

The Greenhouse Gas Abatement Potential of Enterprise Cloud Computing

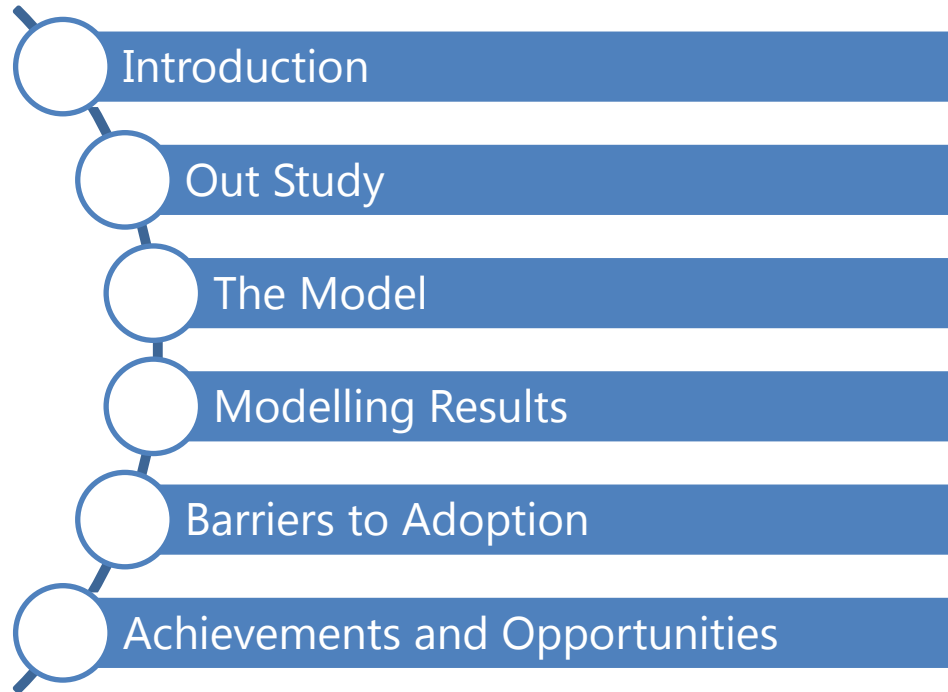
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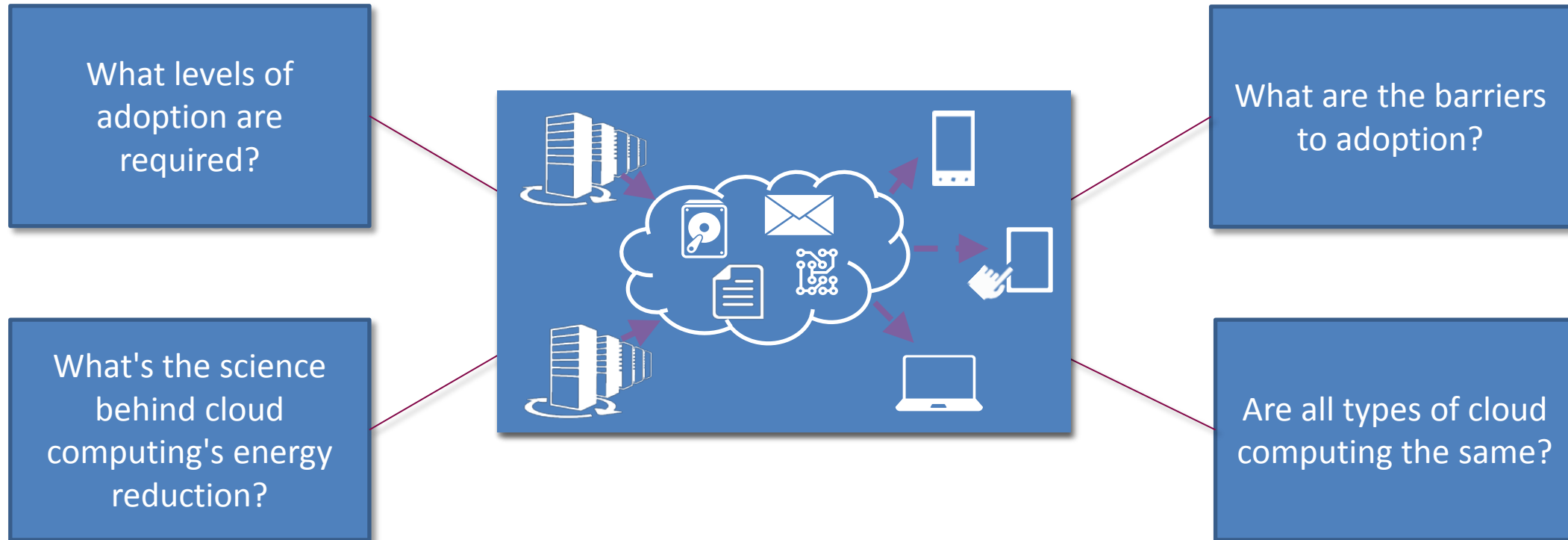
Presentation to the ICT4s conference, Zurich, 14th February 2013.

Agenda



Introduction

Cloud Computing has the potential to reduce energy consumption and GHG emissions



Our Study

Goal

Understand the GHG abatement potential of Cloud

Main Objectives

Model the environmental and economic impacts of moving to cloud

Scientifically detail and share our method

The Detail

Scope 3 Current Enterprise Cloud products (CRM, Groupware, email)

Include organisational adoption modelling

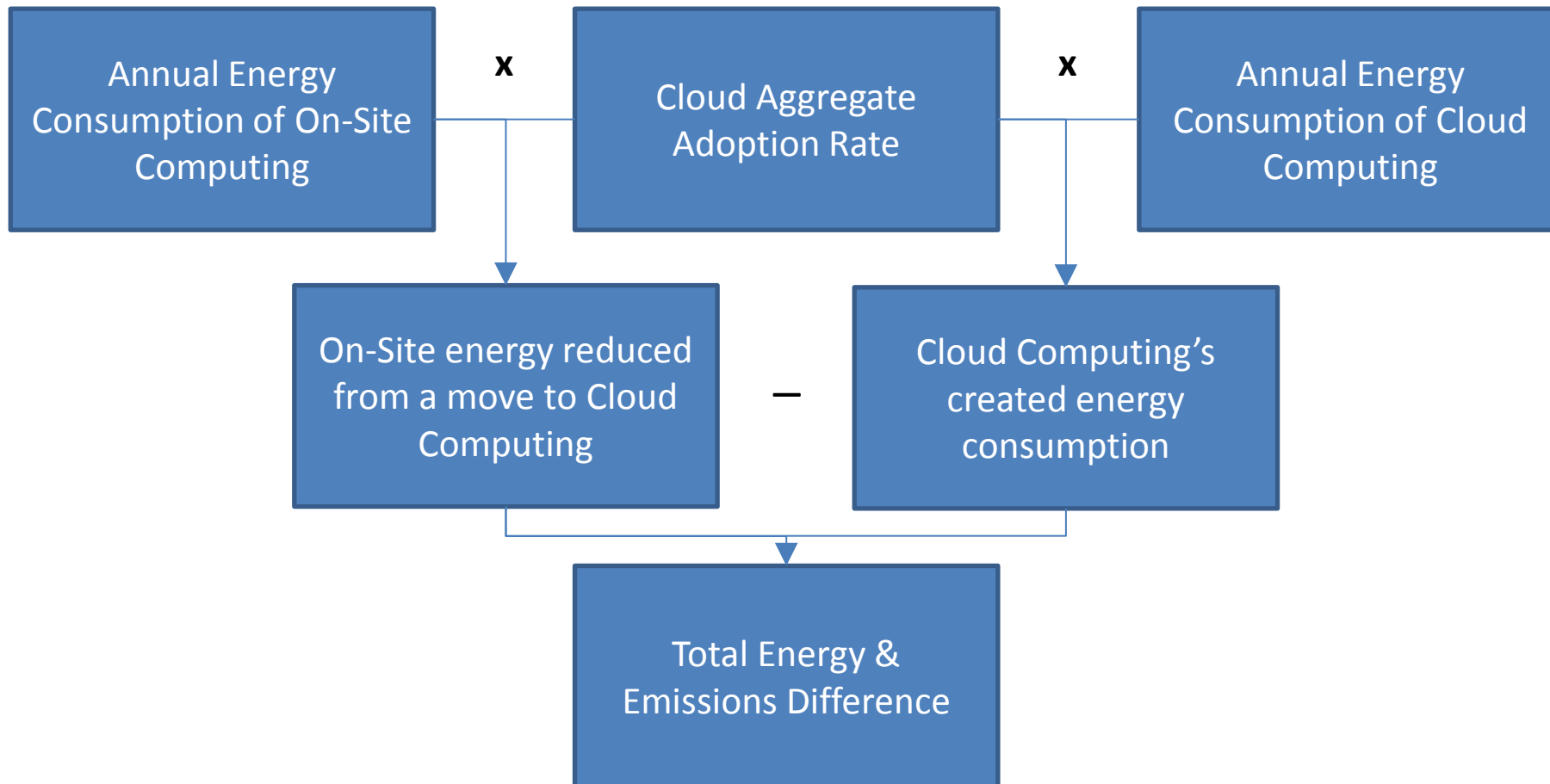
Design a method for use on any cloud service

Compare 'on site' traditional vs. 'off site' commercial cloud

Model by organisation size across different countries

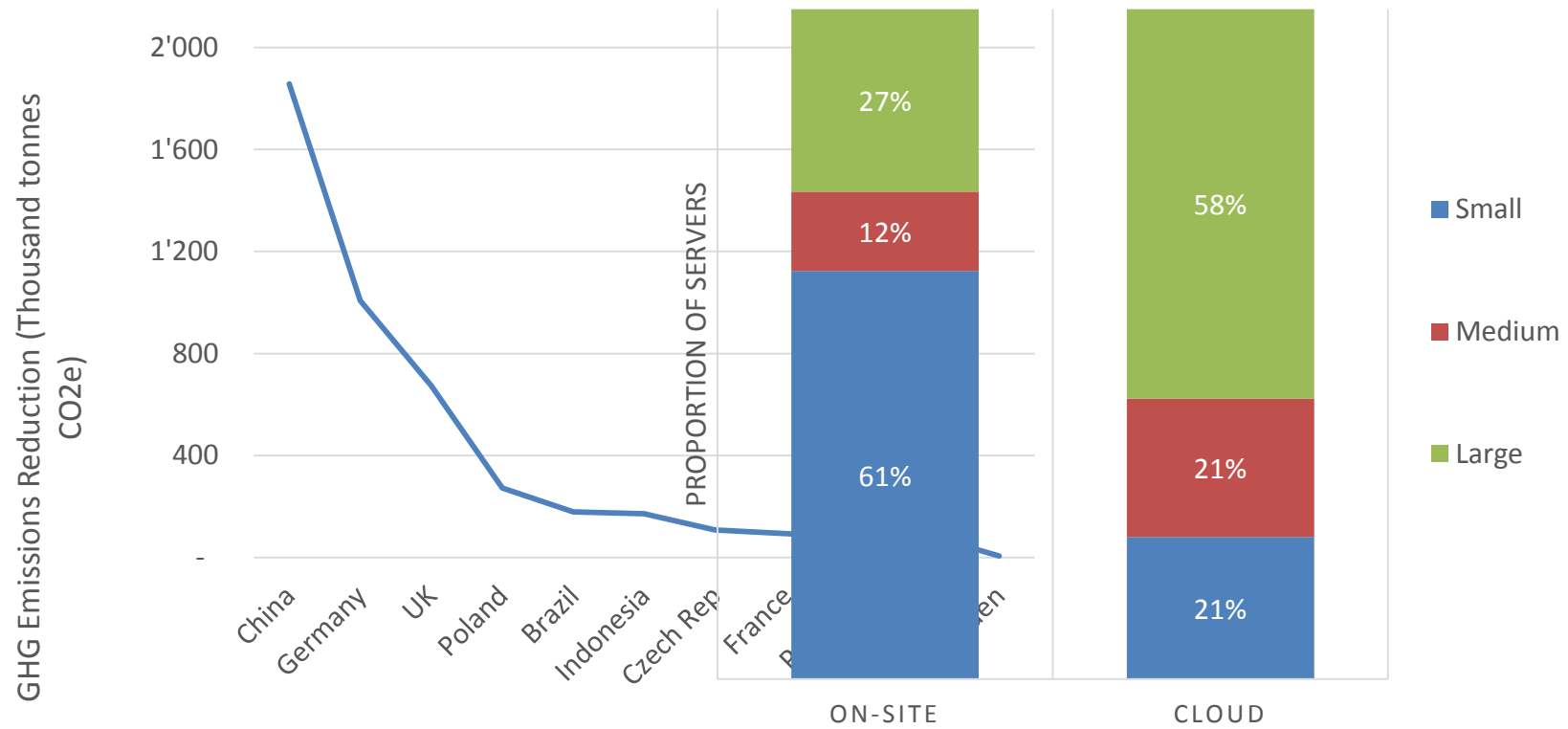
Understand the barriers to adoption

The Model



Modelling Results

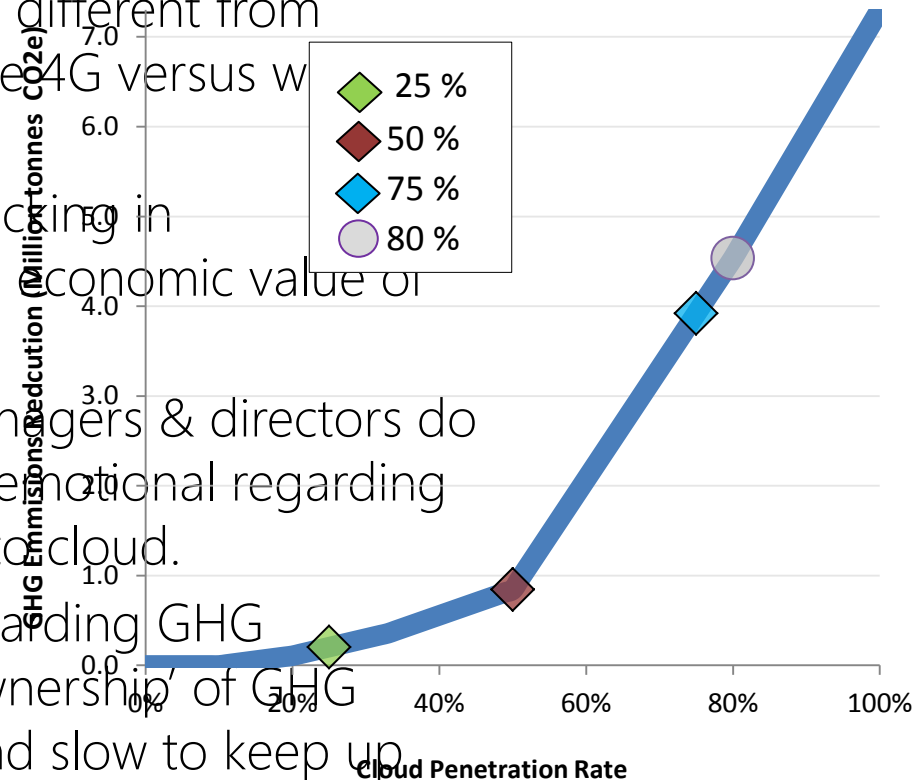
Cloud Computing has the potential to reduce GHG emissions by 4.5M tonnes over 11 countries with an 80% adoption rate



Adoption and Barriers

The adoption rate of cloud computing is vital to ensuring GHG emissions reductions; however, many barriers exist.

- Technological uptake and development in developing countries is different from developed. For example 4G versus w optic.
- The cloud industry is lacking in understanding the true economic value of cloud computing.
- Some traditional IT managers & directors do not understand or are emotional regarding the value of changing to cloud.
- Government policy regarding GHG regulations and the 'ownership' of GHG emissions is variable and slow to keep up with cloud computing.



Achievements

- We've created a new method and model and opened it to academia, industry and policy makers.
- The potential range of both CO₂e and economic savings has been revealed for CRM, email and Groupware cloud based applications.

Opportunities

- Other cloud services can now be measured and monitored using the methodology.
- Opportunities for the cloud data centre industry to prove that they are keeping cloud servers at similar 1:20 levels (or better).
- Integration of the model towards end user device changes – The rebound effect.
- Investigation of what the inevitable use of 'private cloud' will have on the potential of cloud computing.

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Questions



think,play,do

