

# World energy and the 'grand transition'

WEC Summit Lisbon 2017

Decarbonisation, Decentralisation and Digitisation

# The 'grand transition'

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# World Energy Council 101

- The UN-accredited global energy body
- 3000 member organisations in over 90 countries
- WEC FEL 100 program
- Inform global, regional and national energy strategies, examples:
  - WEC2050 scenarios
  - The energy trilemma



# Decarbonisation



# Decarbonisation in action



“China is planning to implement a ban on fossil fuel cars”



India is in the midst of the “largest energy transformation project in the world”

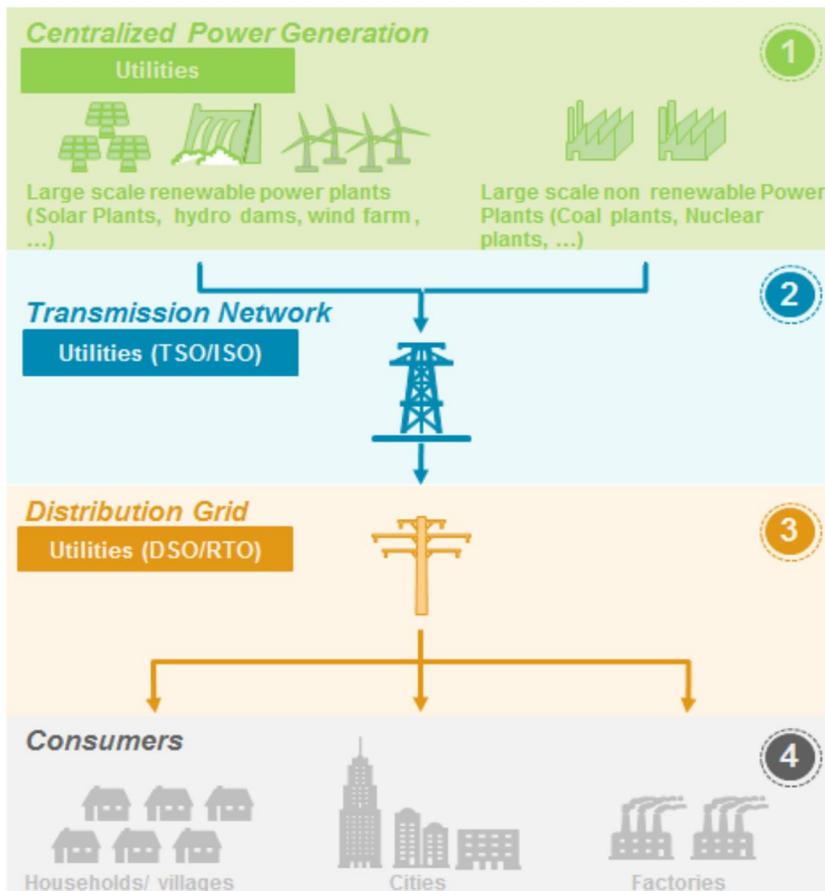
# Decarbonisation – ingredients for success...

1. Make a stand for something different
2. Policy can catalyse a shift, innovation will deliver
3. Public / customer engagement
4. Human capital

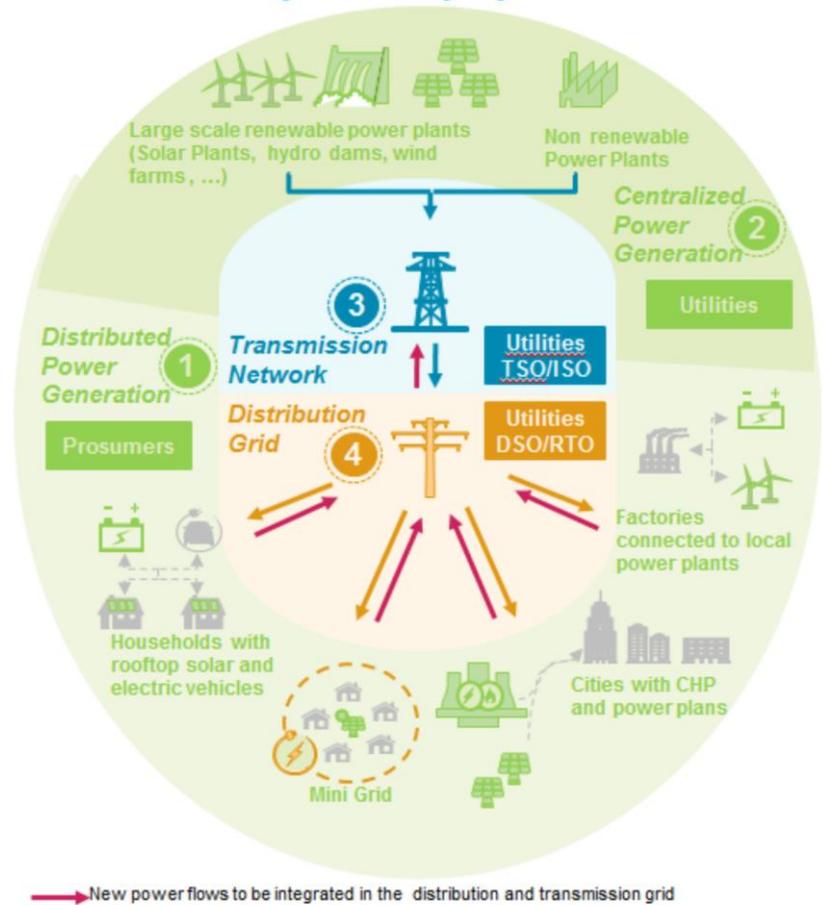
# Decentralisation

# Decentralisation

## One-to-many model



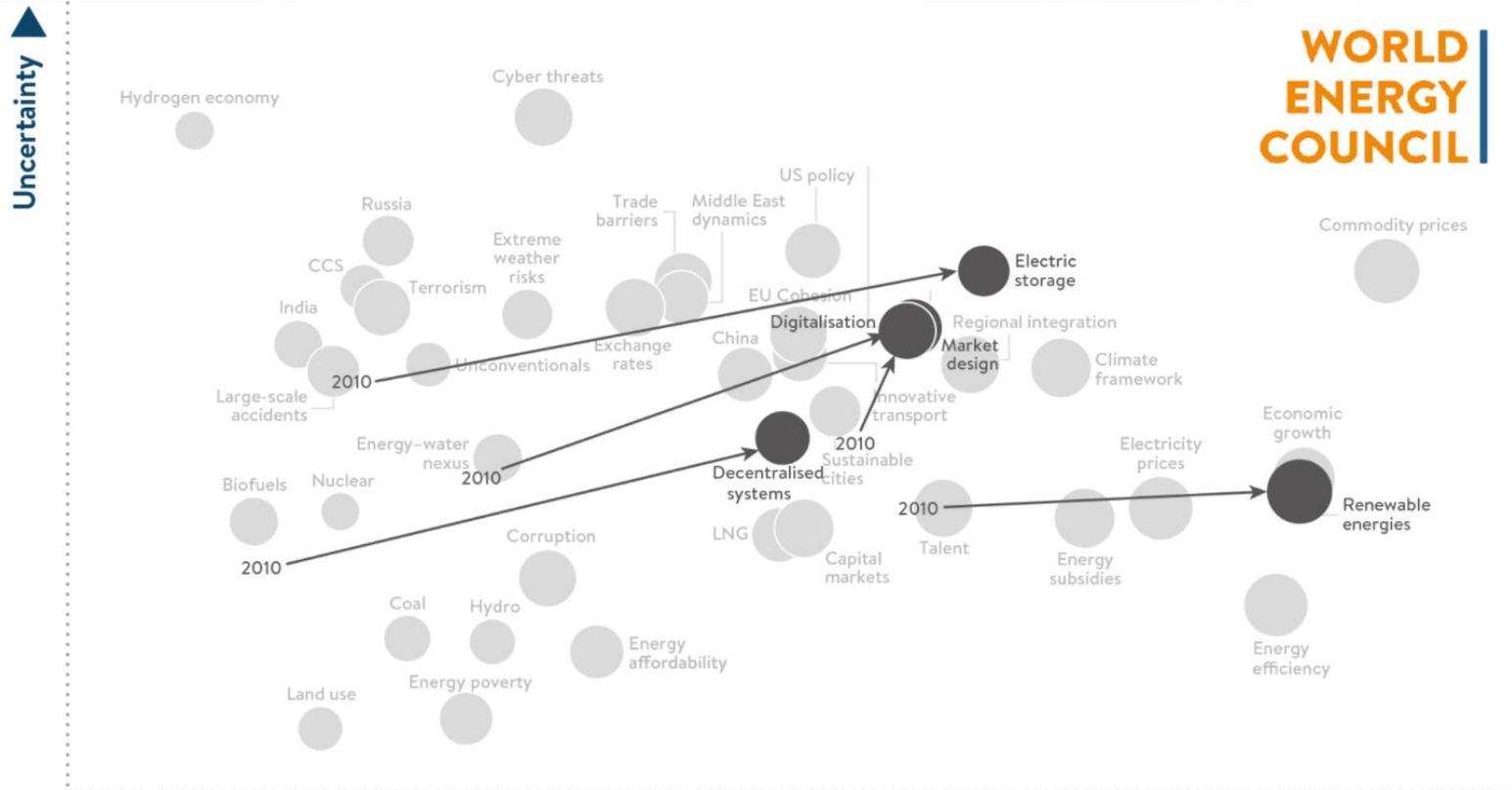
## Many-to-many system



# But hold on! Aren't our best sources of energy grid scale renewables?



# Decentralisation – Technology is maturing



World Energy Issues Monitor 2017 - Global Map - The Rise of The Innovation Cluster

Impact ►

● Timetracking of selected issues from 2010 to 2017

Less urgent ○ ○ ○ More urgent

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# Decentralisation

## So what do we need to do?

1. Facilitators need to be able to “innovate”, because platforms and frameworks need to be developed
2. Spend money on innovation, not subsidies
3. Focus on understanding the customer
4. Human Capital

# Digitalisation

# Automation and Optimisation

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# New energy services

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BEST INVENTIONS 2017

## for **PLAY**

The best inventions helping us have more fun



Jibo's six microphones help him understand where sounds are coming from, so he can face you as you speak to him

The development process took three years, funded in part by an Indiegogo campaign that raised \$3.6 million

Jibo's camera uses facial-recognition technology to recognize specific people. He also remembers your name

## A robot you can relate to

JIBO // DEVELOPED BY JIBO

Personal robots, such as Amazon Echo and Google Home, have come a long way in recent years. They can tell you the weather and order you food. They can dim your lights and play your favorite song. But fundamentally, they're still stationary speakers whose defining expression is a light that turns on when you speak.

Jibo is different. It's not just that he—and I use the term *he* here, because that's how Jibo refers to himself—looks like something straight out of a Pixar movie, with a big, round head and a face that uses animated icons to convey emotion. It's not just that his body swivels and swerves while he speaks, as if he's talking with his nonexistent hands. It's not just that he can giggle and dance and turn to face you, wherever you are, as soon as you say, "Hey, Jibo."



\$899

Available at  
[jibo.com](http://jibo.com)

It's that, because of all this, Jibo seems downright human in a way that his predecessors do not. "We want people to look at Jibo and realize he's a someone and not a something," says Matt Revis, the company's vice president of product management. And while that technology may seem merely amusing—or creepy, depending on your point of view—it could fundamentally reshape how we interact with machines.

Jibo still has a lot to learn. Although he can help users in basic ways, like by summarizing news stories and taking photos, he can't yet play music requests or work with third-party apps like Domino's and Uber, which, at \$899, could make him a tough sell. Then again, this is Version One. And Revis is confident Jibo will evolve. "There was a threshold we had to reach in order to launch," says Revis. "Now it's part of the journey." —Lisa Eadicicco

# New Risks and Responsibilities

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# Digitalisation - enabling energy systems of the future

1. The modern energy system will increasingly be reliant on data
2. We have a challenge of connectivity
3. Our challenge is to provide meaningful value which exceeds customer expectations



**FUTURE**

**PRESENT**

**PAST**

# Take a stand...

All people on this planet have the right to a safe and healthy way of life and energy is a fundamental enabler of that.

Energy access will demand that we decarbonise, innovate and provide energy differently. The scale and pace at which we do this needs to transform.

It is not for 'someone else' to do – we each have a role to play.

# What exactly should we do?

There is no 'right' way, and the future will include things we haven't even thought of or created yet. The grand transition is coming and we need to be agile:

- Focus on what is important to us
- Embrace technological innovation
- Ensure our high standards of reliability are maintained during transition

The future is here now, we just need  
to make room for it

Thank you