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李栩然博士是中国银河国际金融控股有限公司的执行董事，他成立了香港所有中资金融机构中第一个碳业务部门。他负责创建并管理一个团队，开发创新的碳业务、绿色和可持续金融产品，并推动跨境碳交易。他带领团队打造了全国第一个跨境碳期货产品，为国内企业提供了应对碳关税的金融工具；建立了第一支 QFLP 跨境碳基金，是首支北向资金参与服务境内碳市场发展的基金；参与南方东英银河一联昌富时亚太低碳指数 ETF 的发行，是全球首只覆盖亚太地区的低碳 ETF 及新交所有史以来上市募资规模最大的股权 ETF。他也是香港能源服务公司协会的秘书长，并获邀作为专家加入香港金融发展局碳市场机遇工作组。

他是一位双碳创新、人工智能和气候变化专家。他在碳和能源行业有近 15 年的经验。他是碳市场的先驱和研究者。他在双碳创新领域有丰富的理论创新及落地实践经验，包括全球气候变化、社会响应、低碳咨询、碳资产管理、碳金融科技创新。他发表了 10 多篇 SCI 论文，其中 4 次在征文比赛中获奖，早在 2012 年他就在国际顶刊 IEEE Transactions on Power Systems 中提出碳交易、电力交易及绿证等多市场的联动下企业的智能决策框架。他曾在香港创建并管理了一个团队并制定了香港第一套以碳减排产品为交易标的的平台规则并撮合完成了香港有史以来的第一笔碳交易。他曾受聘作为香港政府中央政策组资助的“内地排放交易研究：香港的选择”的项目工作组专家。他所管理的团队开发并投资了第一批林业碳汇 CCER 项目，该项目也被作为中国碳汇项目的贷款抵押品。

他曾领导香港政府机电工程署的一个创新团队，主要职责是管理和经营创新和技术项目。他成功地发明、开发并实现项目“用于电梯自适应智能状态监测的非侵入式数据分析系统”从 0 到 1 的落地，该项目已申请香港专利（专利号：HK30012023）、美国专利（申请号：17/098,562）和 PCT 专利（申请号：PCT/CN2020/128946），并获得许多香港和国际奖项。



Dr Ivan Li PhD

Charter Engineer, Certified Carbon Reduction Manager, MIET

Executive Director - China Galaxy Financial Holdings Company Limited

Honorary Secretary - Hong Kong Association of Energy Service Companies

Member, FSDC Working Group on Carbon Market Opportunities

Visiting Lecturer - The Hong Kong Polytechnic University/ Hong Kong Institute of Technology

Dr. Ivan LI is an Executive Director in China Galaxy International Financial Holding limited and founded the first carbon business department among all Chinese Financial Institutions in Hong Kong. He managed a team to develop innovative carbon business, green & sustainable finance products and promoting cross-border carbon trading. He was responsible for creating and managing a team to develop innovative carbon business, green and sustainable financial products, and to promote cross-border carbon trading. He led the team to create China's first cross-border carbon futures product, providing domestic enterprises with a financial tool to hedging the CBAM risk; He designed the first QFLP cross-border carbon fund, which is the first northbound fund to participate in serving the development of the domestic carbon market; and participated in the launch of the Asia Pacific Low Carbon Index ETF, which is the world's first low carbon ETF covering the Asia Pacific region and the largest equity ETF listed on the SGX. He is also the Secretary General of the Hong Kong Energy Services Association and has been invited to join the Hong Kong Finance Development Council's Carbon Market Opportunities Task Force as an expert.

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Ivan is a carbon, AIOT and smart grid expert working in carbon and energy industry for about 15 years. He is the pioneer and researcher of carbon market. He has extensive practical experience in carbon innovation areas, including global climate change, society response, low carbon consulting, carbon asset management, carbon fintech innovation. He has published more than 10 SCI papers, which won 4 times in essay contests. He founded and managed a team in Hong Kong for building of the platform for the trade of emission reduction products, which also known as the first trading platform in Hong Kong regarding emission. He was the task force of "study on emission trading in the mainland: option for Hong Kong" which funded by Central Policy Unit (CPU). The team under his management developed and invested to the first batch of CCER projects, that was also pledged as collateral for loans in China carbon sink project.

He has lead an innovation team in Electrical and Mechanical Services Department (EMSD) of Hong Kong Government. His key responsibility was to manage and administer of innovation and technology project. He successfully invented, developed and brought the AIOT project "Non-Intrusive Data Analytics System for Adaptive Intelligent Condition Monitoring of Lifts" from 0 to 1, which has filed Hong Kong patent (Patent No.: HK30012023), US patent (Application No. 17/098,562) and PCT patent (Application No.: PCT/CN2020/128946), and won lots of Hong Kong and International awards.

Publications (Selected)

- [1] Li, X. R., Yu, C. W*, Xu, Z., Luo, F. J., Dong, Z. Y., & Wong, K. P. "A multimarket decision-making framework for GENCO considering emission trading scheme." *IEEE Transactions on Power Systems* 28, no. 4 (2013): 4099-4108.
- [2] S.Y. Ren, F.J. Luo, L. Lin, S.C Hsu, & X.R. Li* "A novel dynamic pricing scheme for a large-scale electric vehicle sharing network considering vehicle relocation and vehicle-grid-integration", *International Journal of Production Economics* 218 (2019): 339-351.
- [3] 李栩然, 蒋慧, 黄杰*, "新一轮电力体制改革环境下的全国统一碳市场", 清洁能源蓝皮书:温室气体减排与碳市场发展报告(2016)
- [4] 肖斯锐, 李栩然, 任淑云*, 王彦斐 "基于大数据预测模型的大湾区生态补偿市场化体系", 清洁能源蓝皮书:国际清洁能源发展报告 (2019)
- [5] X.R. Li, C.W. Yu*, & W.H. Chen, "A novel value based reactive power procurement scheme in electricity markets", *Int. J. of Electric. Power & Energy Systems*, Vol. 43, 2012, pp 910-914.
- [6] X.R. Li, C.W. Yu*, S.Y. Ren, C.H. Chiu, & K. Meng, "Day-ahead electricity price forecasting based on panel cointegration and particle filter", *Electric. Power Sys.Res.*, Vol. 95, 2013, pp 66-76.
- [7] X.R. Li, C.W. Yu*, F.J. Luo, S.Y. Ren, Z.Y. Dong, & K.P. Wong, "Impacts of emission trading schemes on GENCO's decision under multimarket environment", *Electric. Power Sys.Res.*, Vol. 95, pp 257-267.
- [8] Chai, S., Li, X. I., Jia, Y., He, Y., Yip, C. H., Cheung, K. K., & Wang, M. (2021). A Non-intrusive Deep Learning Based Diagnosis System for Elevators. IEEE Access.
- [9] G.Z. Liu, C.W. Yu*, X.R. Li, & F.S. Wen, "Impacts of emission trading and renewable energy support schemes on electricity market operation", *IET Gener. Trans. & Distri.*, Vol.5, 2011, pp650-655.
- [10] Wang, Richard, Shu-Chien Hsu, Saina Zheng, Jieh-Haur Chen, and Xuran Ivan Li. "Renewable energy microgrids: Economic evaluation and decision making for government policies to contribute to affordable and clean energy." *Applied Energy* 274 (2020): 115287.
- [11] CHEUNG Ka Kei, LI Xuran Ivan*, YIP Chi Ho, Eric, LAU Lik Kee "Non-intrusive data analytics system for adaptive intelligent condition monitoring of lifts "Patent No.: HK30012023
- [12] X.R. Li* & C.W. Yu, Impacts of Emission Trading on Carbon, Electricity and Renewable Markets: A review, IEEE Power & Energy Society General Meeting, 2010, Minnesota, Minneapolis, USA.
- [13] X.R. Li*, S.Y. Ren, & Y. Wu, Multimarket Analysis of GENCO's Operations Considering Emission Trading and Renewable Energy Support Scheme (**Champion** of IEEE Postgraduate Student Paper Contests 2012, Hong Kong/3rd Place of IEEE Region 10 Paper contest)
- [14] S. Chai, X.R. Li*, Youwei Jia, Yufei He, Chi Ho Yip, Ka Kei Cheung & Minghao Wang. "A Non-intrusive Deep Learning Based Diagnosis System for Elevators," in IEEE Access, doi: 10.1109/ACCESS.2021.3053858.
- [15] X.I. Li, H. Zhu, L Zhang, "Review on China's National Carbon Market and Analysis for Commercial Development Potential of Carbon Capture, Utilization and Storage in China" in IEEE ISGT Asia 2022, Singapore
- [16] Y. Xu, X.R. Li*, Y. Wu, & S.S. Shen, Design of an Advanced Real-Time Dynamic Security Assessment Tool for Blackout Prevention in Modern Power Systems (**1st-Runner-up of Postgraduate Section of YMEC Paper Contest 2010, Hong Kong**)
- [17] 张颖, 曹先磊, 李栩然*, "中国碳交易市场发展现状与潜力分析", 清洁能源蓝皮书:国际清洁能源发展报告(2015)