



IAEA

International Atomic Energy Agency

PowerInvest - Insights into the Costs and Benefits attached to Investments in the Power Sector

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Introduction

- Raising awareness about emerging technologies for nuclear power generation is challenging.
 - Technological complexity.
 - Uncertainties associated with emerging technologies, cost uncertainties for instance.
 - Benefits are not fully understood.
 - Public perception and attitudes towards nuclear power.
- A variety of communication channels should be used to reach out to a variety of stakeholders.



What is PowerInvest?

- Objectives

- Provide *insights into the costs and benefits attached to investments in the power sector*
- Introduce the audience to services and resources developed by the IAEA to inform decision-making in its Member States:
 - Review services
 - Publications and guiding documents
 - Databases, tools and frameworks

- Audience

- Non-specialists
- Participants in events organized or co-organized by the IAEA



Power Grid



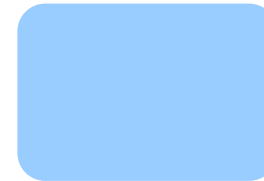
Generation Technologies



Costs & Cost Drivers



Technology and Cost Trends



Market Design



Funding & Financing



Macroeconomic Benefits



Environmental Footprint

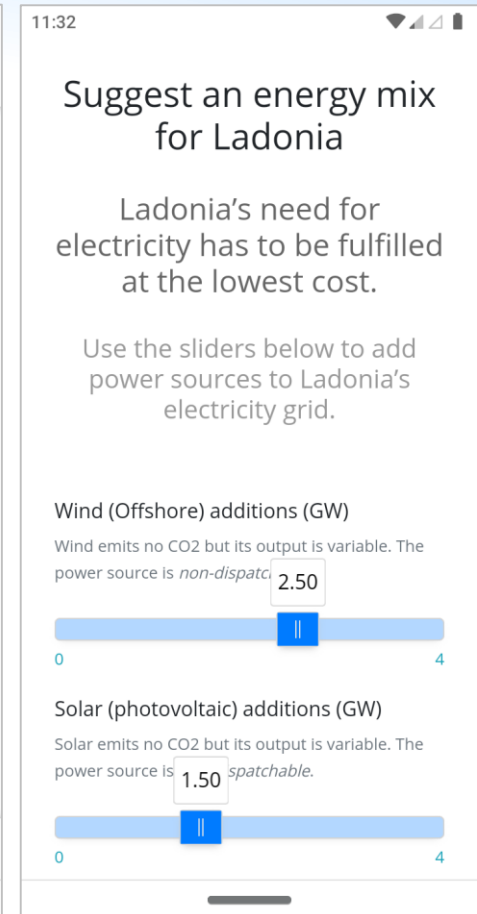
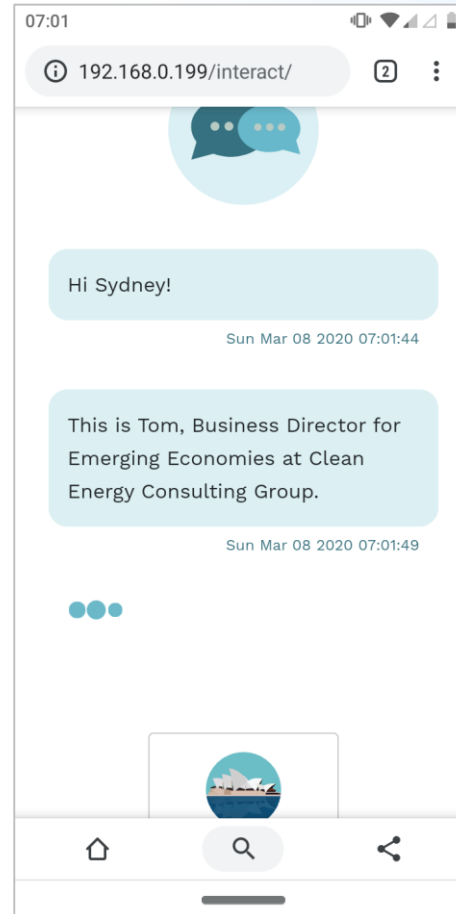


Impact on Public Health



Suggest a robust, cost-efficient, environmentally-friendly and low-carbon power mix that would fulfil Ladonia's* increasing demand for electricity while generating a positive social and economic impact


* Fictitious country





Meet the country's future electricity needs




Keep the light on, 24 hours a day, 7 days a week 



Offer electricity at an affordable price for the consumer



Generate positive social and economic impacts 



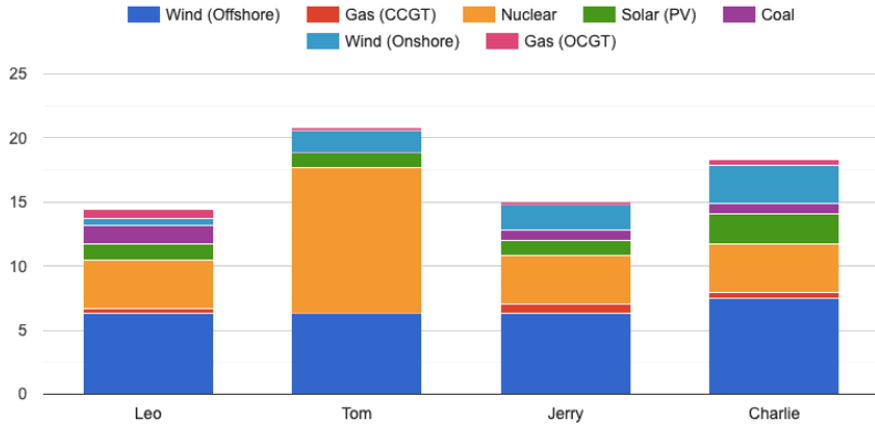
Achieve Ladonia's objectives in terms of GHG emissions



Minimize impact on human health and the environment

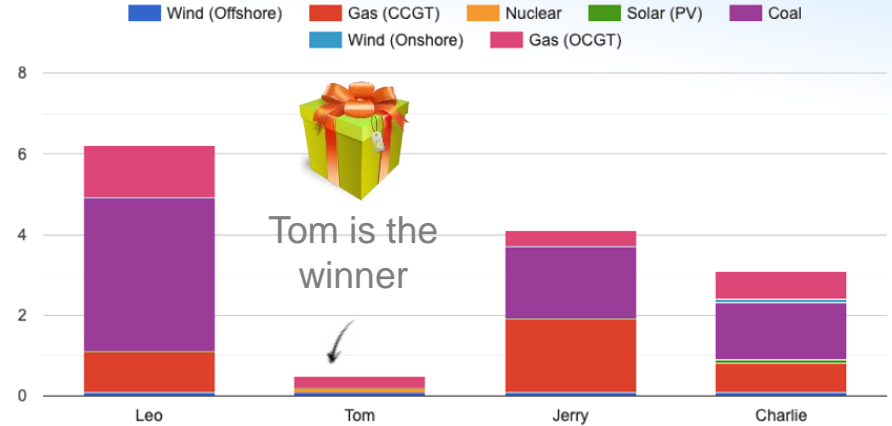
CAPEX Share

Billion \$



Emissions Share

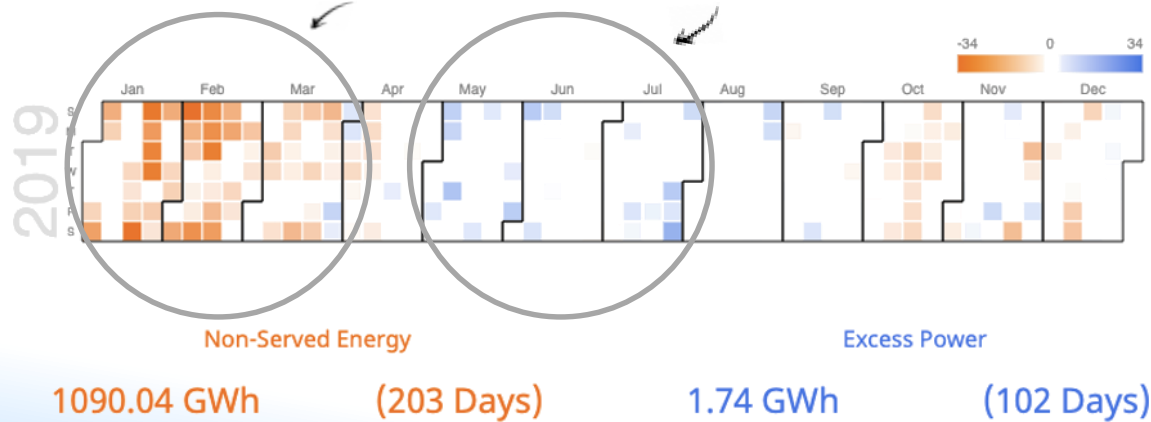
10⁶ ton CO₂eq per Year



Leo is the winner



Non-Served Energy and Excess Power, GWh



competition

cooperation

points

levels

leaderboards

chance

risk

aesthetics

rules

clear objectives



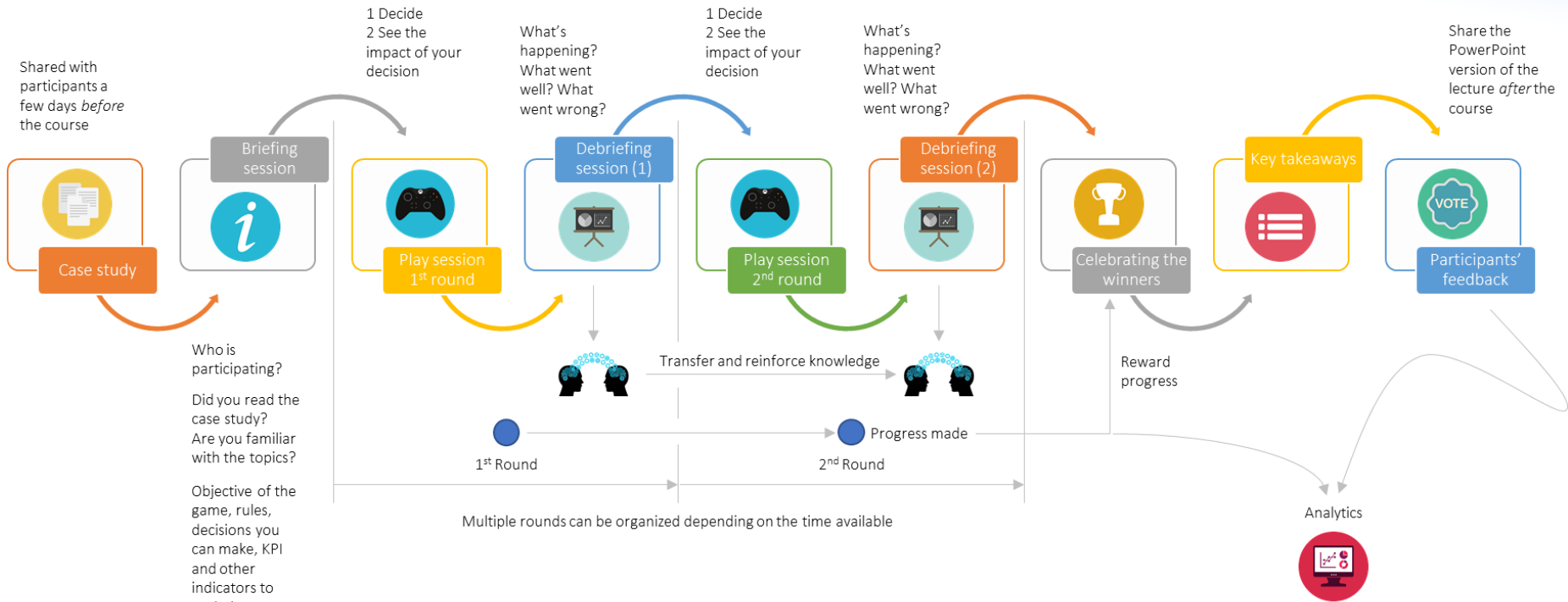
elements of game
mechanics





“ Research shows that showing people research doesn’t work ”

John Sterman researches energy policy, environmental sustainability and climate change at MIT



The lecture incorporates elements of *game mechanics* to engage the learners and to achieve instructional goals

Takeaways

- PowerInvest is an *interactive session* aimed at providing a *primer* on ‘Costs and Benefits attached Investment in the Power Sector’ to *non-specialists* taking part in Agency events.
- The session promotes a *bidirectional flow of ideas and information* and relies on *game mechanics* to make lectures more interactive and more effective.
 - Game elements include a story, a challenge, competition (among participant groups), and cooperation (between teammates)
- Introducing the audience to services and resources developed by the IAEA is PowerInvest’s main objective.
- The approach at the basis of PowerInvest can support a variety of communication and outreach efforts, especially the ones aimed at *digital natives*.



thank you!

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