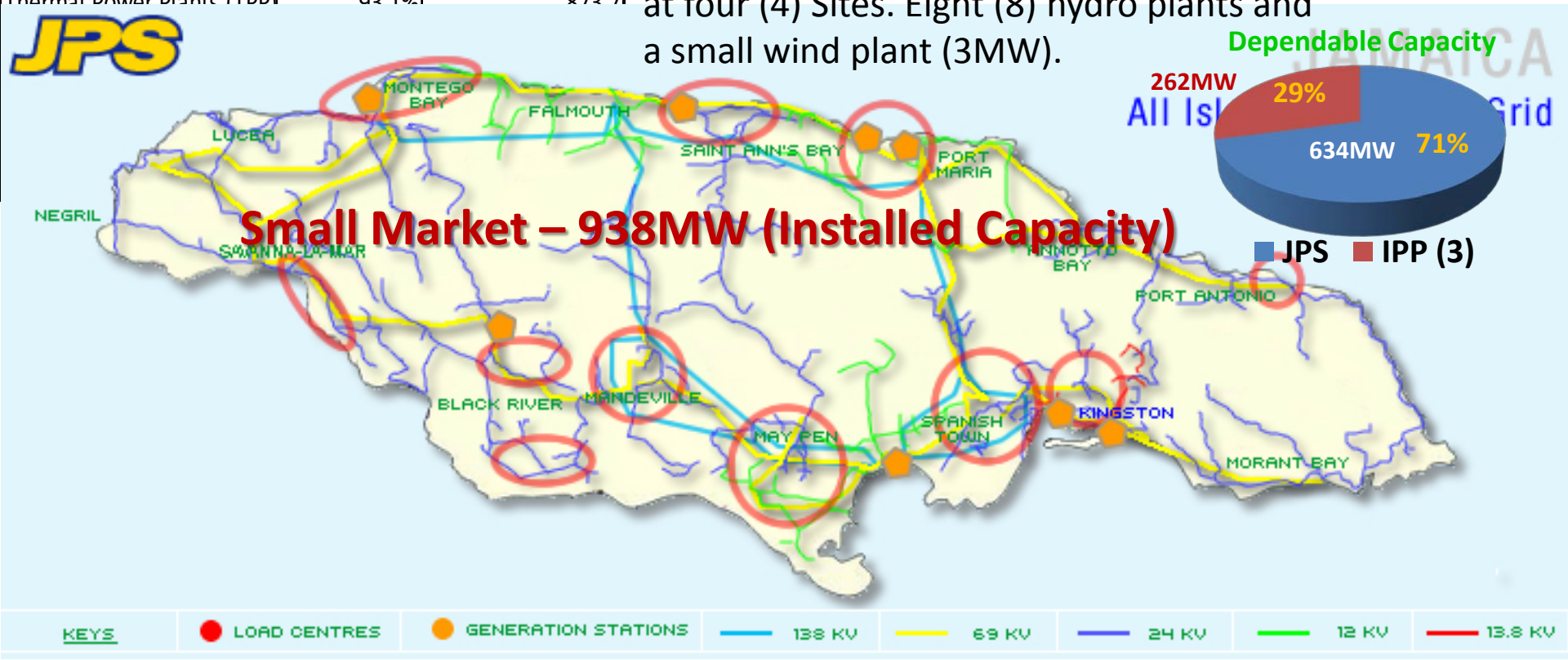
Model 2: Variant Unbundled Monopoly



Jamaica Electricity Market

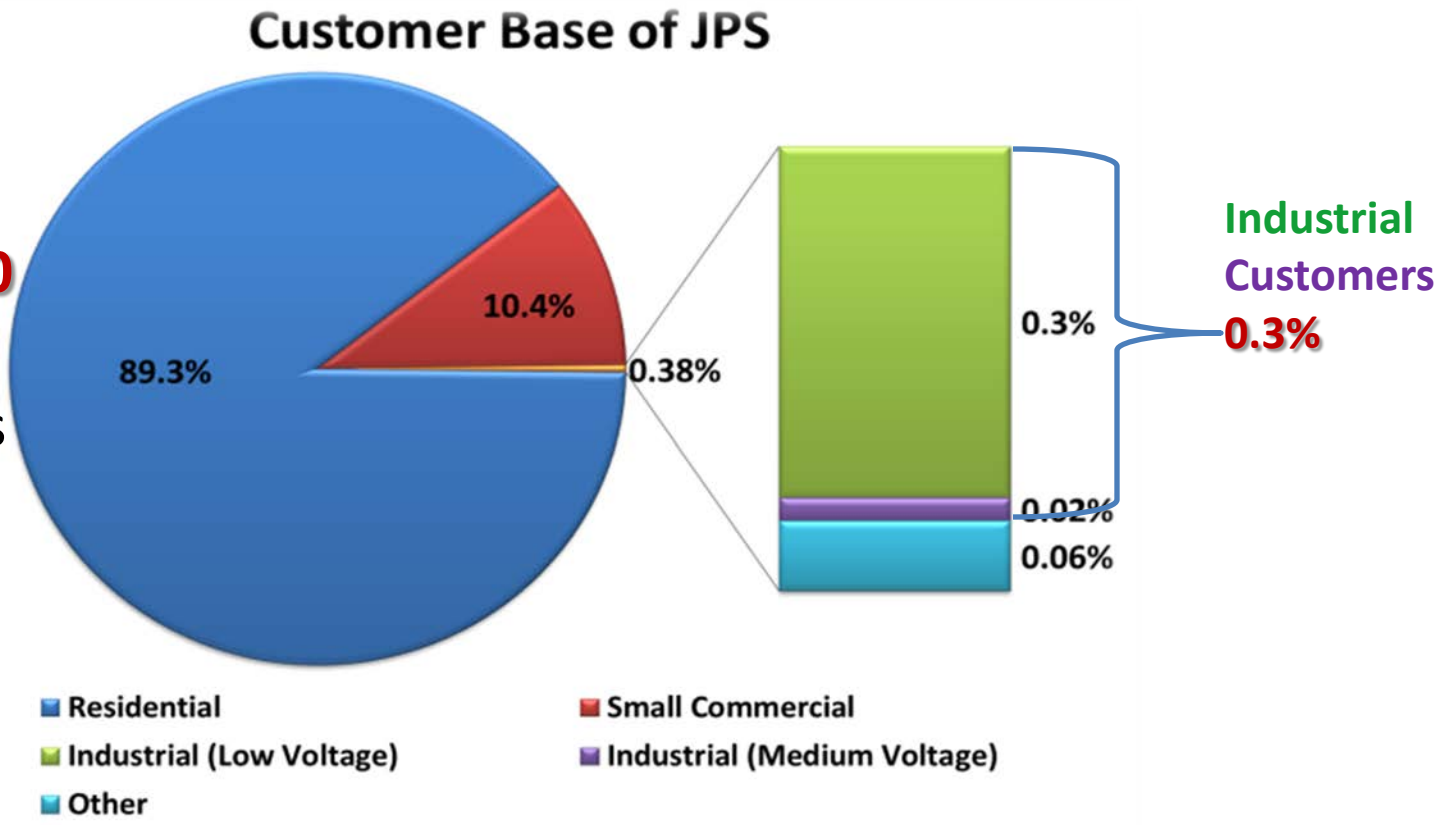
JAMAICA ELECTRICITY SYSTEM	
Plant Types	Total Capacity (MW)
Thermal Power Plants (TPP)	93.1% 873.7

The Single Buyer - JPS production capacity consists of eighteen (18) thermal power generating units located at four (4) Sites. Eight (8) hydro plants and a small wind plant (3MW).



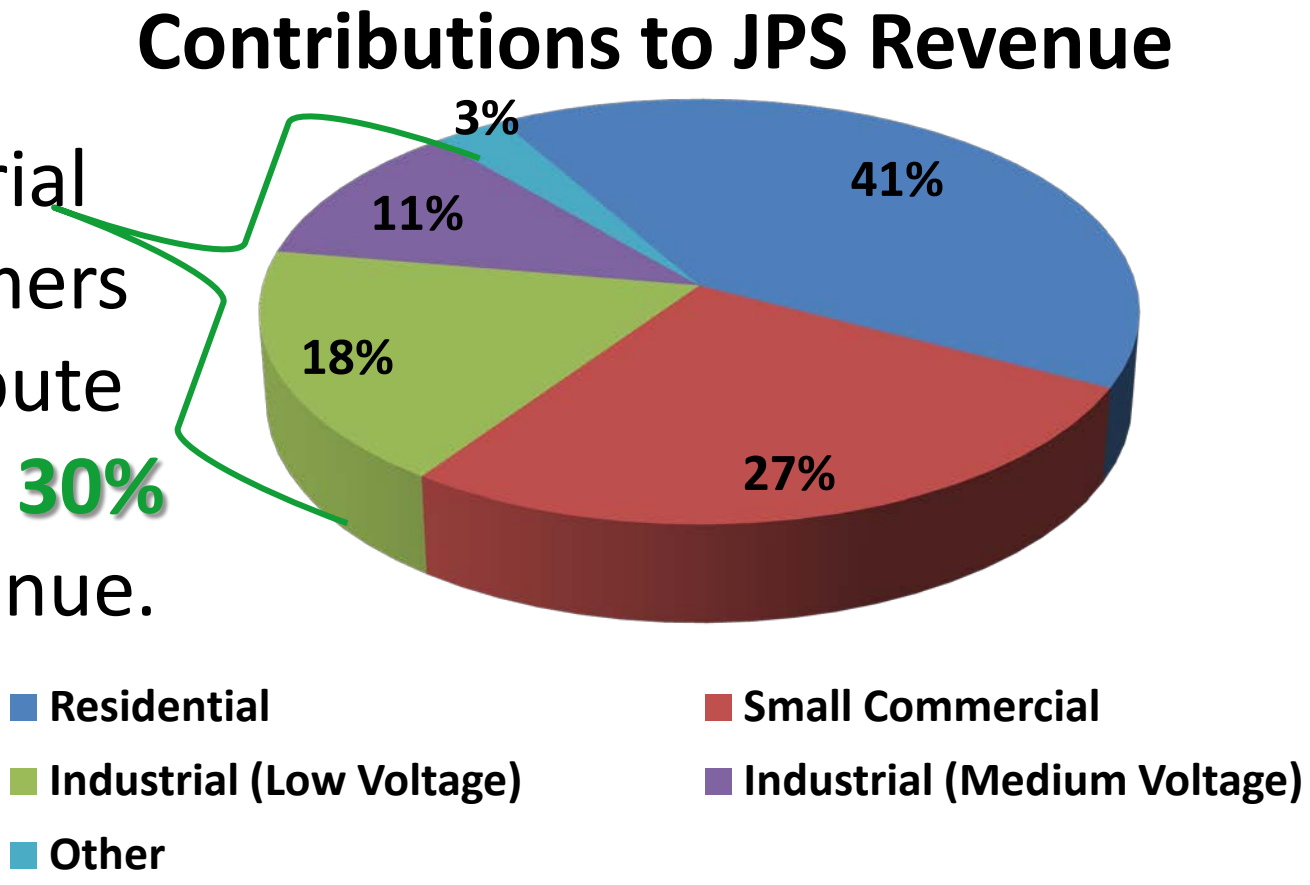
Jamaica Electricity Market

At present JPS serves over **580,000** residential and business customers

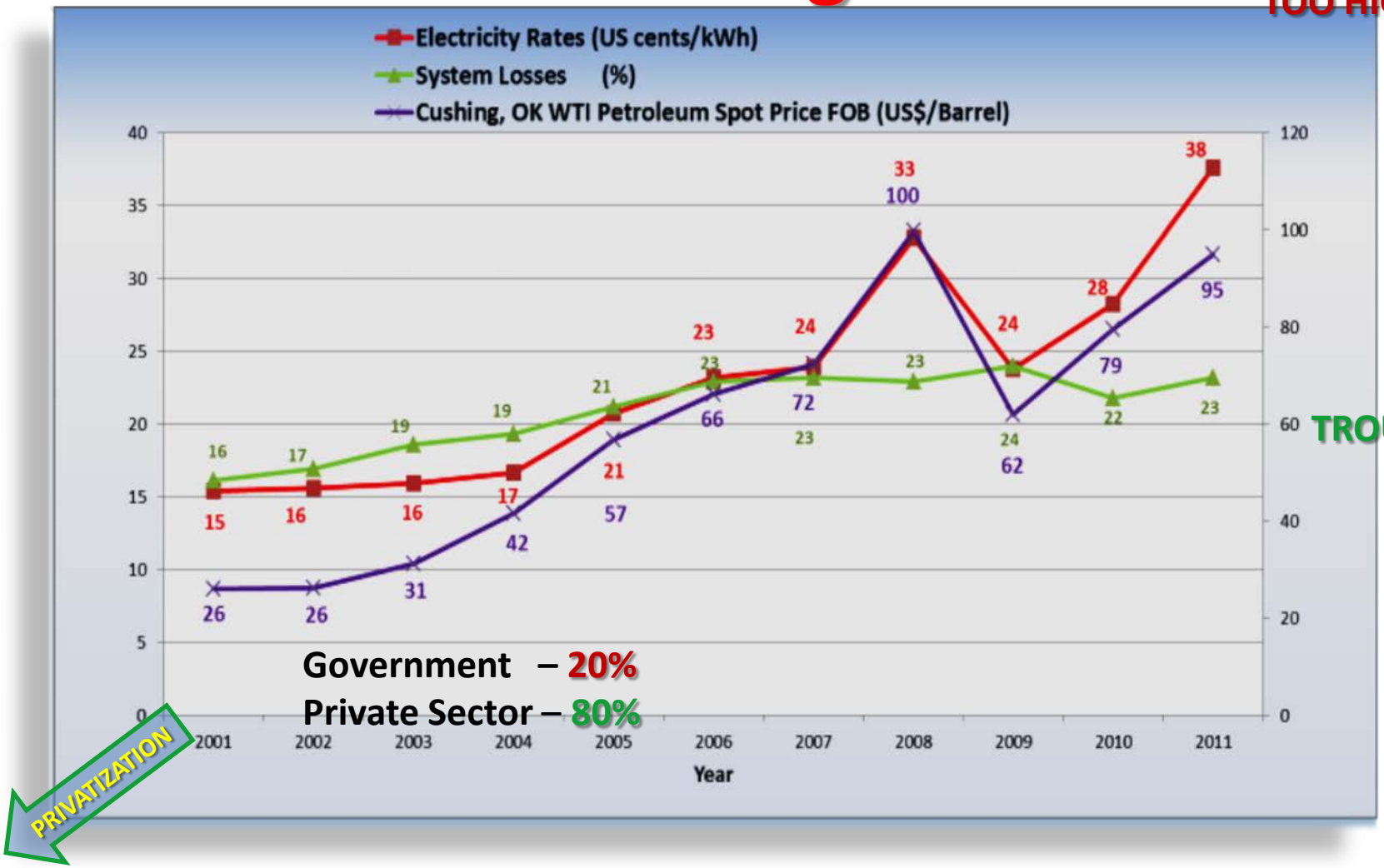


Jamaica Electricity Market

0.3% Industrial Customers contribute almost **30%** of revenue.



Jamaica Electricity Market - Challenges

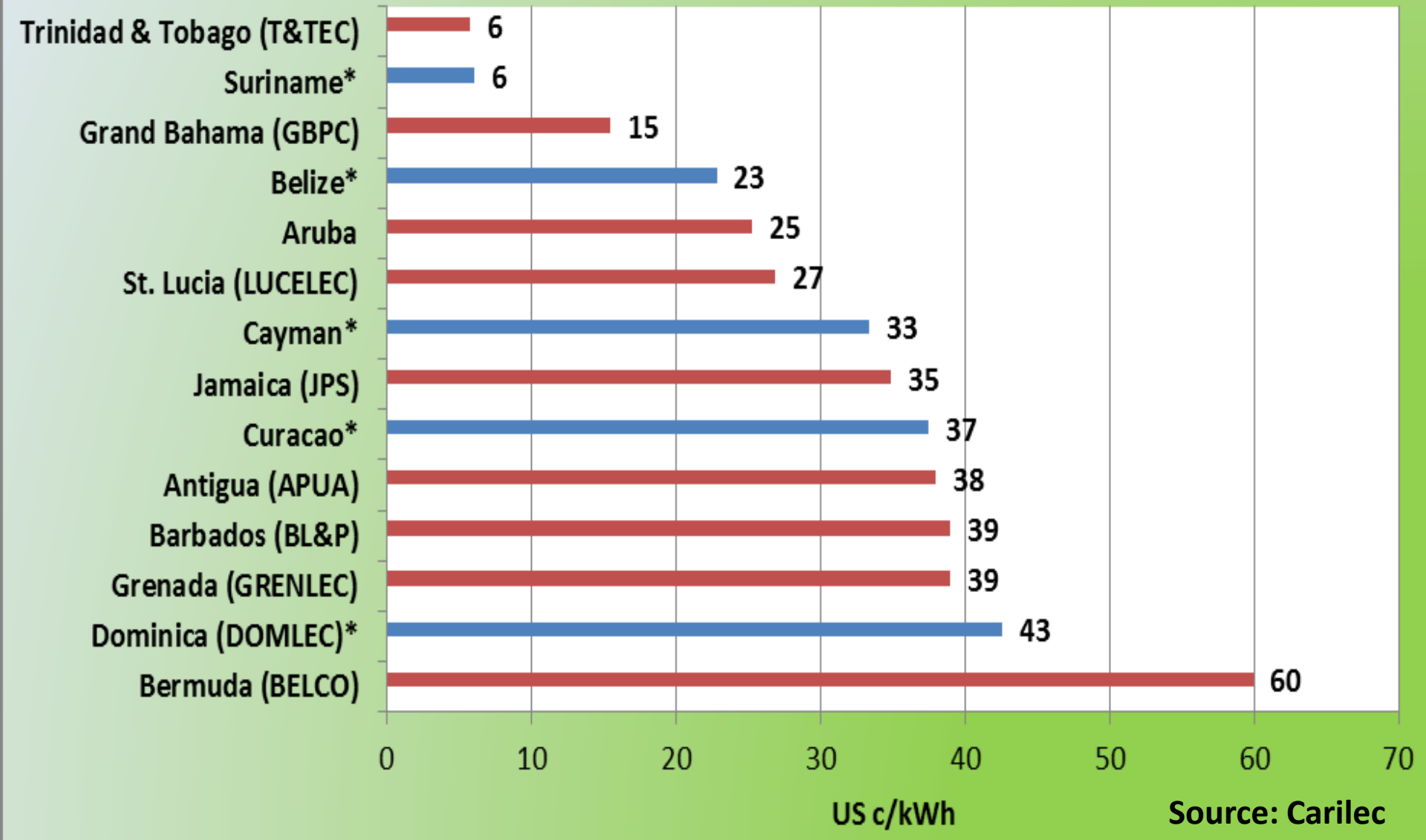


TOO HIGH

HIGH

TROUBLING

Average Price of Electricity in Selected Caribbean Countries Mid June (2011) *2010



Source: Carilec

Natural Monopoly Vs. Competition

Force the incumbent to improve efficiencies ultimately lowering prices to consumers

- Long-run average total costs will decline as output expands
- Higher prices will result if more than one producer supplies the market
- Should there be competition the consumer will suffer inconvenience because of the construction of duplicate facilities

- Large-scale capital intensive production does not lead to monopoly
- Monopoly is caused by govt. intervention (franchises & protec-tionism) not by the free market
- The enduring forces of competition including ***potential competition*** will render free-market monopoly impossible

The Market

- Should government remove the barriers to competition the potential would then exist for the market to be contestable

- ***Contestable Market*** exists when:-
  - ✓ Policy intervention in the market processes becomes unnecessary
  - ✓ Entry and exit are free and easy
  - ✓ **Potential competition** as well as actual competition will influence market performance

Options in Response to Potential Competition

- ✓ Electricity Wheeling
- ✓ Distributed Generation
- ✓ Economic Development Zone
- ✓ Wholesale Tariff

Theoretical Benefits of Distributed Generation

Reliability and Security Benefits	Economic Benefits	Emission Benefits	Power Quality Benefits
•Increased security for critical loads	•Reduced cost associated with power losses	•Reduced line losses	•Voltage profile improvement
•Relieved transmission and distribution congestion	•Deferred investments for generation, transmission, or distribution upgrades	•Reduced Pollutant emissions	•Reduced flicker
•Reduced impacts from physical or cyber attacks	•Lower operating costs due to peak shaving		•Reduced harmonic distortion
•Increased generation diversity	•Reduced fuel costs due to increased overall efficiency		
	•Reduced land use for generation		

The Role of Regulation

“It was found that the unbundling of generation and the introduction of a wholesale spot market may not necessarily lower the price to consumers it may possibly have resulted in a higher price”*

Toru Hattori is a senior research economist of the Socio-economic Research Center, Central Research Institute of Electric Power Industry in Japan

*Hattori, T., Tsutsui, M., Economic impact of regulatory reforms in the electricity industry: a panel data analysis for OECD countries. Energy Policy, 2004 – Elsevier

Conclusion

There is a **CURE**

Citizens

United to

Reduce the cost of

Electricity

TROUBLE MAKERS

July 30, 2012 Supreme Court Justice Brian Sykes landmark ruling Exclusive Licence granted to JPS by the Minister of Energy not valid.

Conclusion

LEVEL PLAYING FIELD

AGAINST

x **Rent-seeking behavior of various interest groups pursuing private agendas that may not always be consistent with efficiency goals**

GO FOR

✓**Structural and regulatory reforms that foster competition and lead to real cost savings in the long run**

If and only if…

Appropriate supporting institutional arrangements are put in place

NOW

What Say