



Successful transformation of Energy giants

Green and Digital

Vassily Savin,
Head of Power & Utilities, KPMG in Russia and the CIS

—
April, 2019



What is Energy in the modern world?



Energy is the most important element of the current dynamically developing civilization. New types of energy and technological progress significantly extend the boundaries and potential scenarios for human race development.



Speed and distance

the world is now more accessible



Free travel

transition from coal to oil and gas led to surge in vehicles and change in the cities/ countries landscapes



Light, heating, safety

central heating systems, electrification of cities, transport



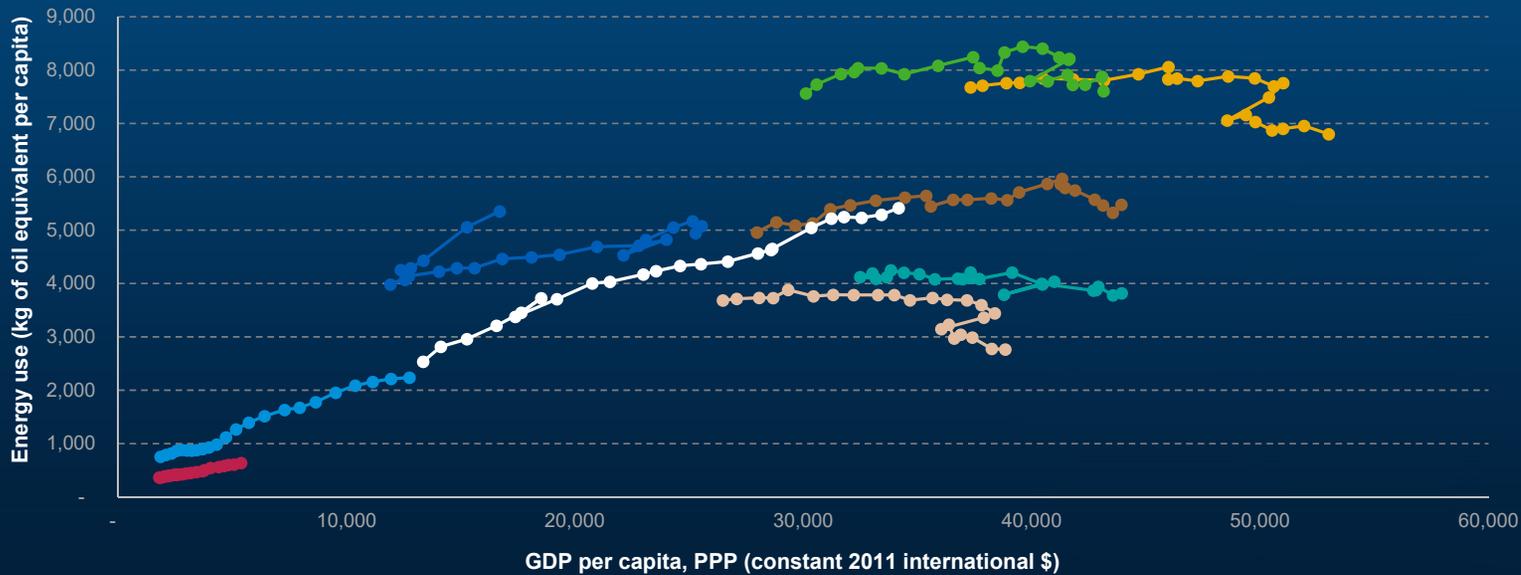
Ecology and sustainable development

energy efficiency and clean energy

Consumption plateau as "new normal": energy transition is simply about decoupling of economy growth and energy use



Energy Demand and GDP per capita (1992-2014/2015)



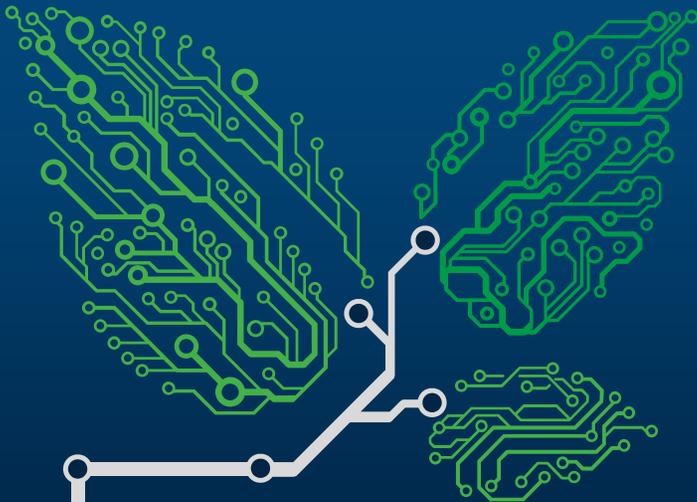
- Canada
- USA
- Australia
- Russia
- Germany
- Rep. Korea
- UK
- China
- India

Source: World Bank



© 2019 JSC "KPMG", a company incorporated under the Laws of the Russian Federation, a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

New normal is rather evident



**Evident: Energy giants
are transforming old business
models**



Electric Utilities World's Largest Public Companies by market value

2018	2008
NextEra Energy	EDF
Enel	E.ON
Duke Energy	Suez Group
China Yangtze Power	RWE Group
Iberdrola	ENEL
Southern Company	Iberdrola
EDF	Gaz de France



The World's Largest Public Companies by market value

2018	2008
Apple	PetroChina
Amazon.com	ExxonMobil
Alphabet	General Electric
Microsoft	China Mobile
Facebook	Gazprom
Alibaba	ICBC
Berkshire Hathaway	Microsoft
Tencent Holding	Petrobras-Petroleo Brasil
JPMorgan Chase	Royal Dutch Shell
ExxonMobil	Berkshire Hathaway
Johnson & Johnson	AT&T
Samsung Electronics	BP
Bank of America	Procter & Gamble
ICBC	Wal-Mart Stores
Royal Dutch Shell	BHP Billiton

Source: *The World's Largest Public Companies 2018 by Forbes*; *The World's Largest Public Companies 2008 by Forbes*;

What are the chances for success?



 **Norway**

 **Saudi Arabia**

Equinor



KAPSARC



EVs by 2025



 **Sweden**

Volvo



 **Germany**

E.ON



**Australia-Japan
Hydrogen supply
chain**



 **Ways to change**

**Core change in
business model**



**Creating new product/
new market**



Pilot projects



JVs



Evolutionary



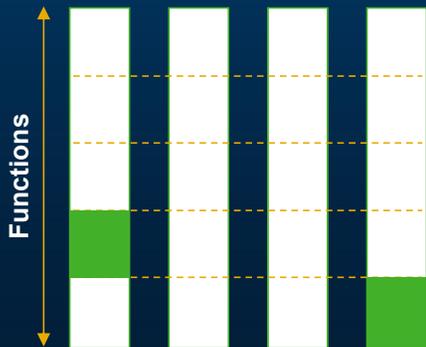
Different paths to follow towards transformation



Lighthouse projects



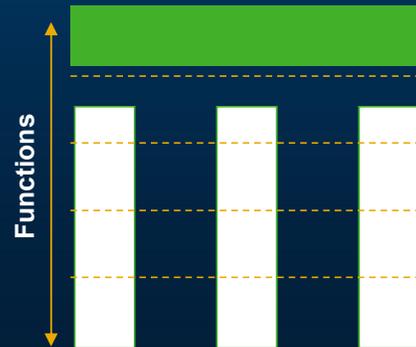
Business Units



Center of Excellence



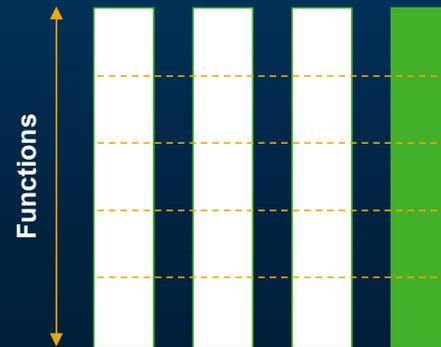
Business Units



Business Unit



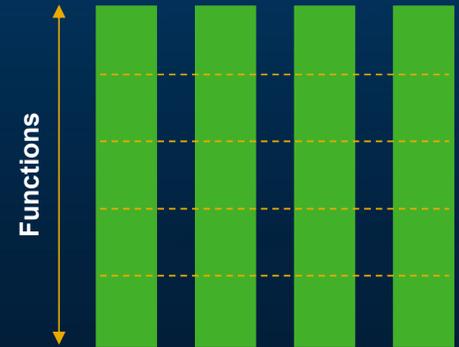
Business Units



"New Normal"



Business Units



How could NPPs diversify their business?



There are various ways, but it is curtail that a **company should always be digitalized/ technologically advanced** and in constant search for new solutions/ transformation

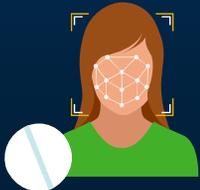
Selected potential solutions:



Development of small modular reactors



Space ships/ icebreakers with nuclear engines



Nuclear medicine



Development of other renewable/ clean energy (e.g. wind, solar, hydrogen, etc.)

Hydrogen Energy Supply Chain (HESC) Project



No more questions - Where to go,
but rather How to get there?

The HESC Project is a \$10b supply chain project, a world-first pilot project to safely and efficiently produce and transport clean hydrogen from Victoria's Latrobe Valley to Japan.



Corporate Transformation - is all about creating new supply chains / markets



Background

The **Hydrogen Energy supply Chain (HESC)** project is a \$10 bln project, aims to convert Victorian brown coal into clean liquid hydrogen to be transported to Japan, for use in transport, power generation and semiconductors. This **world-first project** will safely and efficiently produce and deliver hydrogen to Japan in 2021 as part of a pilot phase and have full commercial operations by 2030.

KPMG role

KPMG as the lead strategic, commercial and financial advisor for the past 5 years to the HESC consortium, led by Kawasaki Heavy industries, has acted as a partner to the project, successfully driving it forward.

Our role has included:

- ➔ Feasibility study, financial modelling and business case development
- ➔ Economic impact analysis, strategic, commercial and financial advisory services
- ➔ Consortium structuring
- ➔ Governance arrangements
- ➔ Hydrogen policy submissions, incl. hydrogen economics
- ➔ Support with approvals, procurement and contract negotiations
- ➔ Government engagement
- ➔ Hydrogen media monitoring
- ➔ Communications and stakeholder management
- ➔ Project management and risk management
- ➔ Tax and R&D advice
- ➔ Local office establishment



© 2019 JSC "KPMG", a company incorporated under the Laws of the Russian Federation, a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.



Results

Bilateral support from the highest levels of the Government – the HESC project was jointly announced by the Prime Minister of Australia and Victorian Minister for Regional Development on 12 April 2018



Significant funding – the Commonwealth and Victorian Government have contributed \$106 mln in funding to the project



Strong relationships with private and public sector - the project has gained the support of a number of large industry participants and Australian research organizations



Real-life project – the HESC project was developed from a concept into a fully funded business case and real-life project





Thank you!



Vassily Savin

Head of Power & Utilities,
KPMG in Russia and the CIS

Tel: +7 (495) 937 4477
Mob: +7 (916) 901 8044
VSavin@kpmg.ru



kpmg.ru

The information contained herein is of a general nature and is not intended to address the circumstances of any particular individual or entity. Although we endeavor to provide accurate and timely information, there can be no guarantee that such information is accurate as of the date it is received or that it will continue to be accurate in the future. No one should act on such information without appropriate professional advice after a thorough examination of the particular situation.

© 2019 JSC "KPMG", a company incorporated under the Laws of the Russian Federation, a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

The KPMG name and logo are registered trademarks or trademarks of KPMG International.