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## Energy efficient Carbon Capture with proven solvent technology - a heat integration study

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### Abstract

A major Waste to Energy (WtE) company in Western Europe is exploring options to capture approximately 50% of the CO<sub>2</sub> emitted by their facility. The captured CO<sub>2</sub> is intended to be sequestered subsea. Fluor has performed a study into far-reaching integration between the newly planned carbon capture facility and the existing WtE facility which is connected to the municipal 'district heating' network. The study also covered the important topic of providing suitable cooling for the capture plant.

The presentation will show that a very significant reduction in total (net) energy consumption is possible by suitable heat integration between the new capture facility, the existing WtE facility and the associated district heating network. It will also illustrate that there is a multitude of heat integration options, which have their distinct advantages and disadvantages. After addressing the topic of heat recovery, the presentation will cover the related topic of plant cooling. Again, several options are possible, including once-through cooling, cooling tower, air cooling and closed loop systems. The presentation will highlight the benefits and drawbacks of the various options based on the study performed.

## Note to reviewers:

We are still discussing options with Client to make this a duo presentation. Due to contractual reasons the decision to do so cannot be taken before abstract deadline.

*Keywords:* Carbon Capture, Waste to Energy, Energy from Waste, Energy optimization

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