








Electric Grid, Renewable Energy, and the Changing Power Industry

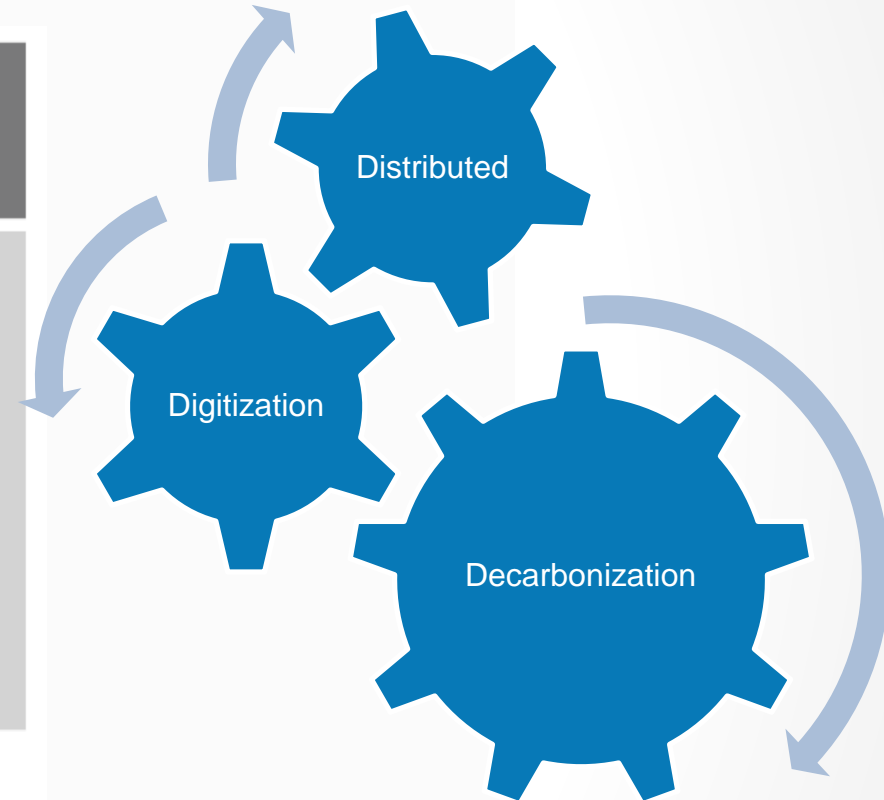
Reference - Black & Veatch
"The future of the utility business model"

			
Dr Harish Krishnamoorthy Speaker	Dr Chetty Mamandur Panelist	Vijay Betanabhatla Panelist	John Baumgartner Moderator
Assistant Professor - Univ of Houston, Ex-Schlumberger, GE, Ford, Google	Power Industry Consultant, Ex- MISO, Cal ISO, Entergy, Iowa State University	Associate Director - Guidehouse, Ex- ERCOT, CleanTX	Ex CFO of an Amoco business & Chief of staff at BP

Section	Topic	Speaker/s
Topic Introduction	Welcome & Introductions	Murthy Divakaruni
Speaker 1 Utility Industry Challenges	Electric Grid and Renewable Energy	Dr. Chetty Mamandur
Speaker 2 Global Renewable Energy		Vijay Betanabhatla
Speaker 3 Power Grid (keynote)		Dr. Harish Krishnamoorthy
Panel Discussion (Moderator)	Discussion and Q&As	Moderated by Mr. John Baumgartner
	Takeaways and Models	John Baumgartner & Murthy Divakaruni

Changing industry, business models & technology platforms

1 Market dynamics 	2 New technologies 	3 Regulatory frameworks 
<ul style="list-style-type: none">• What will the evolution and volatility of energy prices look like?• What is the best approach to address changing customer expectations and demographics?• What areas of the future energy value chain will deliver maximum benefits to shareholders?	<ul style="list-style-type: none">• What will the transition journey from centralized to distributed energy generation look like?• What organizational and cultural changes will help capture the full potential of technology?• What is the winning strategy to run rings around new competitors (for instance, renewables, e-mobility, and storage)?	<ul style="list-style-type: none">• What strategies will best address increasing regulations on asset quality and network reliability?• What measures are needed to increase operational efficiency and cope with reduced tariffs?• What new approaches are needed in regulated versus non-regulated businesses?



3D (Distributed, Digitization and Decarbonization) is transforming the Power Industry

Source: A.T. Kearney analysis

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By Chetty Mamandur, Ph.D., P.E.



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Speaker

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Electric Grid & Renewable Energy By Vijay Betanabhatla, Guidehouse



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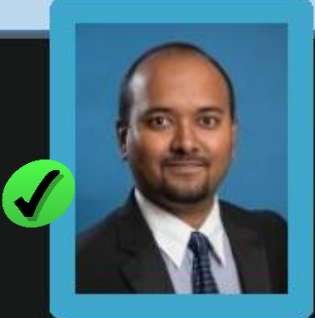



John Baumgartner
Moderator

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Electric Grid and Renewable Energy By Harish Krishnamoorthy, Ph.D.

			
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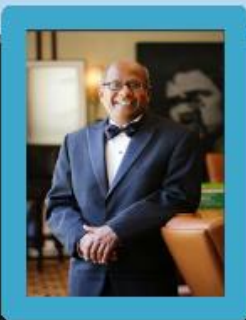


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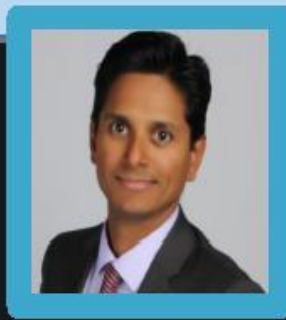
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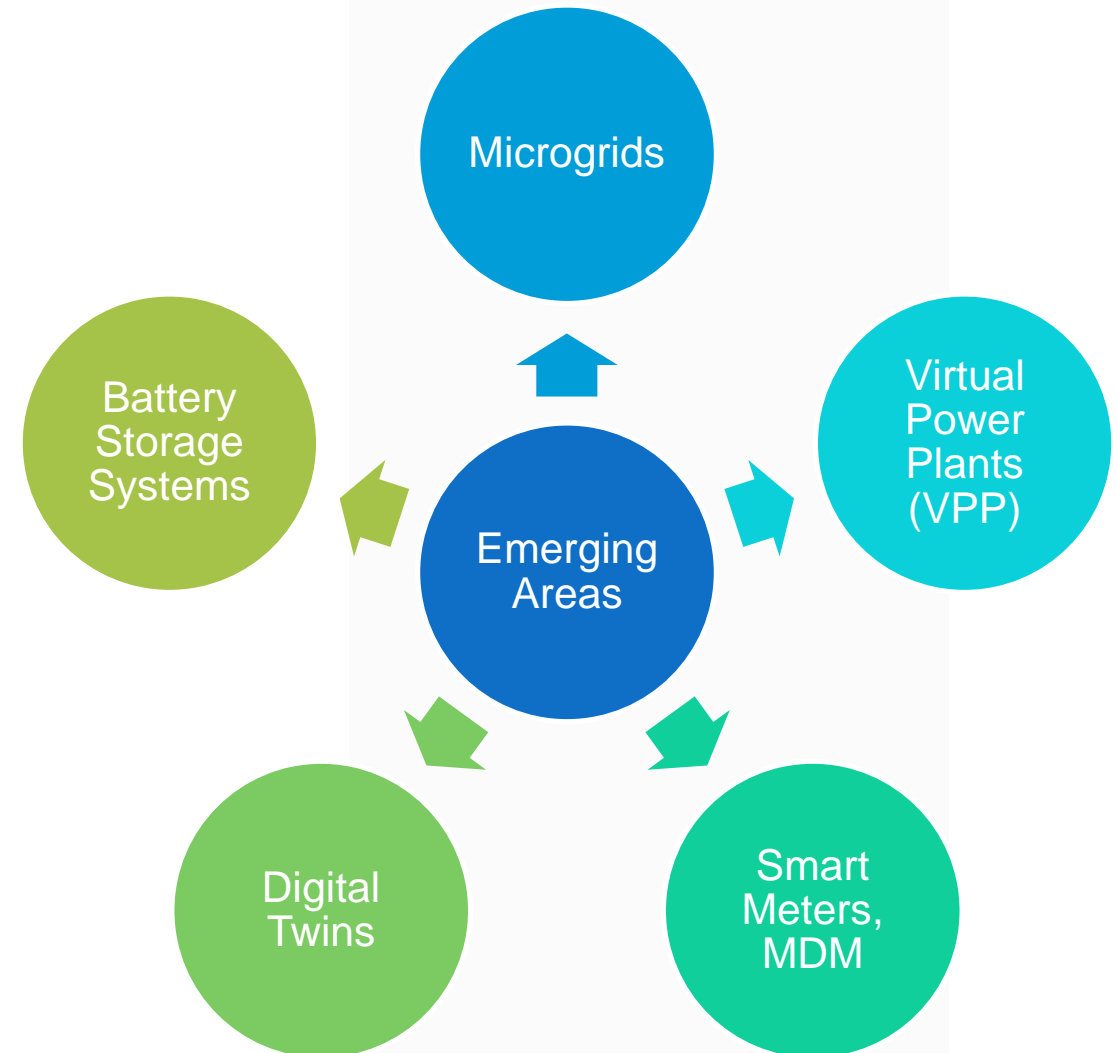
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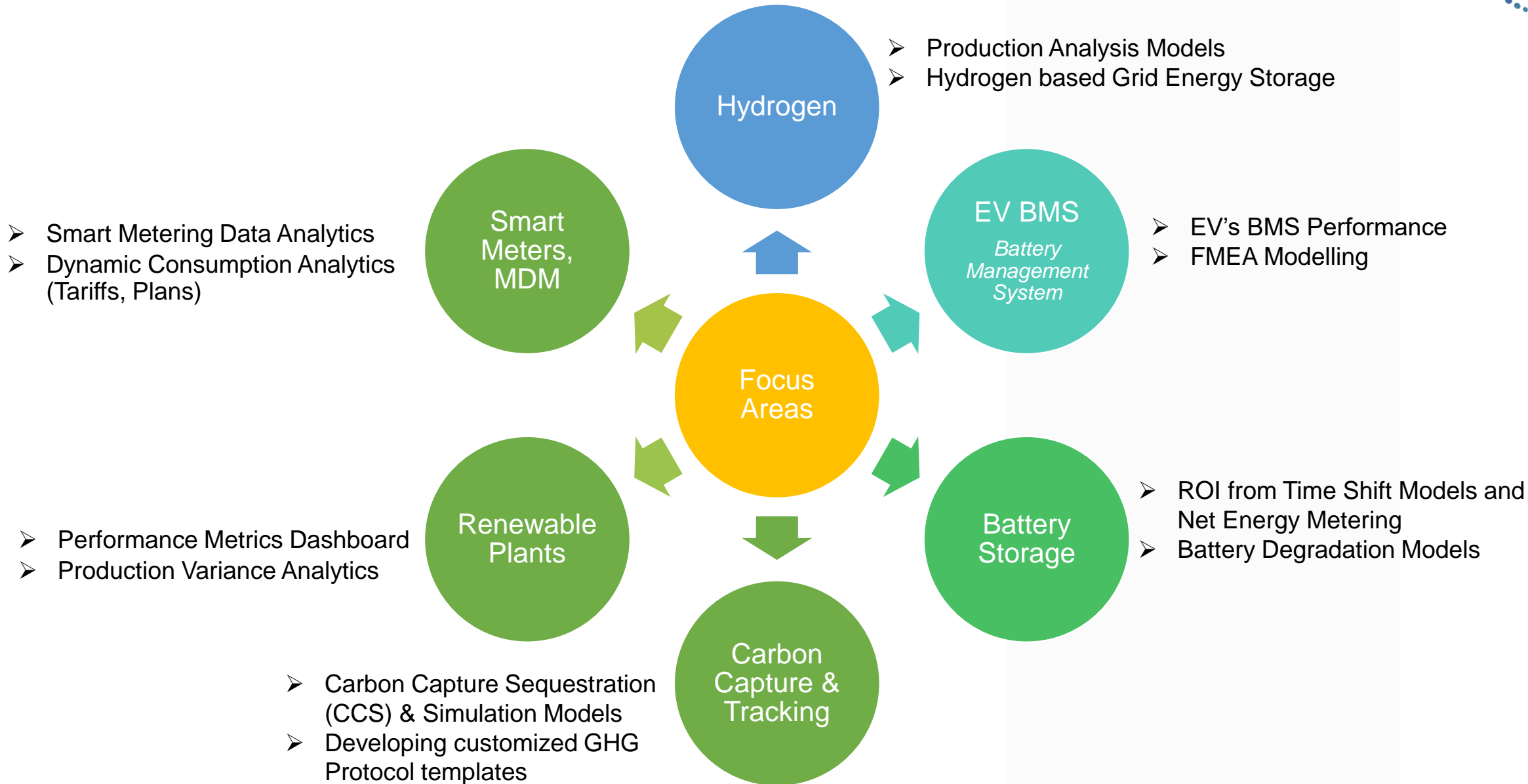
Panel Discussion

Key Takeaways & Models

- ✓ Grid Reliability is even more critical as the global energy industry relies more on Digital Technology and addresses Net Zero Future.
- ✓ Energy storage systems (ESSs) are becoming critical, and they offer several essential grid services, reducing overall cost
- ✓ As part of decarbonization projects such as - *Carbon Capture Research; Fuel Cell Technology using Natural Gas or Hydrogen; Hydrogen or Bio-gas as Fuel in Turbines* – much research is underway globally. *Awareness and Leadership training are important.*
- ✓ Microgrids and Virtual Power Plants (VPP) will help to achieve Distributed Energy Future
 - ✓ Many moving parts, and global initiatives promise continued transformation of power industry
 - ✓ New players, new business models, new services, rapid ways to access global talent



Performatica's Sustainability Solutions for Power Industry



Thank you



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