

## Spark! Contest 2016: Abstract



### 'THE NUCLEAR FUEL CYCLE IN 2040: THE CHALLENGES AND SOLUTIONS TO ACHIEVE SUSTAINABLE NUCLEAR GENERATION IN EUROPE'

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#### DESCRIPTION

Our document is written as a business proposal prepared by **Ignis Consulting**, a fictional company that represents Ee Jane Low and Cécile Belhamri. The customer to this proposal is the **Spark Energy Commission**; a fictional body that represents Directorate-General for Energy of the European Commission.

The proposal presents the Nuclear Global Alliance Programme (**N-GAP**) - a concrete roadmap for a European collaboration to achieve a safe and sustainable nuclear generation by 2040, **ending** the potential energy **gap** crisis in Europe and solving the nuclear fuel cycle challenges. At the same time, the proposal meets the COP21 Paris Agreement on reducing carbon emission and strengthens the nuclear power position within the energy mix.

The preliminary assessment reveals that each European country owns various nuclear infrastructures and expertise. Considering the long timeframes of the nuclear fuel cycle and the needs of high capital investment, collaborating with your 'neighbours' is a win-win approach to address both climate change and nuclear fuel cycle challenges.

N-GAP therefore proposes a **unified nuclear policy** developed upon four fundamental work streams:

- 1) Streamlined Nuclear Fuel Cycle
- 2) Centralised Research and Development
- 3) Unified Independent Regulatory Structure
- 4) Transparent, Open and Early Public Engagement

These work streams are envisaged to be managed by the N-GAP Governance Team – a central body made up of members elected by the Spark Energy Commission. It ensures that the work streams meet the highest standards of safety and security for a sustained multilateral nuclear engagement, and that they are in line with the market progression.

This benefits every adherent country. **Economically**, it spreads the investment risk, reduces investment costs and generates long term projects. **Technologically**, there is an equal access to each expertise and an acceleration of the development and deployment processes. From a **geopolitical** consideration, this reduces the proliferation risk and ensures the security of supply across the continent.

Besides strengthening nuclear power position among the energy mix, N-GAP meets the international best practices by offering a sustainable and flexible solution. This approach allows for **expansion to the international market**.

**Why choose N-GAP?** The challenge of the nuclear fuel cycle is not new. We are closer to closing the nuclear fuel loop and by working together effectively, we can solve the nuclear fuel cycle challenge before 2040!