



# MEDPOWER2018

Mediterranean Conference on Power Generation,  
Transmission, Distribution and Energy Conversion

## PERSPEKTIVE HEP-A NA TRŽIŠTU ELEKTRIČNE ENERGIJE

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HEP d.d.

$-\infty \longrightarrow \text{HEP} \longrightarrow +\infty$

Hrvatska elektroprivreda d.d. sa svojim povezanim društvima (HEP grupa) najznačajniji je energetska subjekt u Republici Hrvatskoj, članici Europske unije i NATO saveza.

Koja i kakva je uloga energetskih poduzeća u Hrvatskoj? Gledajući kroz povijest, uloga velikih energetskih poduzeća kao što je HEP bila je ključna za razvoj Hrvatske u državnom pravnom smislu te u kulturološkom, stručnom i znanstvenom smislu.

Kakva će biti uloga HEP-a u budućnosti? Koja je uopće sudbina HEP-a u budućnosti?

# Povijest .....

*And rightly so — they built out the nation’s power grid and reliably provided electricity for the last 100 or so years, feats that are the platform upon which American industry was built.*

*Jim Rogers calls it “the single greatest engineering achievement” of the 20th century.*

Jim Rogers – former CEO of Duke Energy

# Do neki dan .....

Nacionalna elektroprivreda, počesto nazivana i „vertikalno integrirano” (eng. *Incumbent*) poduzeće u elektroenergetici – što je to?

Promjene? Zašto? Pa sve funkcionira!!!

*So, they decide to jump in front of a fast moving object. They jump in front of a glacier — that’s their estimate of a what fast moving object is. And the glacier killed them.*

*The joke is that electric utilities are famously slow-moving (Steven Chu)*

Steven Chu served as the 12<sup>th</sup> United States Secretary of Energy from 2009 to 2013.

# Ovih dana .....

*But today the electric utility business is at a crossroads.*

*Disruptive new technologies — rooftop solar, energy storage, and demand-side management to name but a few — and paradigm shifts in policy and regulation are wreaking cataclysmic change on the traditional utility business model.*

*As a result, the future of electric utilities is highly uncertain (Ron Binz).*

Ron Binz is the former chairman of the Colorado Public Utilities Commission

# Nakon toliko godina .....

Tri su eksterne i jedna interna odrednice koje određuju budućnost elektroprivreda kao što je HEP.

Prva je –potrošnja energije mijenja strukturu

*“There’s been a decoupling of the growth and demand for electricity from growth in GDP for the first time in our history.” Rogers said. “And it’s going to have profound implications for the way forward.”*

Jim Rogers – former CEO of Duke Energy  
[www.utilitydive.com](http://www.utilitydive.com)

# Sadašnjost .....

Druga odrednica je proizvodnja električne energije.

Snažan je razvoj novih tehnologija za proizvodnju električne energije, takav snažan zamah ima za posljedicu velike promjene u strukturi proizvodnje električne energije.

Do 2050. niti jedna termoelektrana koja je danas u pogonu (osim možda nuklearnih elektrana) neće biti u pogonu.

Danas se dizajnira budućnost elektroenergetskog sustava – kakav EES želimo i kakav ćemo imati?

# Stvari već odavno komuniciraju .....

Treća odrednica se odnosi na Internet svega (Internet of everything)

Taj koncept dovest će do stupnja optimiranja rada svakog potrošača, optimiranja svake pojedine transakcije i svake poslovne odluke i to optimiranja po svakom zahtijevanom parametru.

Radi se na *software*-u za svaki uređaj posebno, za mikromrežu, makromrežu, .....



# Za to vrijeme negdje .....

RWE, E.ON, Vattenfall, EnBW – ili Big Four proživljavaju duboke promjene -> iskustva iz kojih treba učiti

“From my experience, the most difficult challenge is to change the DNA of the company, to change the way people think and behave”

Klaus-Dieter Maubach, [E.ON](#)

The fate of the utilities in Germany offers lots of lessons for other countries – huge lessons,”

Gerard Reid, founder of renewable advisory and asset manager Alexa Capital

# Nekad TE sad OIE .....

„Germany’s battered utility champions have no choice but to reinvent themselves in the face of tumultuous upheaval in their home market.

Their long-cherished business model of selling kilowatt hours generated in massive power plants *is history*”

Peter Terium, the former CEO of RWE, and now head of the company’s renewable spin-off called innogy.

# Traži se Uber .....

“How do you push for a new coal plant and argue for solar? We felt no.

The incumbents say they are fully aware of the threat. To illustrate his point that new entrants can wreck an established industry, innogy CEO Terium names Napster for music, Netflix for TV, Amazon for book stores, AirBnB for hotel chains, and Uber for taxis.

The question I’m faced with is this: Who is going to be the Uber of the energy sector?”

Klaus Schäfer, formerly E.ON’s chief financial officer and now [Uniper](#) CEO.

# Vjerovali ili ne .....

„One of the largest hurdles on the road to innovative success for the utilities lies within the companies – it means transforming corporate culture and structures.

We have to take 20,000 people on a journey to the business models of the future.

Everybody knows what needs doing. The problem is always with the execution.

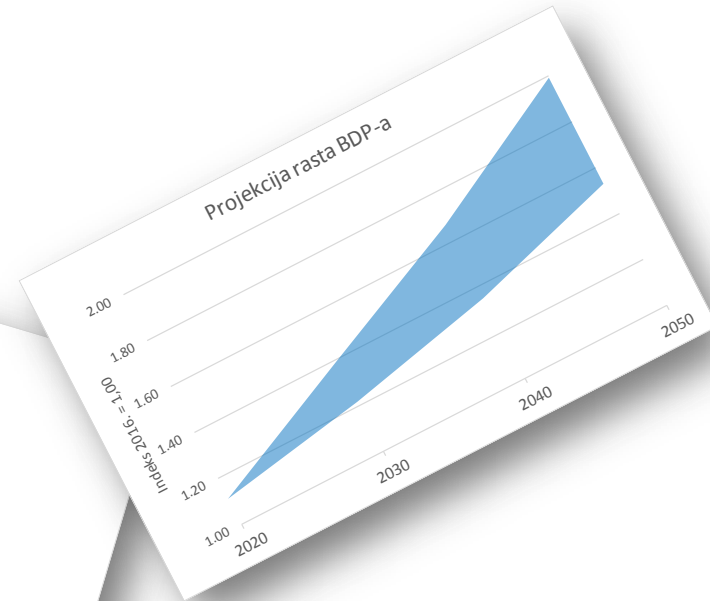
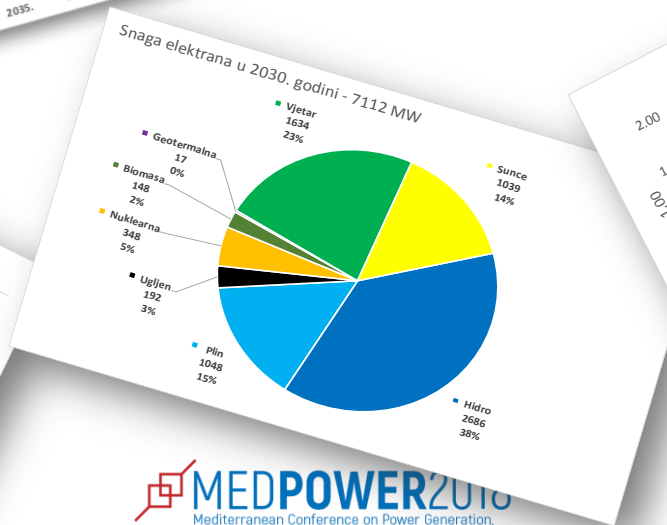
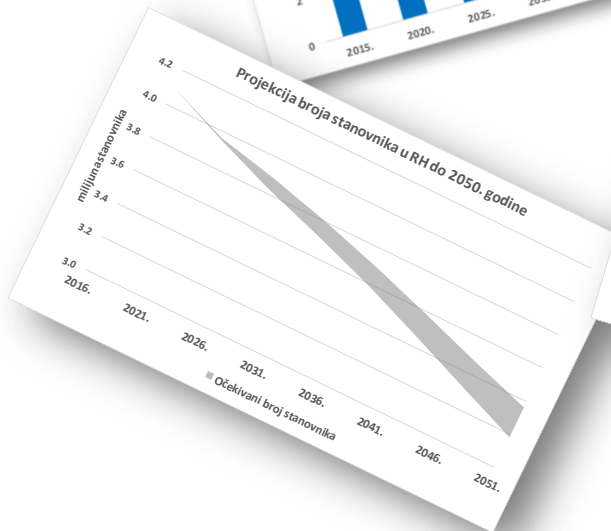
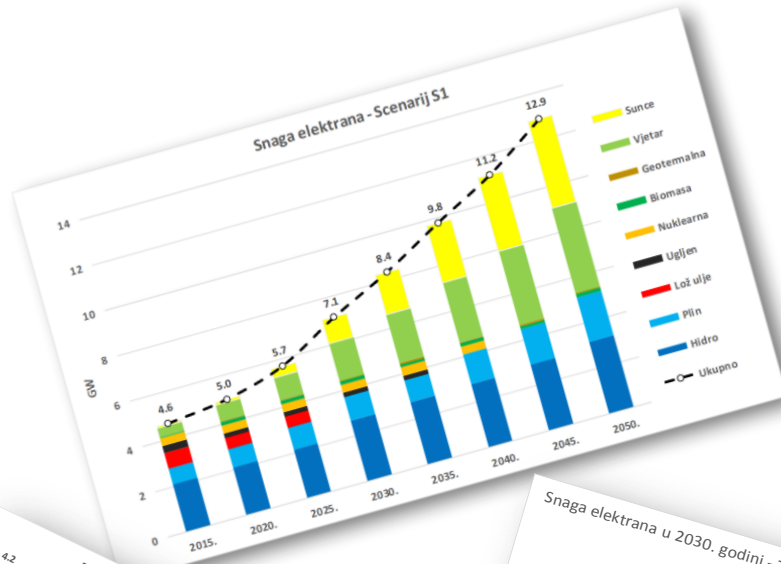
The situation in the energy sector today is exactly the same as in computing in the 80s. You have to believe in it”

Uli Huener, Head of Innovation at Stuttgart-based utility [EnBW](#)

# ... a za koji dan i ovdje .....

Strategija energetskeg razvitka nije pitanje:  
Hoćemo li ili nećemo?

Perspektiva HEP-a ->  
retoričko pitanje?



# Sve znamo, ali .....



I zadnja, interna odrednica je promjena, prilagodba ...

„The question now is whether E.on’s and RWE’s strategic shift was still in time”, Enerquire

Marius Buchmann  
Jacobs University Bremen



“Nije se nužno mijenjati.  
Opstanak nije obvezan.”

V. Edwards Deming

# I zadnji citat .....

## Zahvaljujem na pozornosti

Nepoznati autor