

# The Greenhouse Gas Abatement Potential of Enterprise Cloud Computing

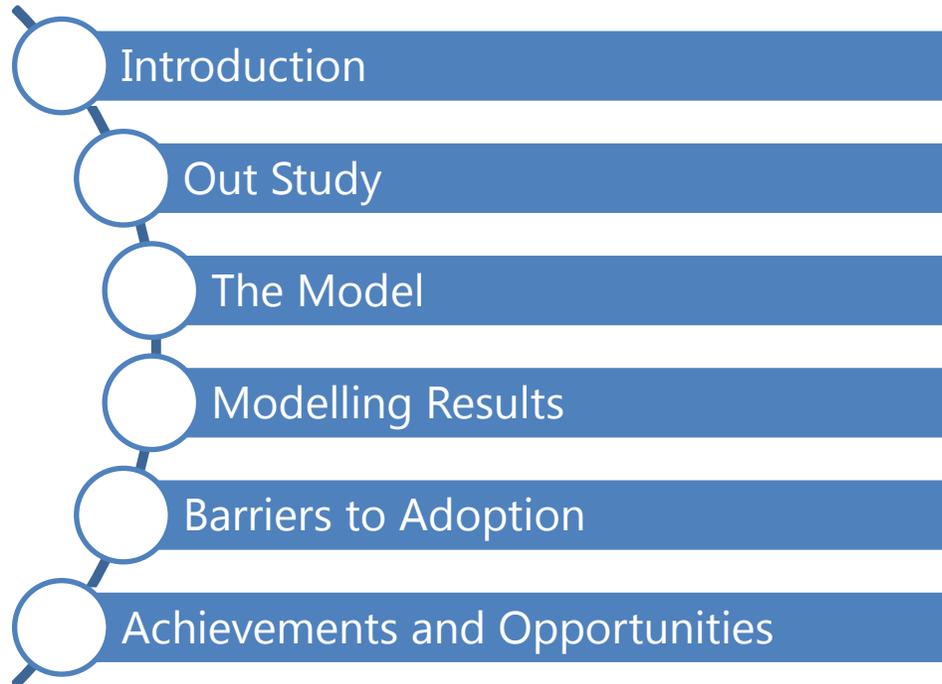
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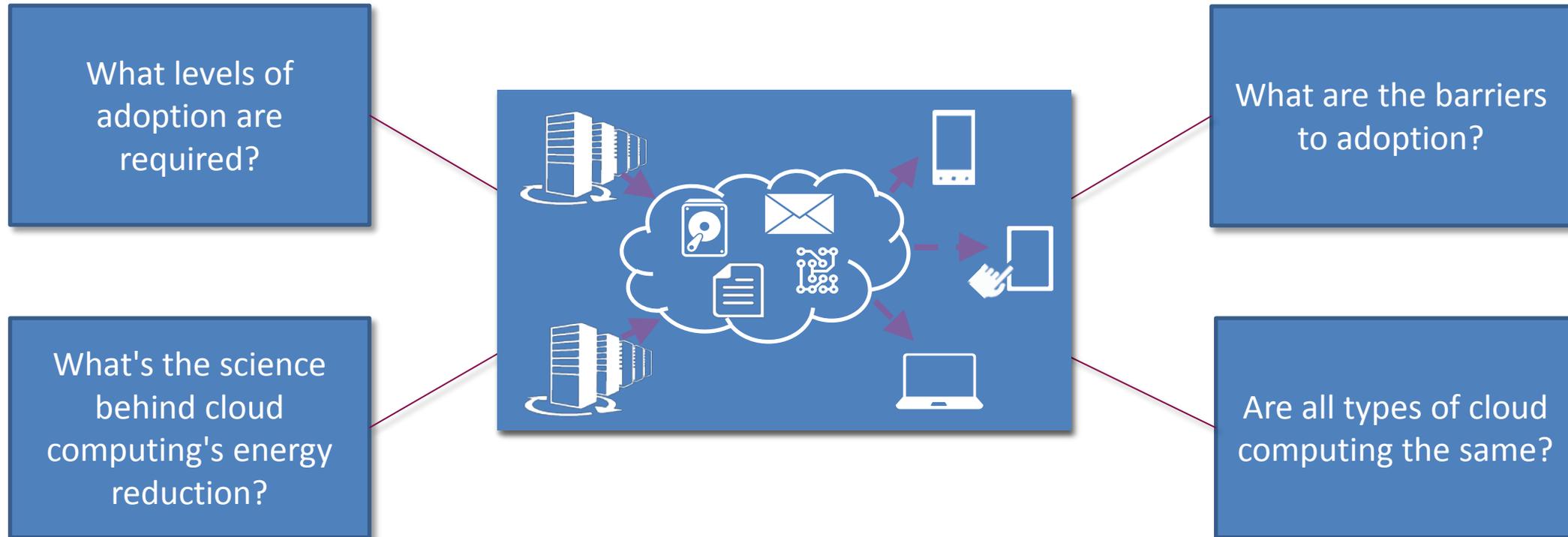
Presentation to the ICT4s conference, Zurich, 14<sup>th</sup> February 2013.

# 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

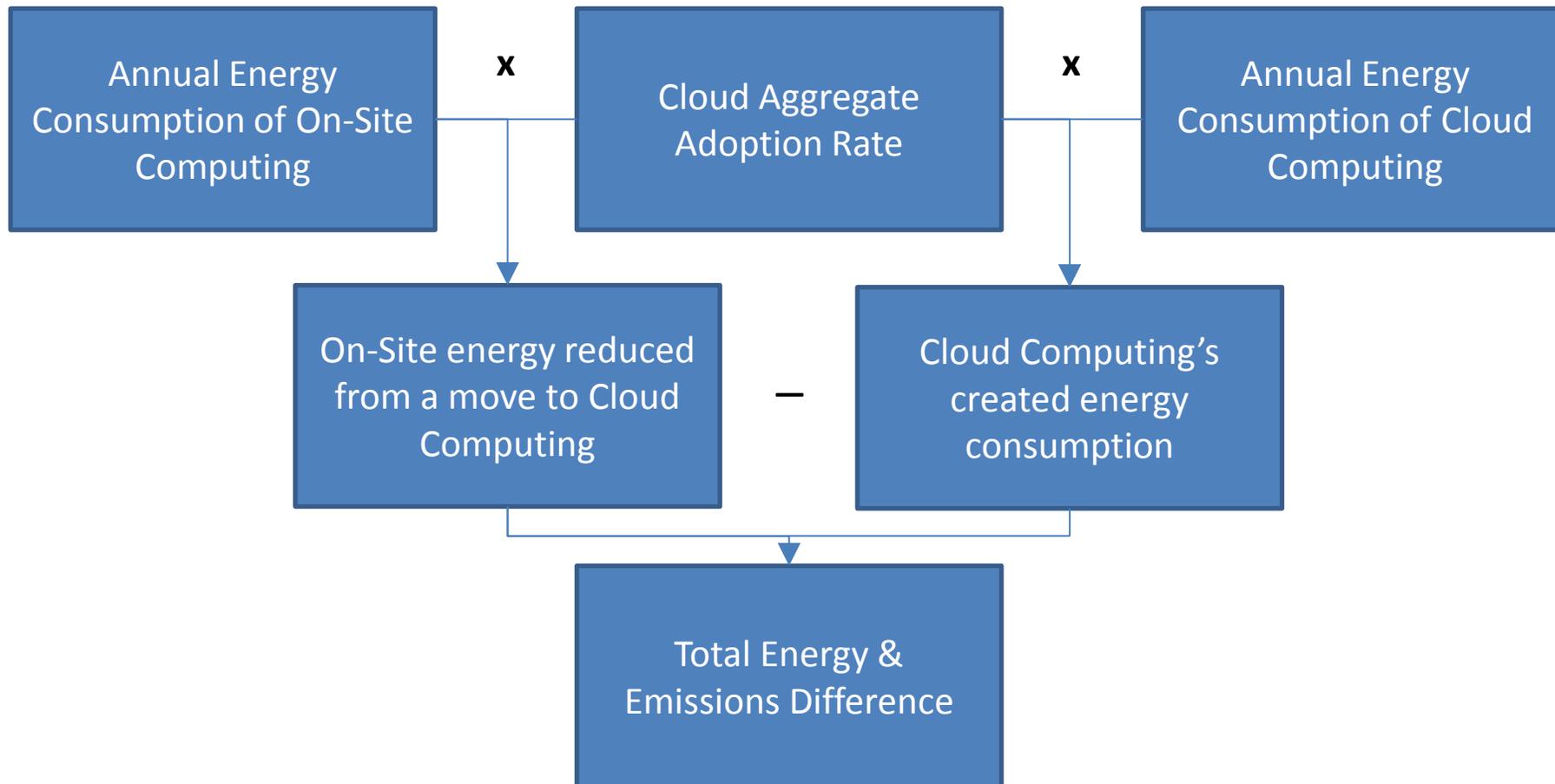
Design a method for use on any cloud service

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

Model by organisation size across different countries

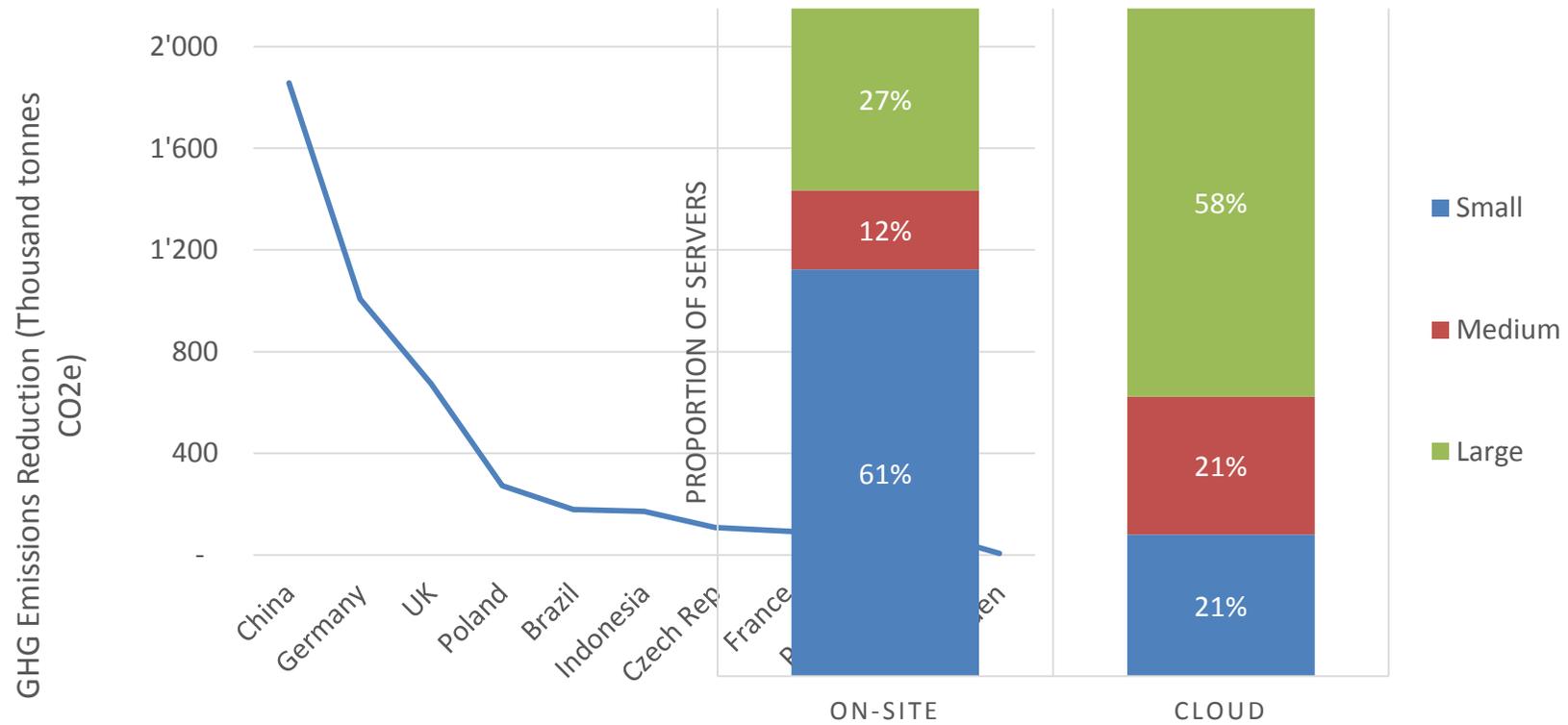
Understand the barriers to adoption

# The Model



# Modelling Results

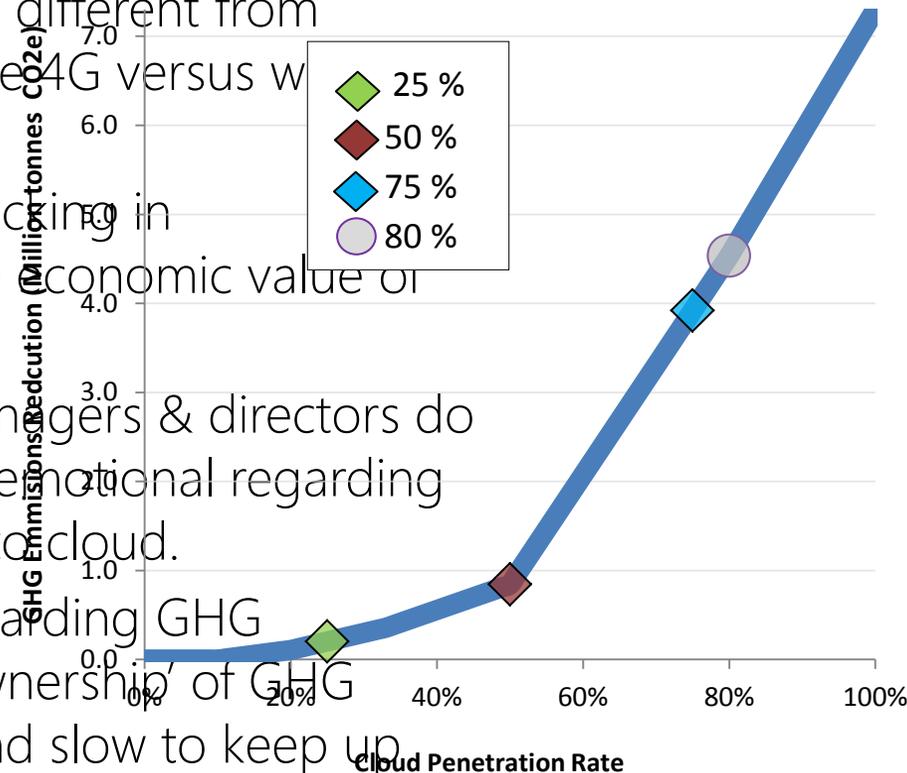
Cloud Computing has the potential to reduce GHG emissions by 4.5M tonnes over 11 countries with an 80% adoption rate



# 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 CO<sub>2</sub>e 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

