DR SALVADOR ACHA

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PROFILE

My objective is to drive change by applying high impact solutions that influence industry and policy makers in tackling climate change in a sustainable and cost-effective manner.

I am a highly motivated researcher in energy, built environment, and sustainability as well as an effective administrator & project manager leading talented engineers. My experience in energy systems specialises on decarbonisation strategies by evaluating low carbon technologies and digital energy solutions for effective transitions. I have been informing corporations, academics, and policy makers on best practices for +10 years.

My expertise focuses on techno-economic studies of energy systems addressing electricity, heating, cooling, and transport systems for carbon intensive organizations; analysing the factors that influence decision-making.

During my career I have been able to drive positive change in energy intensive organisations and publish in the multi-disciplinary field of smart low carbon energy systems for the built environment.

WORK EXPERIENCE

Senior Research Fellow in Integrated Energy Systems for the Built Environment and Net Zero Strategies

2011 – Present, Imperial College London, London, UK

Role and responsibilities:

- Leader of the Imperial-Sainsbury's Partnership advising the 2nd largest grocer in the UK on their 2035 net zero strategy addressing scope 1, 2 and 3 emissions aligned to Science Based Targets.
- Devised energy trials that have delivered savings of over £25 million and 200,000 tCO_2, thus enhancing the bottom-line of the project sponsor and securing the longevity of the partnership.
- Responsible in negotiating the renewal of the partnership by liaising effectively with the sponsor champion in the Property Division, securing over £3 million in funding.
- Led the Imperial College team in its collaboration with Sainsbury's engineering, energy, logistics, and sustainability teams by addressing pressing challenges within their decarbonisation strategy impacting the distribution centres, supermarkets, and transport systems.
- Excellent team management skills from supervising undergraduate and postgraduate engineering students on a wide range of multi-disciplinary projects (evaluating over 50 projects) addressing energy efficiency, technology investments, and decarbonisation strategies, among many other themes.
- Specialised in techno-economic feasibility analysis of distributed energy technologies including combined heat and power, absorption chillers, heat pumps, PV solar panels, electric vehicles, and energy storage.
- Disseminated findings via multiple channels such as academic journals, international conferences, postgraduate lectures, seminars, website blogs, and media engagement. Author and co-authored of over 70 peer reviewed publications (1,700 citations as of 5th Jan 2023, h-index 22 – Google Scholar).

Energy Technology and Sustainability Consultant

2011 – Present, Imperial College Consultants (ICON), London, UK

Role and responsibilities:

- Experienced in carbon mapping and decarbonisation strategies for organizations.
- Conducted techno-economic and environmental analysis of solutions for the built environment.
- Provided technology appraisal briefs for various low carbon heating system solutions.
- Evaluated impact electric vehicles can have on the carbon footprint of logistics operations and the

infrastructure upgrades required for effective charging strategies.

- Advised SMEs offering energy management solutions how to enhance their value propositions to commercial and industrial consumers.
- Authored energy and sustainability white papers for SMEs.
- Evaluated ideal energy management strategies and distributed technology investments to mitigate the carbon emissions from industrial operations in various economic sectors (food retail, paper, agriculture).

EDUCATION

PhD in Distributed Energy Technologies and Optimisation of Energy Demand

Department of Electrical Engineering

2006 – 2010, Imperial College London, London, UK

Thesis published as a book titled “Modelling Distributed Energy Resources in Energy Service Networks” (IET Press, 2013), translated into Mandarin for the Chinese market https://shop.theiet.org/modelling-distributed-energy

Bachelor’s degree in Electronics and Communications Engineering

1999 – 2003, Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM), Monterrey, México

SKILLS & AWARDS

Sustainability strategies:

- Experience in devising comprehensive low carbon roadmaps to meet ambitious sustainability targets in the areas of electricity, heat, cooling, and transport systems.
- Familiar with Science Based Target methodologies, GHG protocols for carbon accounting, and internal carbon pricing methodologies to support low carbon investments.

Energy and building technologies:

- Expert in distributed energy technologies used to improve the energy and carbon efficiency of facilities such as combined heat and power systems, fuel cells, absorption chillers, PV solar panels, etc.
- Experience in conducting techno-economic and environmental feasibility assessments of integrated energy systems and digital technologies in buildings such as distribution centres, hotels, factories, etc.

Languages:

- Fluent in English and Spanish.

Awards:

- Won the Imperial College President's Medal for Excellence in External Collaboration and Partnerships.
- EPSRC grant on Digital energy management services in buildings via cloud-based solutions

RECENT PUBLICATIONS

- Li, K., Acha, S., Sunny, N., and Shah, N. (2022), **Strategic transport fleet analysis of heavy goods vehicle technology for net-zero targets**. Energy Policy. https://doi.org/10.1016/j.enpol.2022.112988
- Bird, M., Daveau, C., O'Dwyer, E., Acha, S., and Shah, N. (2022), **Real-world implementation and cost of a cloud-based MPC retrofit for HVAC control systems in commercial buildings**. Energy and Buildings. https://doi.org/10.1016/j.enbuild.2022.112269

PROFESSIONAL MEMBERSHIPS

- Charter Engineer (**CEng**) status and member of the Institute of Engineering & Technology (**IET)**.
- Senior member of the Institute of Electrical and Electronic Engineering (**IEEE**).
- Member of the Chartered Institution of Building Services Engineers (**CIBSE**).