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The Low Carbon TV delivery Project

The LoCaT project : assessing the carbon footprint of TV delivery across Europe

Presentation at EBU Forecast 2021
Nov 16, 2021

Vincent GRIVET
representing the sponsors of the LoCaT Project

Who is the LoCaT Project ?

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Facilitated by :
BMV Consulting

ATET
Association Technique des Editeurs de la TNT

TF1 LE GROUPE · M6 GROUPE · france•tv · arte · CANAL+ GROUPE · L'ÉQUIPE · altice · NRJ GROUP

broadcast networks europe

emitel · ETB · MEDIA BROADCAST · OIV · 2rn · arqiva · cellnex · CRA · ors group · RADIOCOM · swisscom · tdf · Digea · DIGITA · EI TOWERS · telenor · TERACOM

ors group

Quadrille

SALTO

- ad hoc , collaborative group
- initial talks Q1 2020
- initial goal = complete a study to get the facts and the number rights
- European scope

How green is the delivery of TV content across Europe ?

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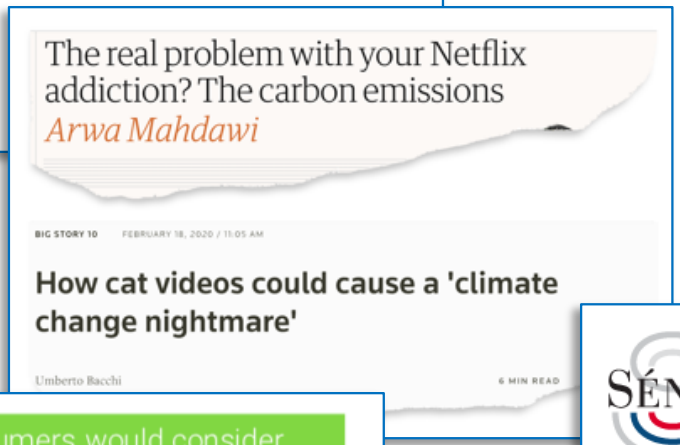
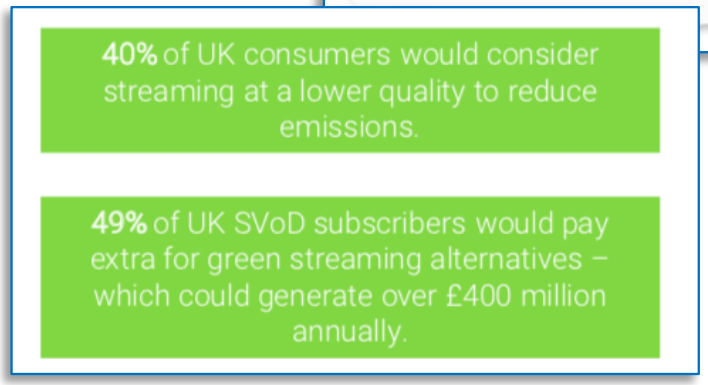
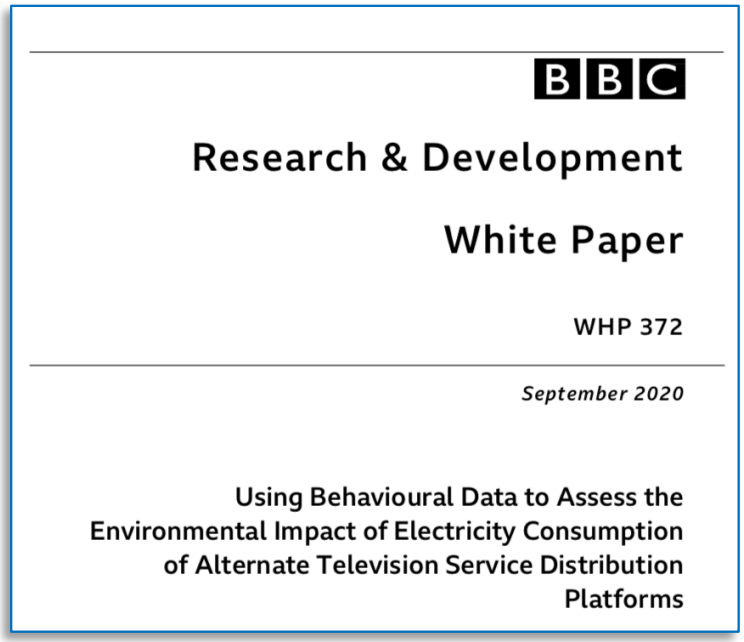
A question which becomes quite important..





… which does not have easy or exhaustive answers



BBC

Research & Development

White Paper

WHP 372

September 2020

Using Behavioural Data to Assess the Environmental Impact of Electricity Consumption of Alternate Television Service Distribution Platforms

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About the LoCaT Study

Goal

Provide a pan-European assessment of the delivery of TV content (linear + on -demand) across different network platforms

2020 snapshot + prospective scenarios

Who ?

Carnstone

UK management consultancy specializing on sustainability

D-Impact project, BBC and Bristol University Link

Study executed from January to September 2021

NB

- attributional life-cycle assessment (LCA) approach
- data sourced from external sources (EBU, BARB, OFCOM, EAO, ..)
- primary data used when available (eg; DTT network operators,..)
- in home viewing on TV set (eg, no mobile network, no mobile device viewing)
- TV screen EXCLUDED (and the same for playout, production, ..) ; focus on delivery
- assessment of DTT, IPTV & OTT (but hours delivered by sat & cable are factored in)

So what ?

… a look at results for 2020

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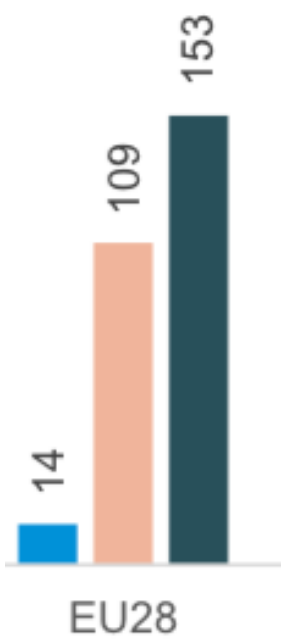
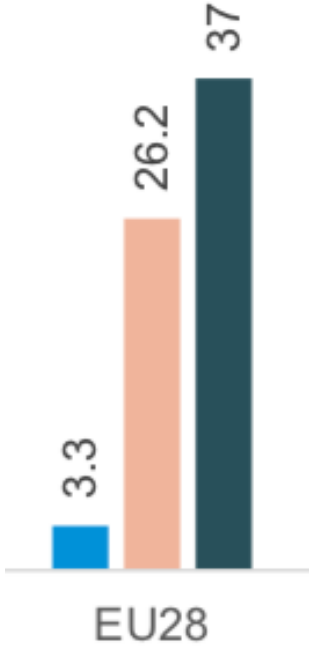
Major differences between platforms



WH of energy
for 1 hour of viewing



g of CO2
for 1 hour of viewing

Source : *Results for 2020 of LoCaT study*

DTT OTT Managed IPTV

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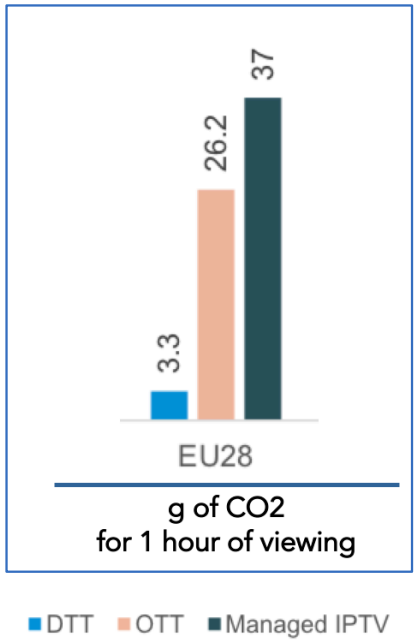
Considering Embodied Emissions

Preliminary ! Care required



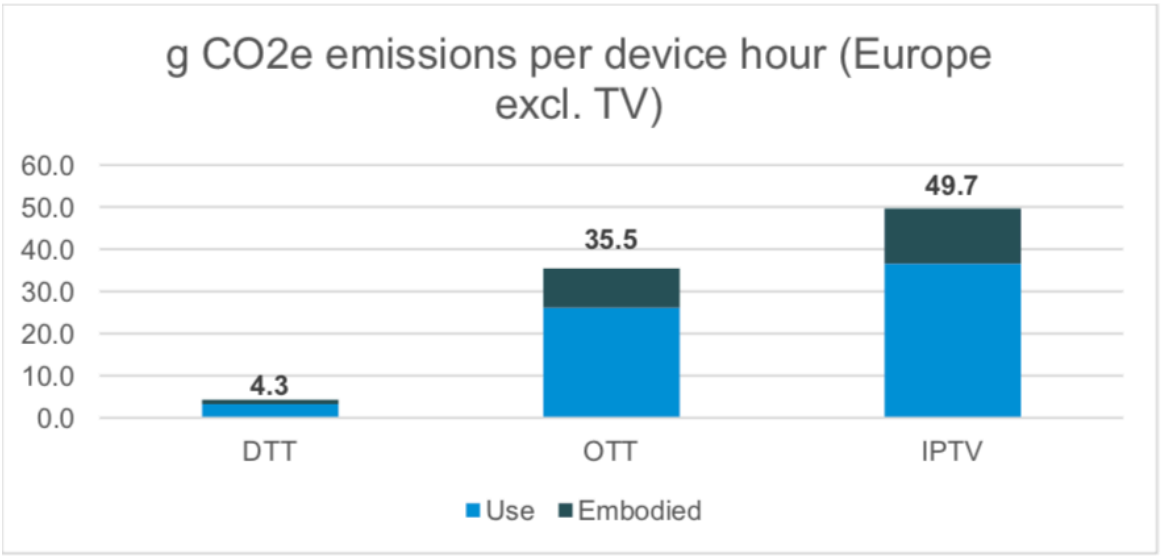


Figure 25 Embodied emissions for Europe

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TV set has a high impact but does not erase differences

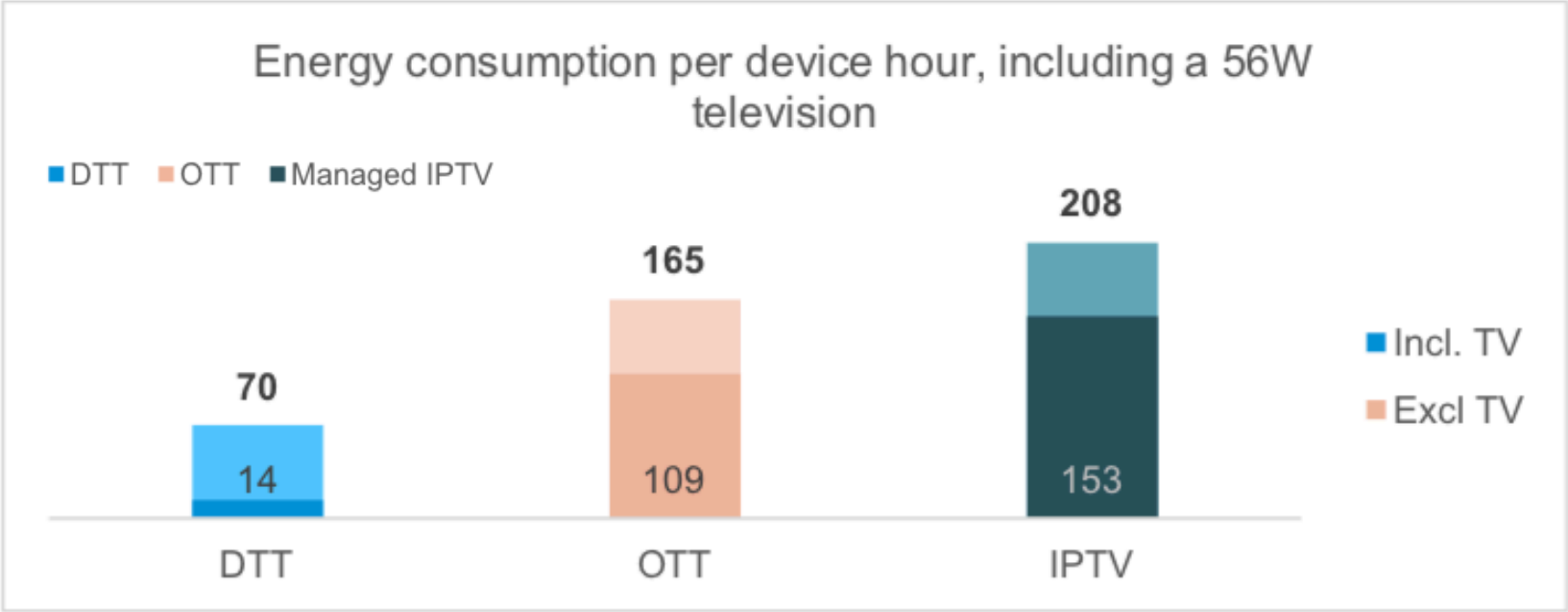

Figure 12. Impact of TV on energy consumption, by delivery method

Source *: Results for 2020 of LoCaT study*

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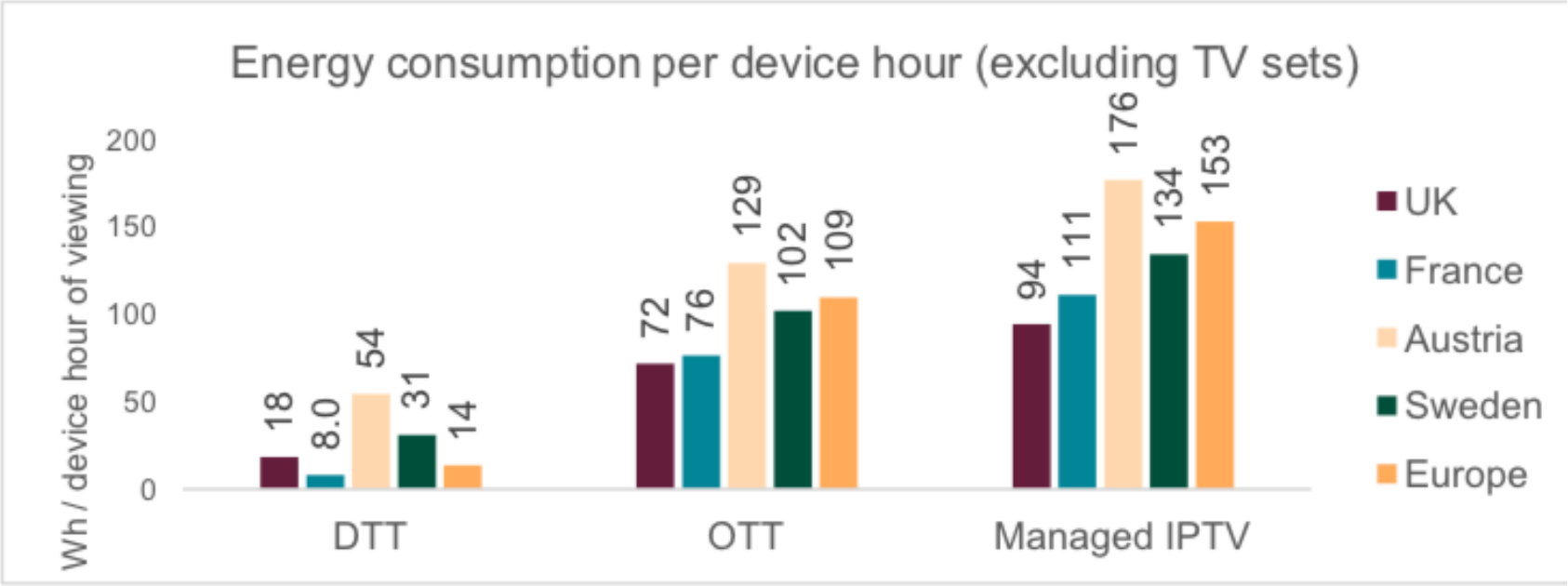
Major differences between countries (energy)



Source *: Results for 2020 of LoCaT study*

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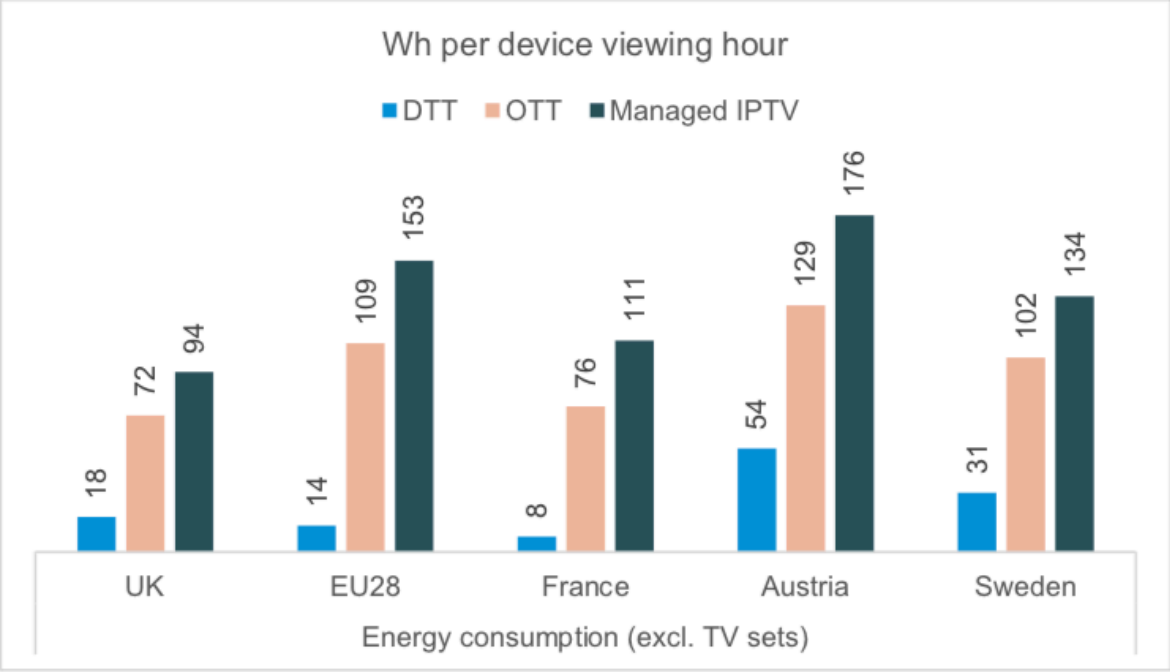
Platform "hierarchy" consistent across all countries



- differences result from different viewing patterns and allocation between platforms
- differences do not change the "hierarchy" of platforms

Source *: Results for 2020 of LoCaT study*

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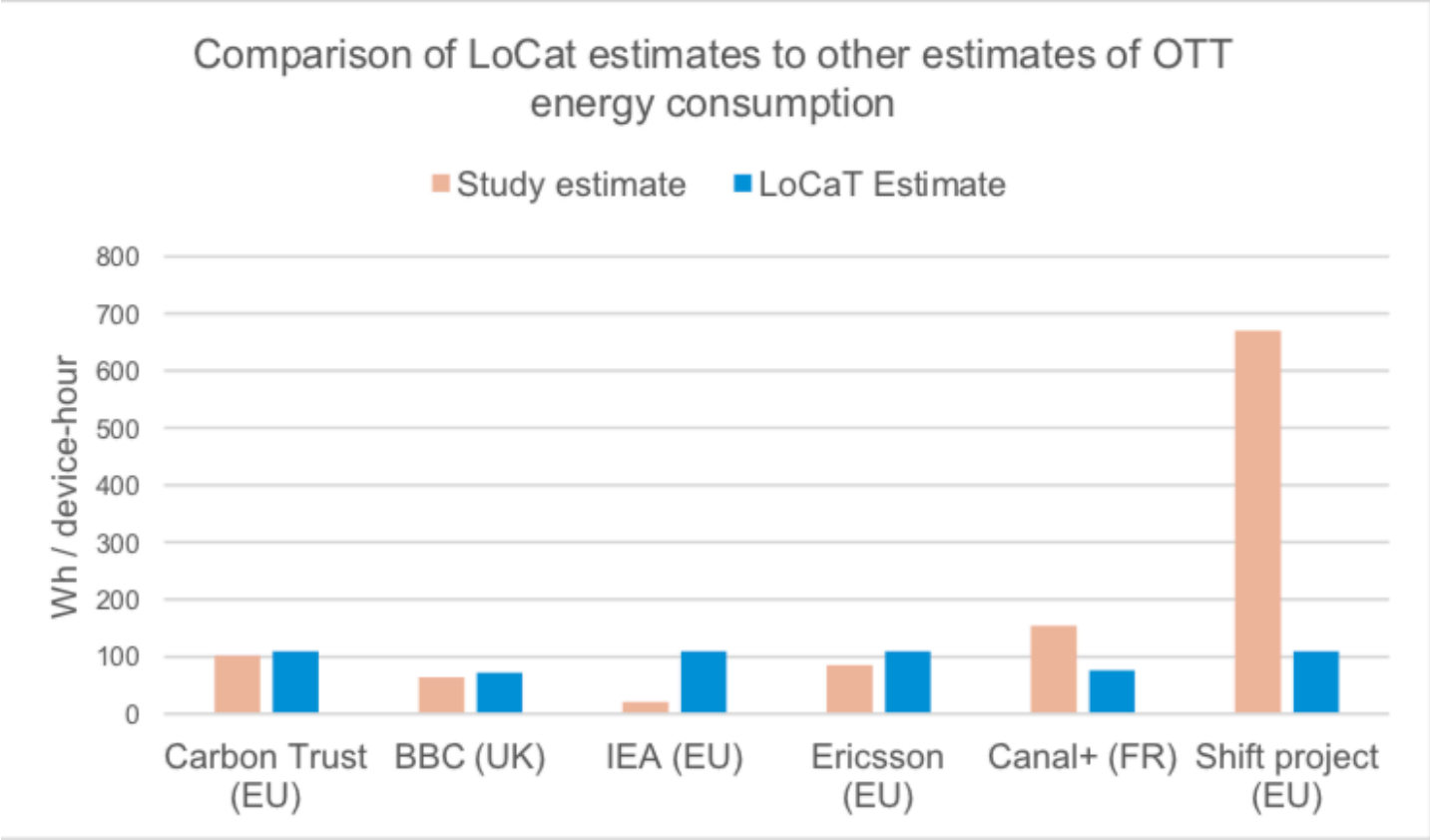
LoCaT results are consistent with peer studies



Source : Results for 2020 of LoCaT study

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Looking ahead to 2035..

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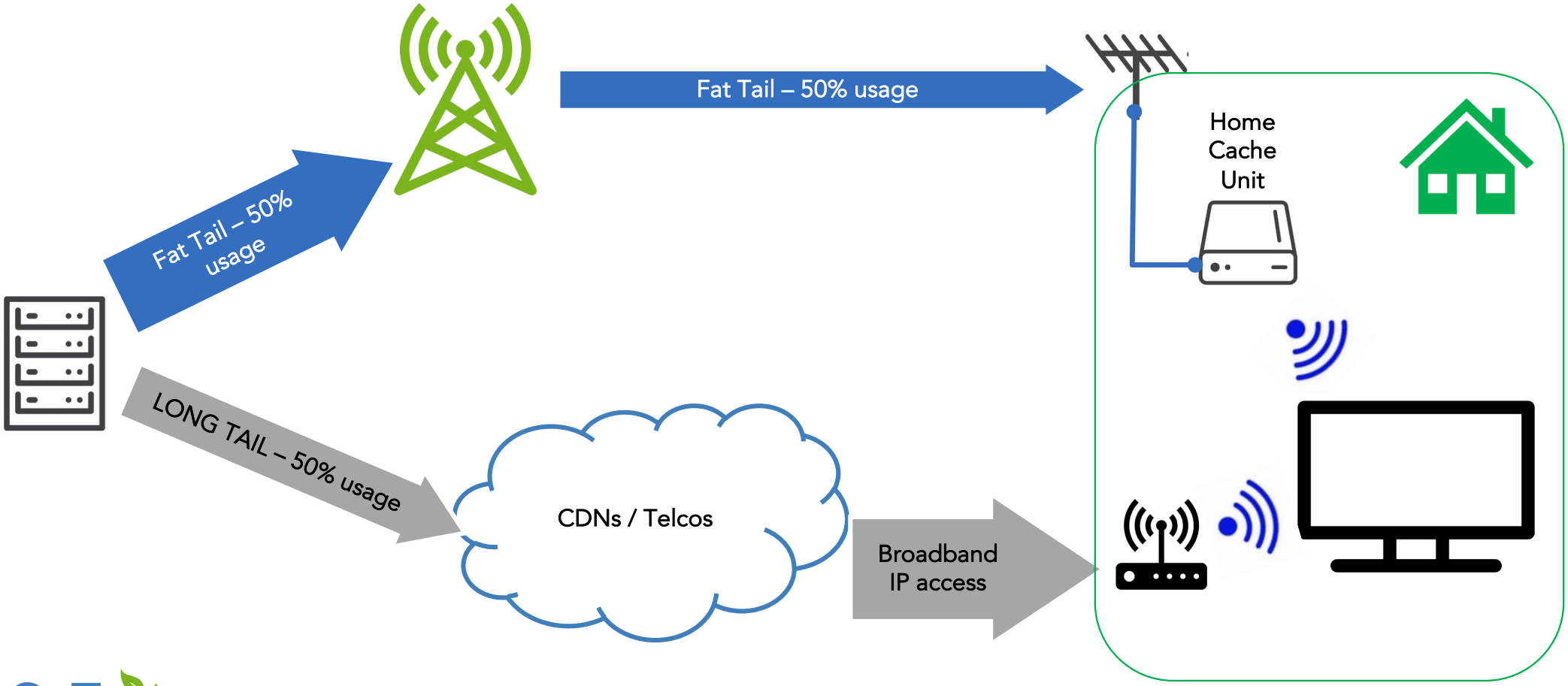
Four scenarios were considered

Scenario A : current trends continue
Scenario B : accelerated IPTV growth
Scenario C : plateau of IPTV – DTT re-growth
Scenario D : home caching

About Scenario D / Home Caching



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Scenario A : continuity of current trends

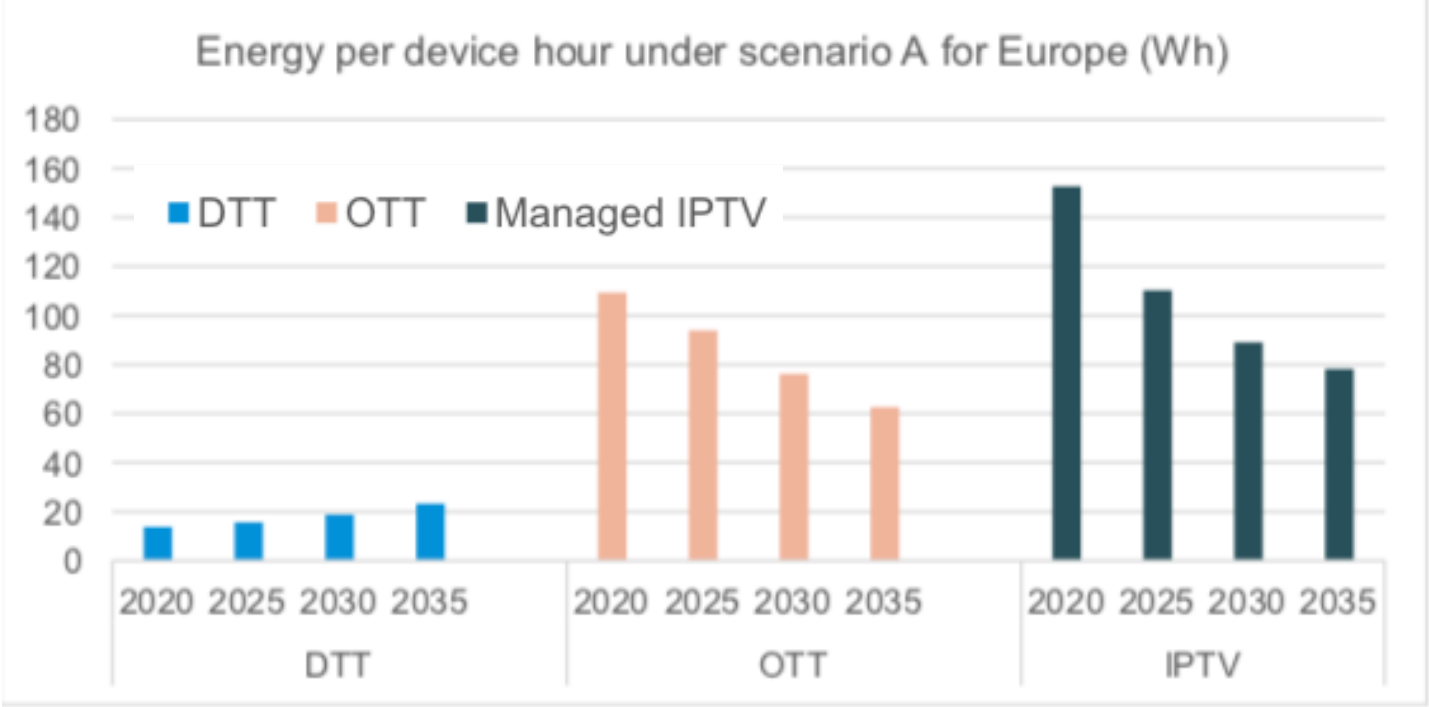

Figure 21. Scenario A results for unit energy consumption per device hour

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Scenario B : accelerated IPTV growth

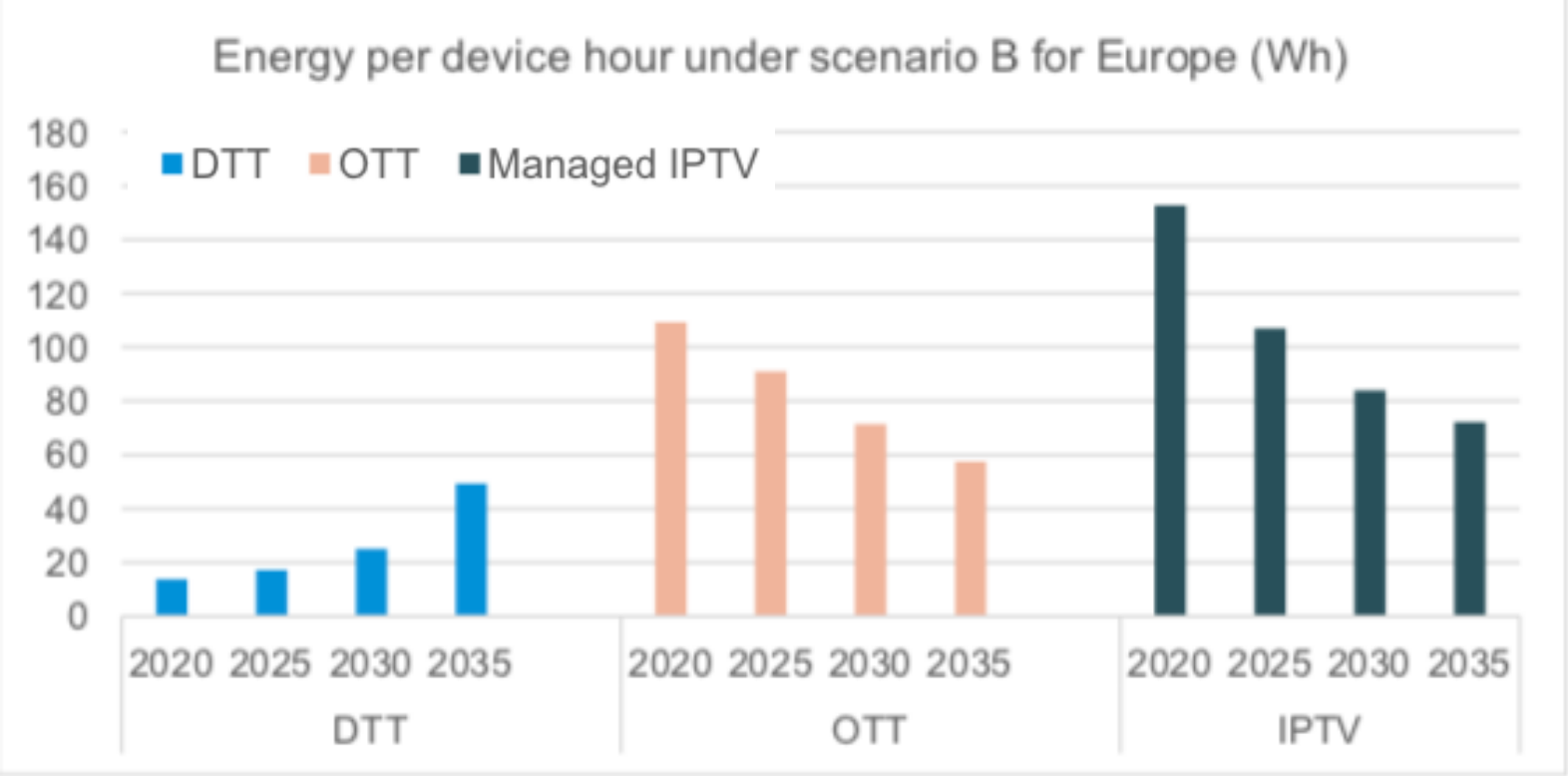

Figure 22. Scenario B results for unit energy consumption per device hour

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Scenario C : IPTV Plateau and DTT re-growth

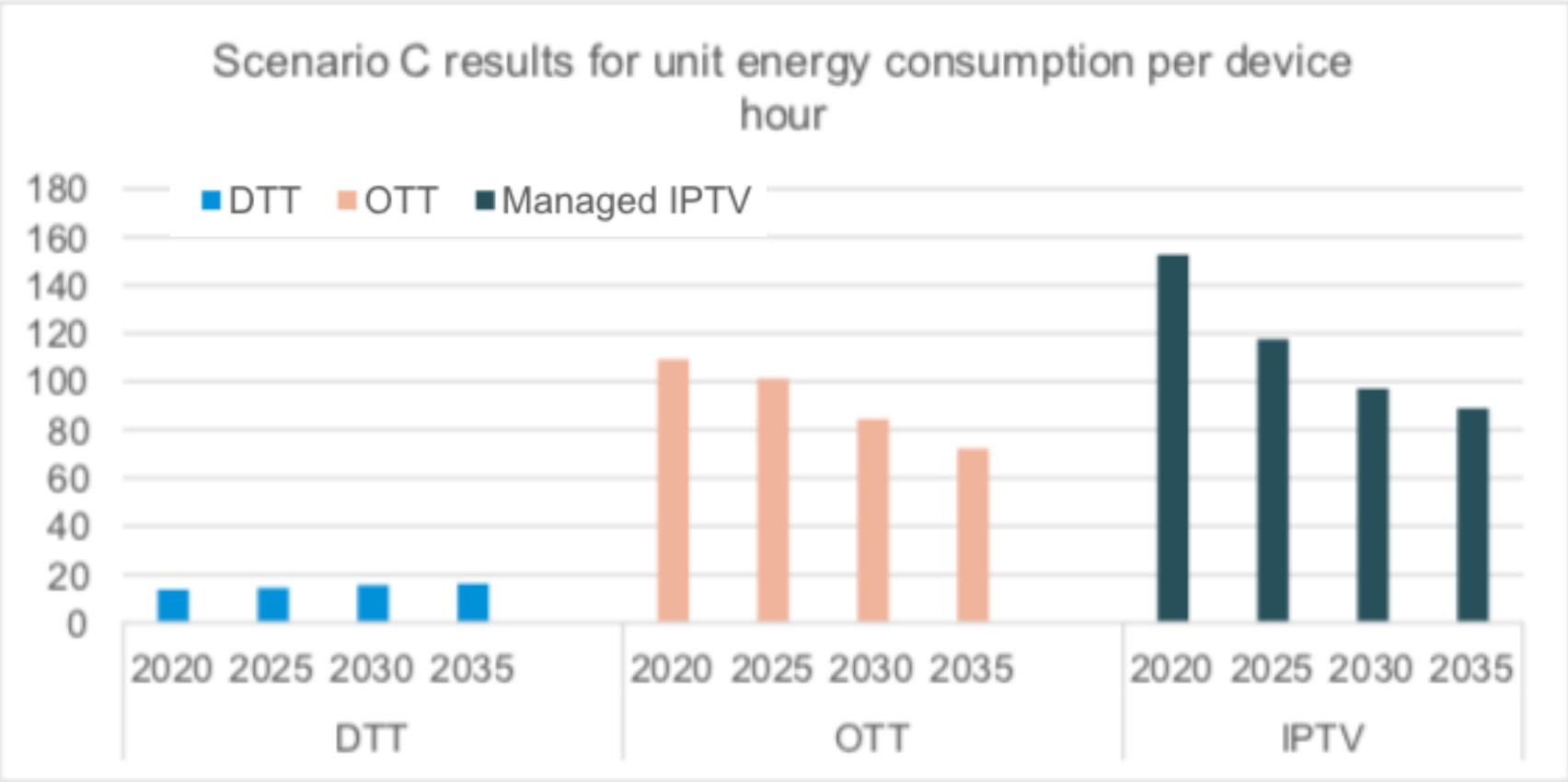

Figure 23. Scenario C results for unit energy consumption per device hour

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Scenario D : Home Caching option

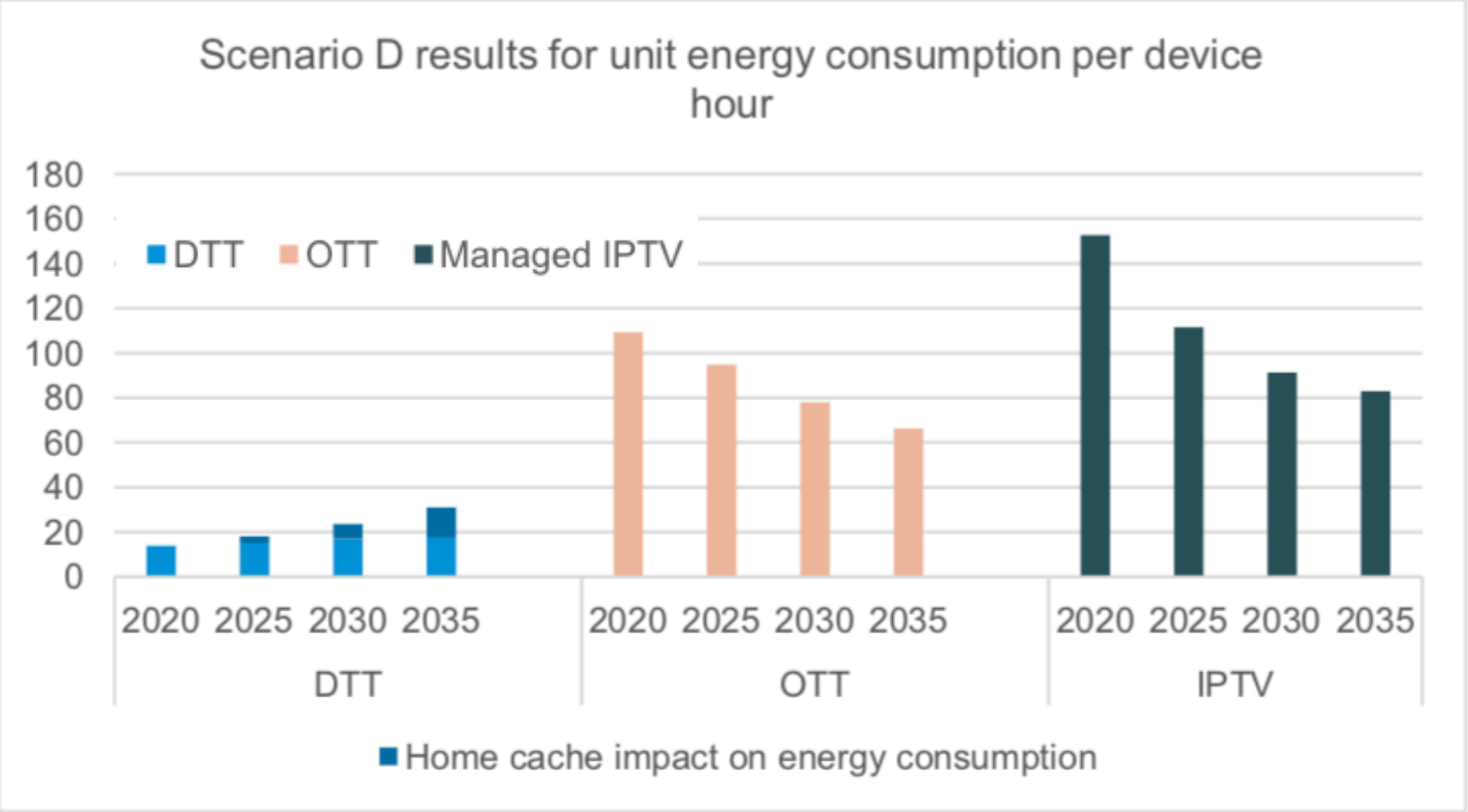

Figure 24. Scenario D results for unit energy consumption per device hour

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In summary :

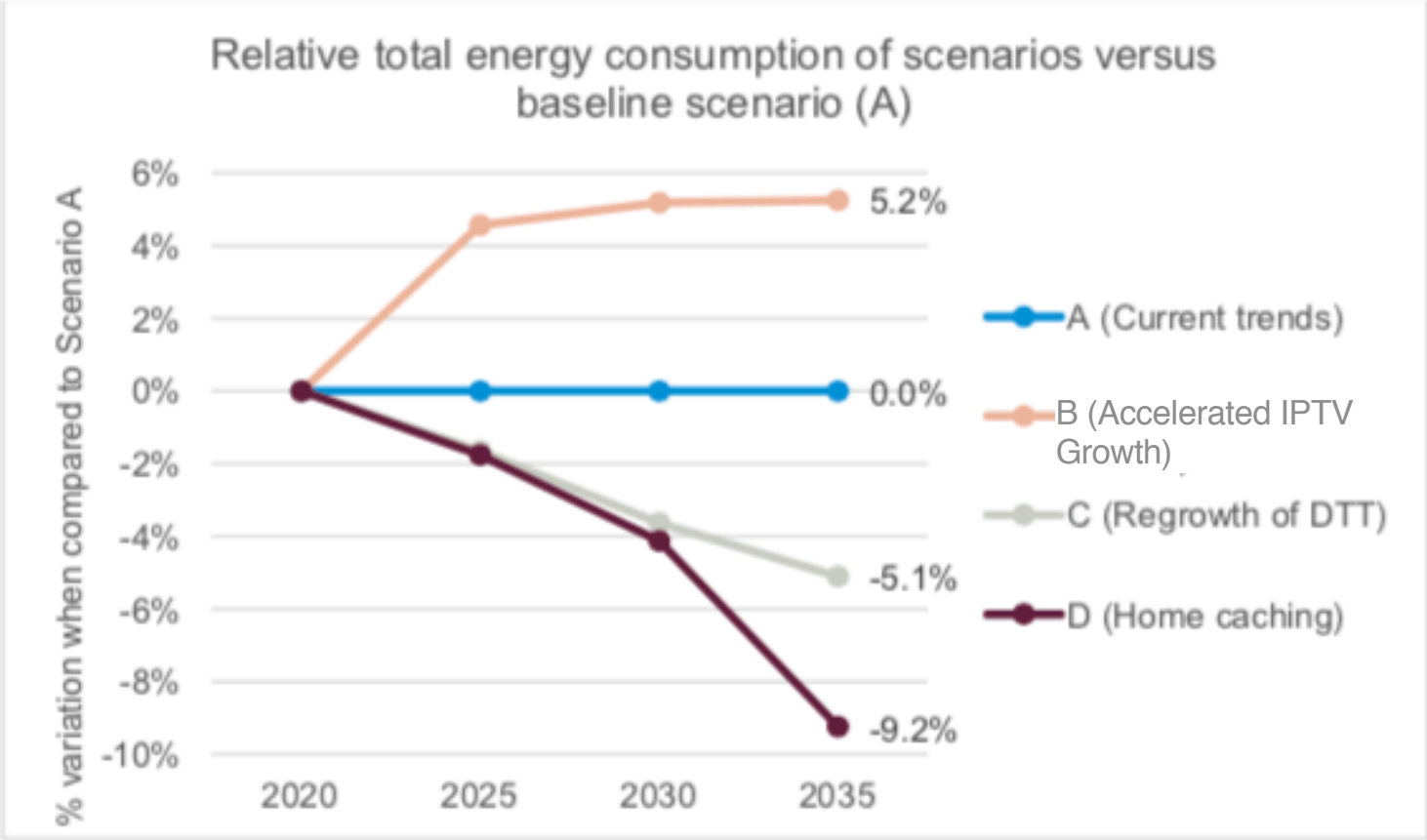

Figure 19. EU28 Comparison of Total Energy Consumption of OTT, IPTV and DTT, when compared to the baseline case where current trends continue

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Summary

- a major topic for consumers, business and governments
- no easy, off the shelves assessment
- LoCaT Study hopefully an important piece of research to deal with the issue
  - covering entire Europe
  - beyond the 2020 snapshot, projecting 2035 evolutions

- Major differences of efficiency between TV delivery platforms
- DTT very substantially more efficient, now and in the future, all scenarios, all countries
- scenarios with highest DTT proportion are the greenest
- As for on-demand viewing, OTT has a lower energy usage than IPTV : may be the ideal complement to DTT;
- shifting part of on-demand traffic to DTT in the future could bring an additional environmental benefit

Thank You !

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Full report can be downloaded on:
www.thelocatproject.org

Contact :
info@thelocatproject.org