

Agenda of the meeting

- **09.30 Welcome, introduction**
 - **Welcome, Lucie Anderton, UIC Head of Sustainability**
 - **International Energy Agency: the crisis, the energy market and the "electricity market" report**
Keynote speaker Oskaras Alsauskas, IEA
 - **Intro/Recap Task Force outcomes**
- **09.50 Parallel sessions**
 - **205 OPE / RS Session (Christophe Gueudar Delahaye, SNCF and Matthias Tuchscheid, Johannes Estermann, SBB, Christian Gerster, Alstom)**
 - **202 INFRA / Buildings and stations (Andreas Toufexes, ProRail and Sooyeon Lee, Korail)**
 - **204 Energy contracts and partnerships (Paul Hodgson, CFL Cargo and Bart Van der Spiegel, Infrabel)**
- **11.30 Coffee break**
- **11.50 First synthesis (Each group thinks about a way to feed the rest of the attendance)**
- **12.20 Plenary exchange about first outcome**
- **13.00 Lunch**
- **14.30 Parallel sessions continued**
- **15.00 Parallel sessions' focus: Implementation challenges and incentives**
- **15.30 Prepare final synthesis**
- **16.00 Synthesis**
- **17.30 Conclusion, end of workshop**
- **18.00 Networking drink**



Welcome to the

ENERGY SAVING

Best practice workshop

Web participants: Please rename as [Name Surname (Company)]

Web participants: Please remain on mute while a speaker is active

UIC Energy Task Force
UIC Energy & CO2 Sector

Energy saving best practice workshop



Agenda

Agenda of the meeting

- **09.30 Welcome, introduction**
 - **Welcome, Lucie Anderton, UIC Head of Sustainability**
 - **International Energy Agency: the crisis, the energy market and the "electricity market" report**
Keynote speaker Oskaras Alsauskas, IEA
 - **Intro/Recap Task Force outcomes**
- **09.50 Parallel sessions**
- **205 OPE / RS Session (Christophe Gueudar Delahaye, SNCF and Matthias Tuchschnid, Johannes Estermann, SBB, Christian Gerster, Alstom)**
- **202 INFRA / Buildings and stations (Andreas Toufexes, ProRail and Sooyeon Lee, Korail)**
- **204 Energy contracts and partnerships (Paul Hodgson, CFL Cargo and Bart Van der Spiegel, Infrabel)**
- **11.30 Coffee break**
- **11.50 First synthesis (Each group thinks about a way to feed the rest of the attendance)**
- **12.20 Plenary exchange about first outcome**
- **13.00 Lunch**
- **14.30 Parallel sessions continued**
- **15.00 Parallel sessions' focus: Implementation challenges and incentives**
- **15.30 Prepare final synthesis**
- **16.00 Synthesis**
- **17.30 Conclusion, end of workshop**
- **18.00 Networking drink**

Energy saving best practice workshop



Lucie Anderton
Head of Sustainability
UIC

Energy saving best practice workshop



Keynote speech

Oskaras Alsauskas

Modeller, World Energy Outlook (WEO) Team

International Energy Agency

IEA

Energy saving best practice workshop

Introduction
Context
Energy task force

UIC Energy Taskforce

- eNews
 - <https://uic.org/com/enews/article/invitation-to-join-the-special-global-energy-saving-effort>
- *Letter from Director General, François Davenne*

Why launching a Taskforce?

- Urgent (short-term exchange/solutions)
- Drastic (proper response to the vulnerability of railways against the electricity price)
- *Less Sustainability driven (because taking onto railways profitability, thus dealing with various aspects, including energy procurement)*

UIC wish was to not (Nor Sustainability, nor Rail System) influence the needs/paths of this group, to make sure it's answering members' needs.

UIC Energy & CO2 Sector To the Energy Taskforce

Why/needs

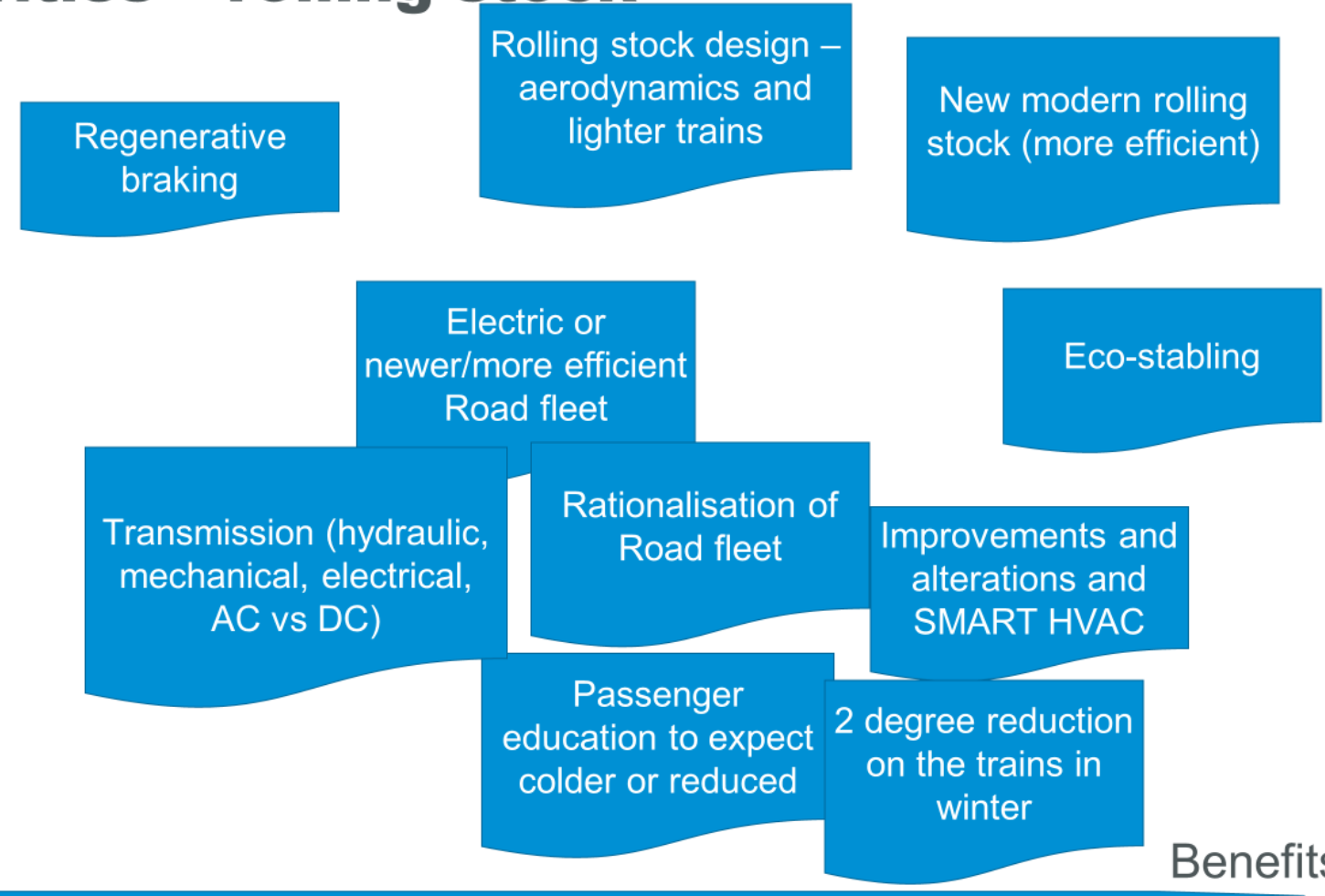
Energy & CO2 brainstorming suggestions

- Energy saving techniques / strategies **VS** Energy purchasing issues / contracts
- Short term / Quick wins **VS** Mid / Long term solutions/developments
- Defining what is essential **VS** Non-essential consumption
- Consider **intra-railway system** interactions

Defining priorities – rolling stock

6

Cost/Time

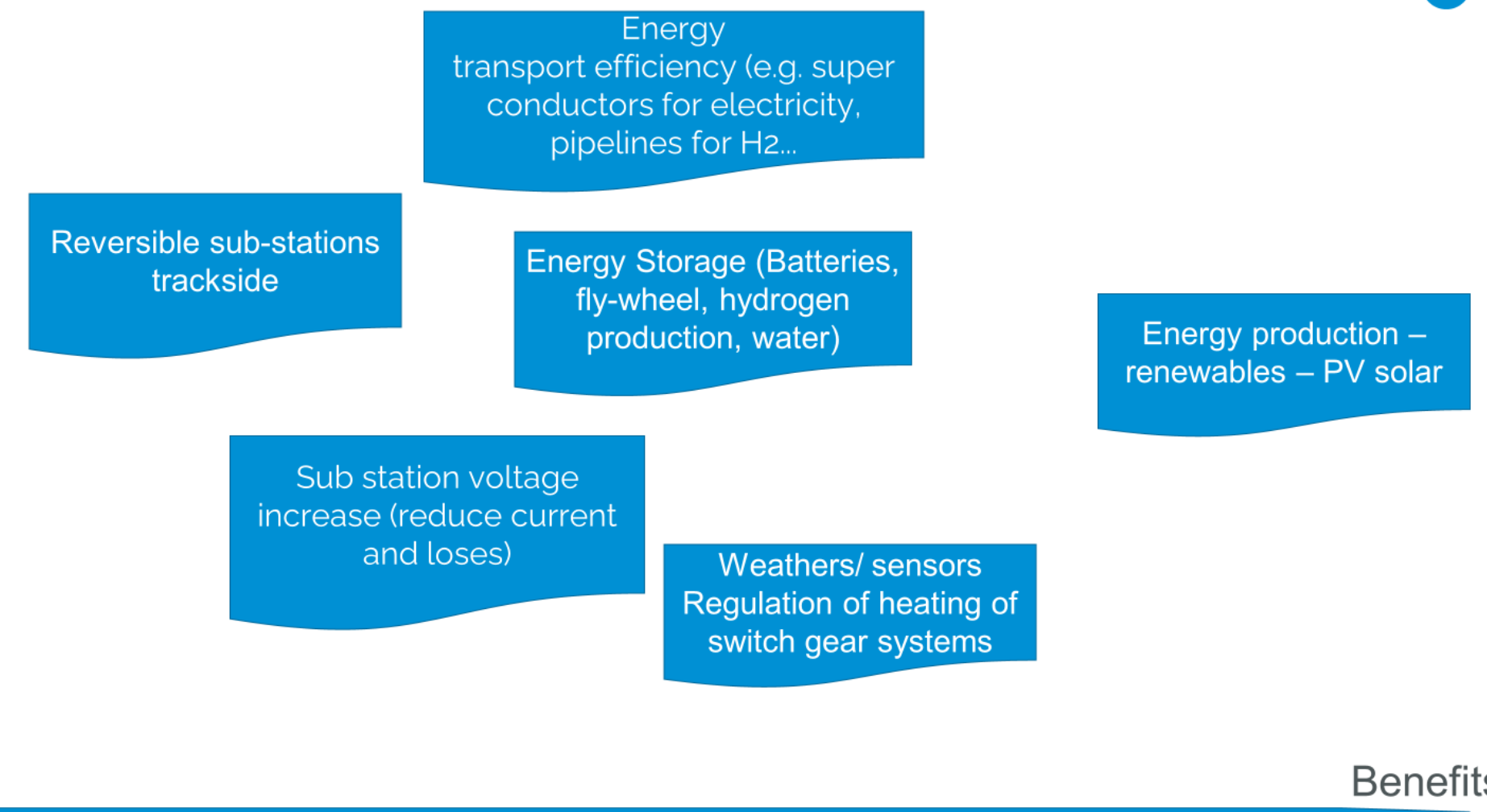


Benefits

Defining priorities - infrastructure

7

Cost/Time

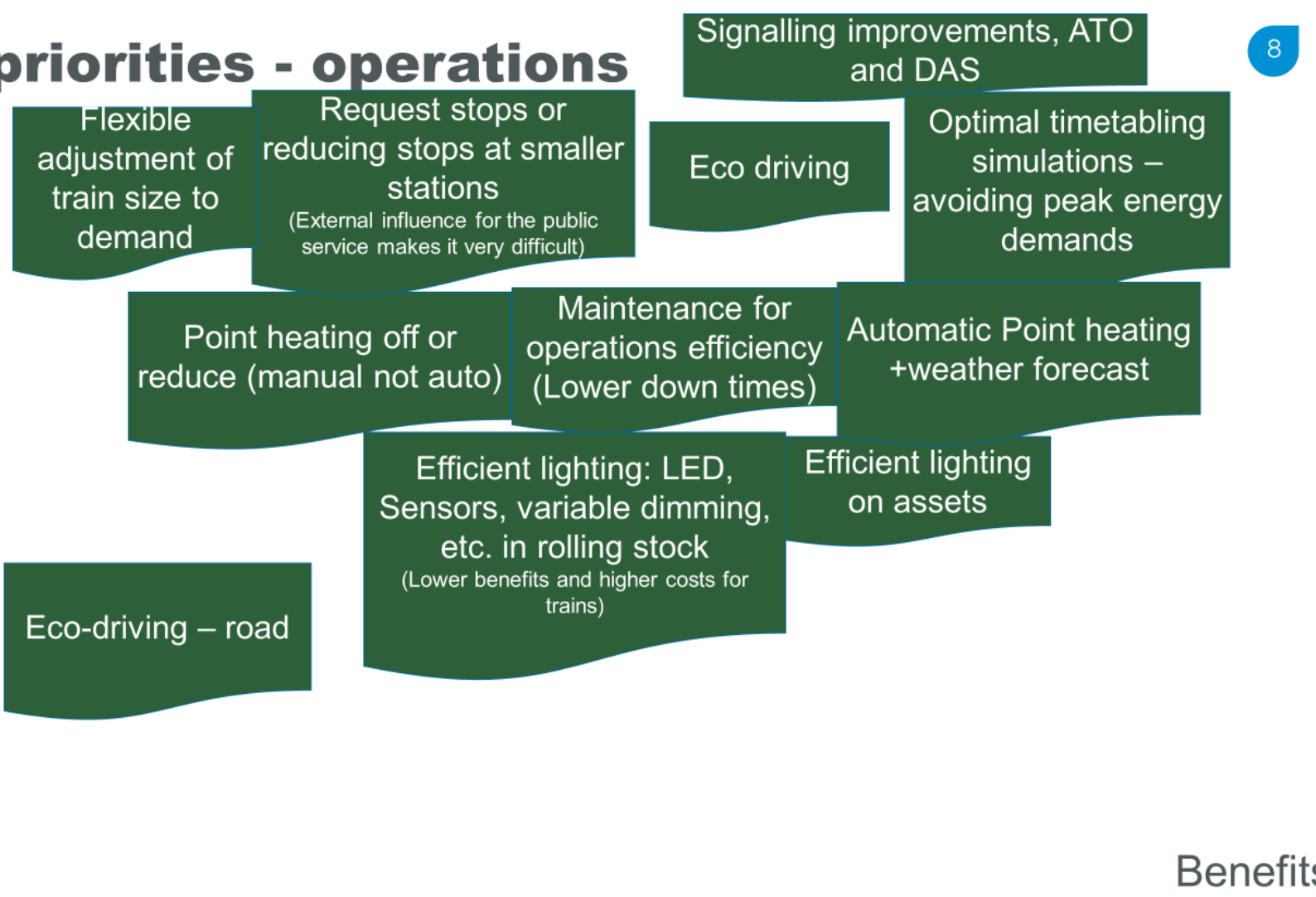


Benefits

Defining priorities - operations

8

Difficulty / Cost / Time

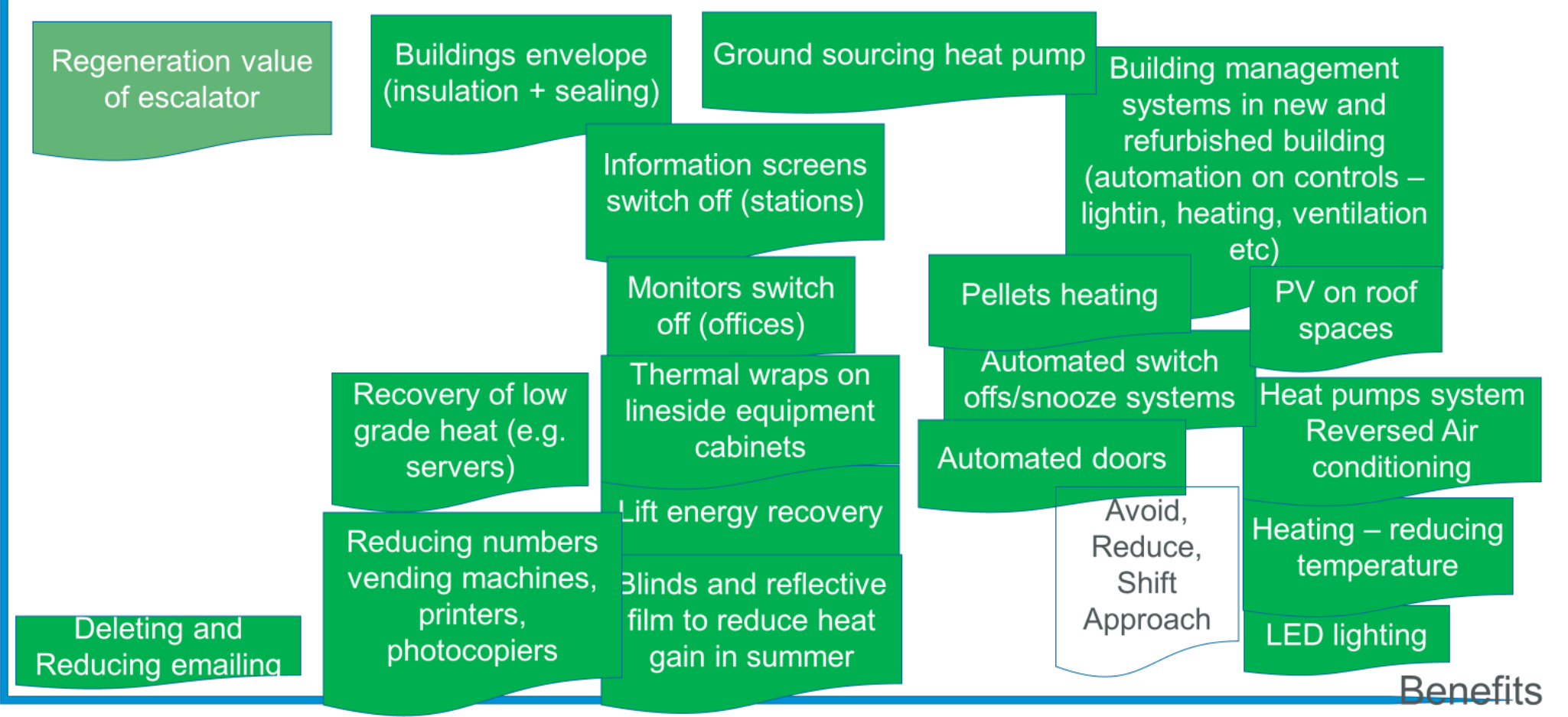


Benefits

Defining priorities - Buildings

9

Cost/Time



Benefits

Contributions

- SNCF
- RFI
- Trenitalia
- BaneNOR
- JR East
- SBB
- Network Rail
- Infrabel
- CFL
- VIA Rail
- CRRC
- Alstom

UIC EXTRANET

MY DASHBOARD

MY FAVORITE GROUPS

No favorite group yet

ALL MY GROUPS

Search by group name

Filter

Energy saving Task Force

Draft_ToR_Energy_Saving_Taskforce_Dec_2022_Draft_1.pdf
183.82 ko | Last update: 2022-12-07 | created by: Christine HASSOUN - 7

Meetings

UIC contributions

Member contributions

Other organisation contributions

Energy saving solutions

Rolling Stock

Infrastructure

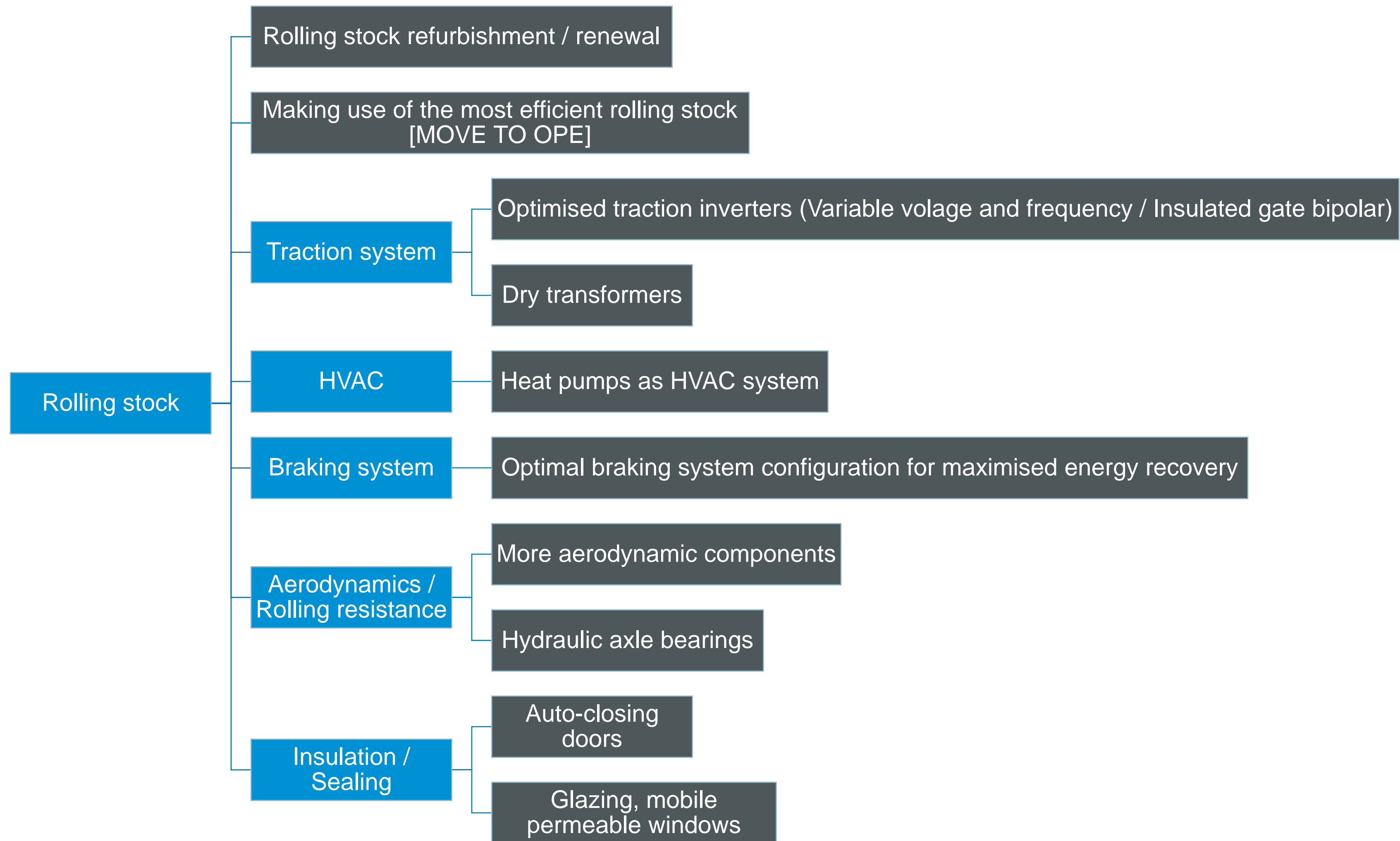
Operations

Buildings

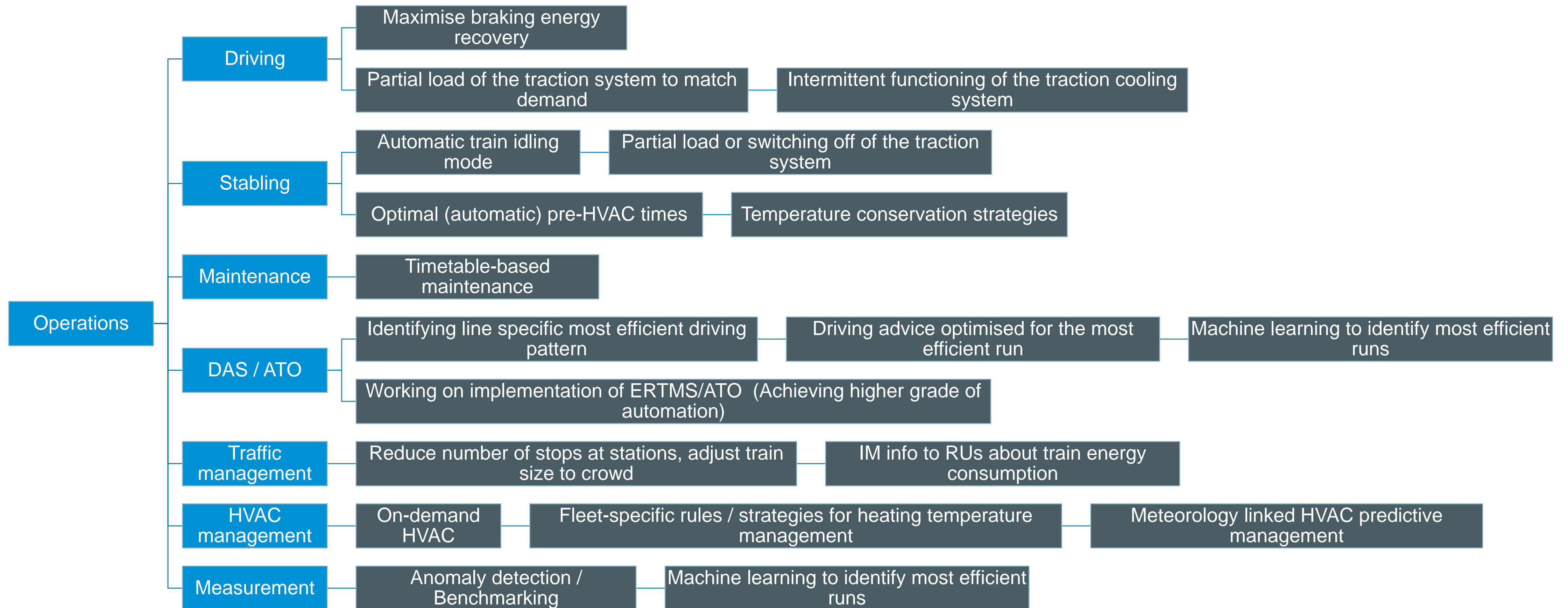
Processes

<https://extranet.uic.org/en/fo/Ider/258234?grp=255513>

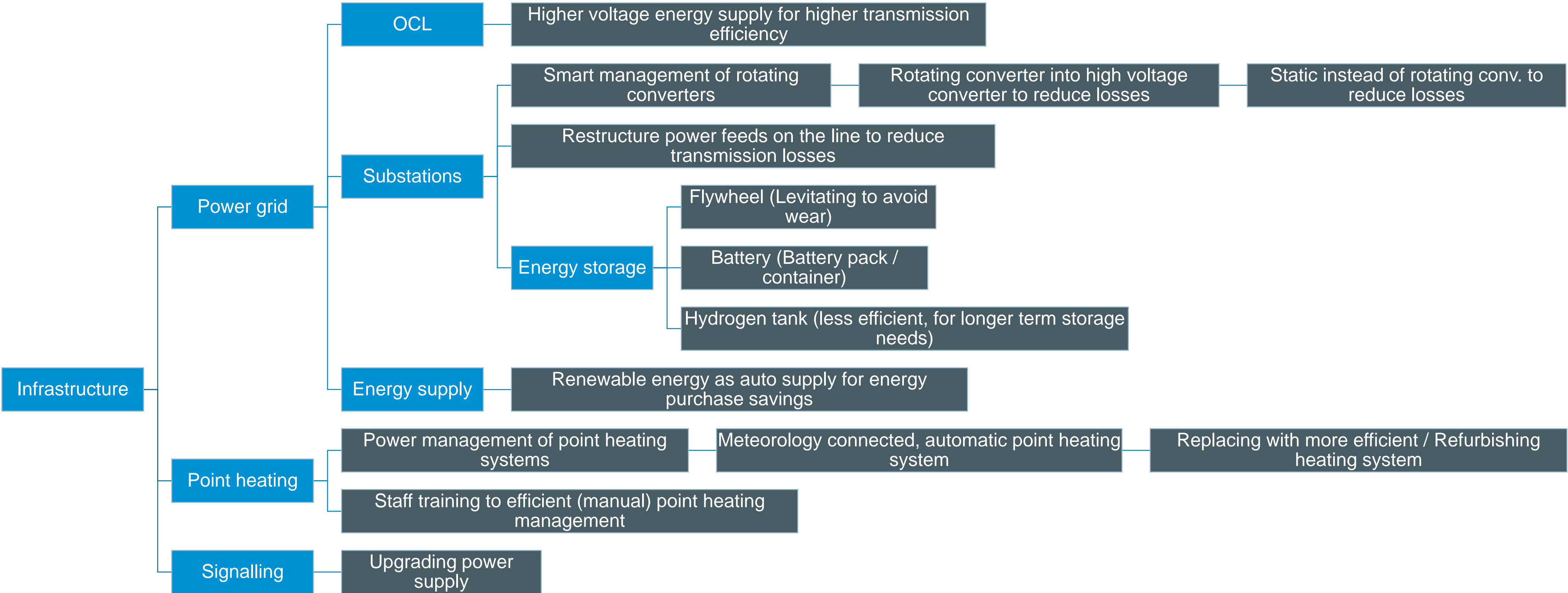
Rolling stock – Solutions Mind map



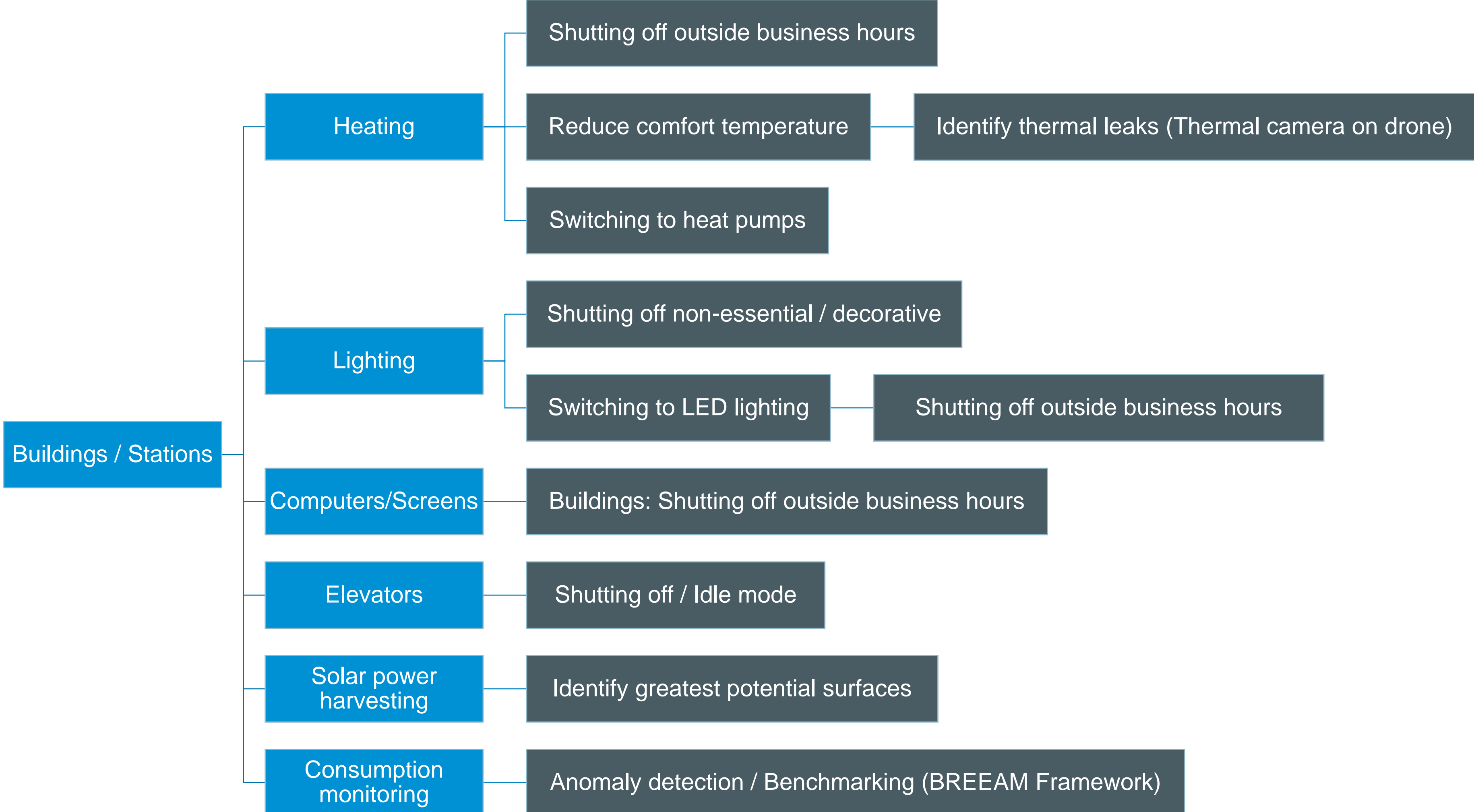
Operations - Solutions Mind map



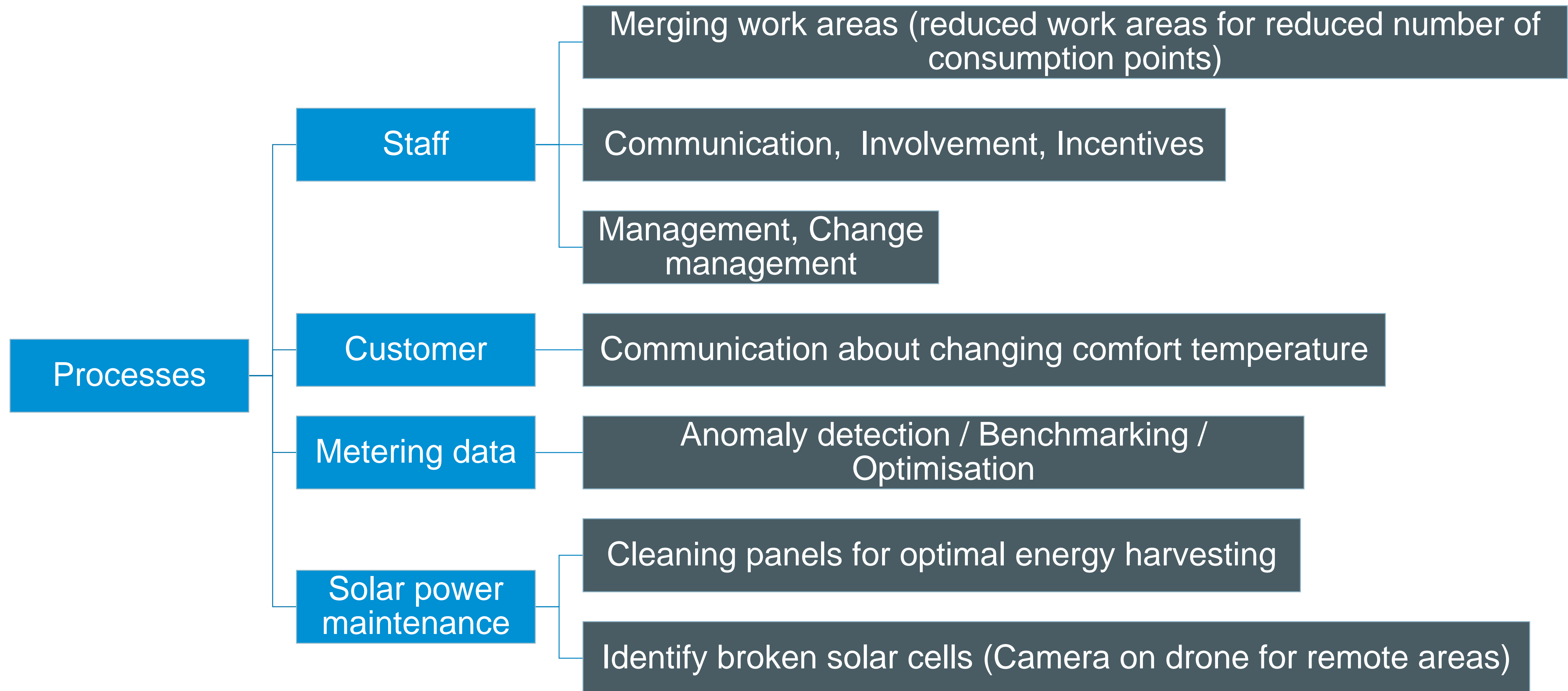
Infrastructure - Solutions Mind map



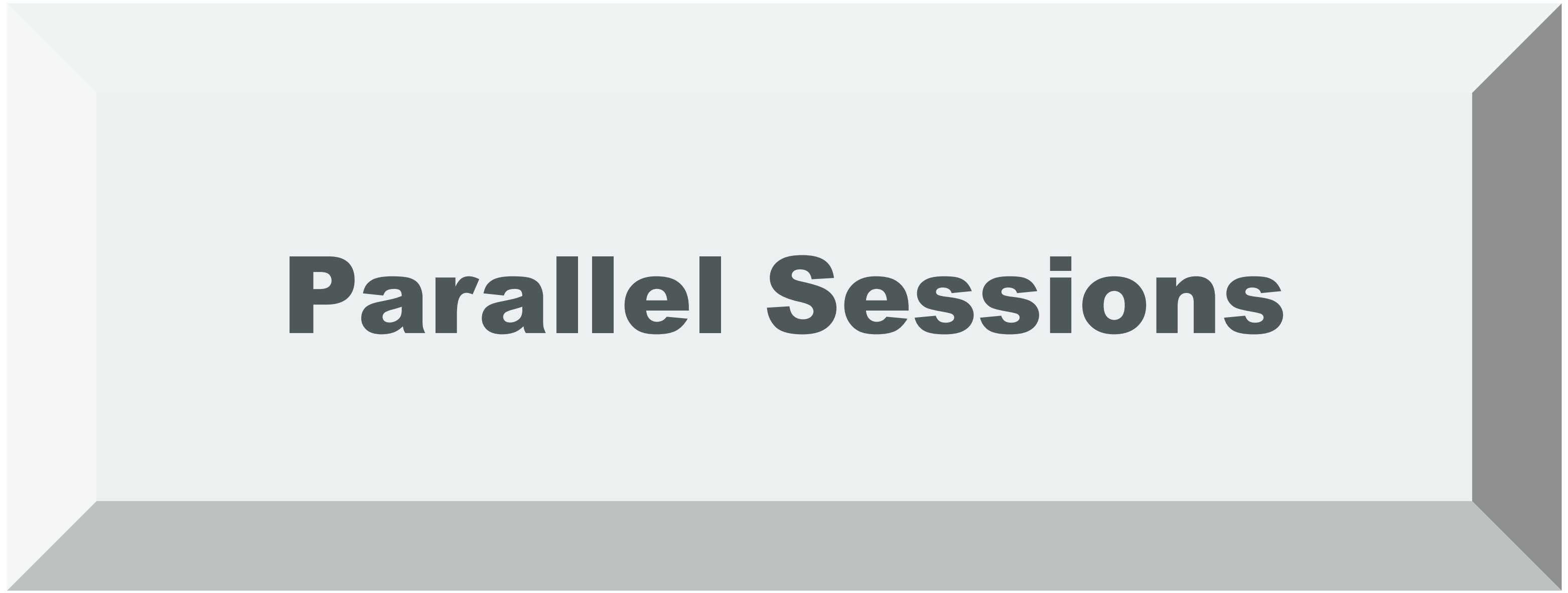
Buildings and stations - Solutions Mind map



Solutions by field – Mind map

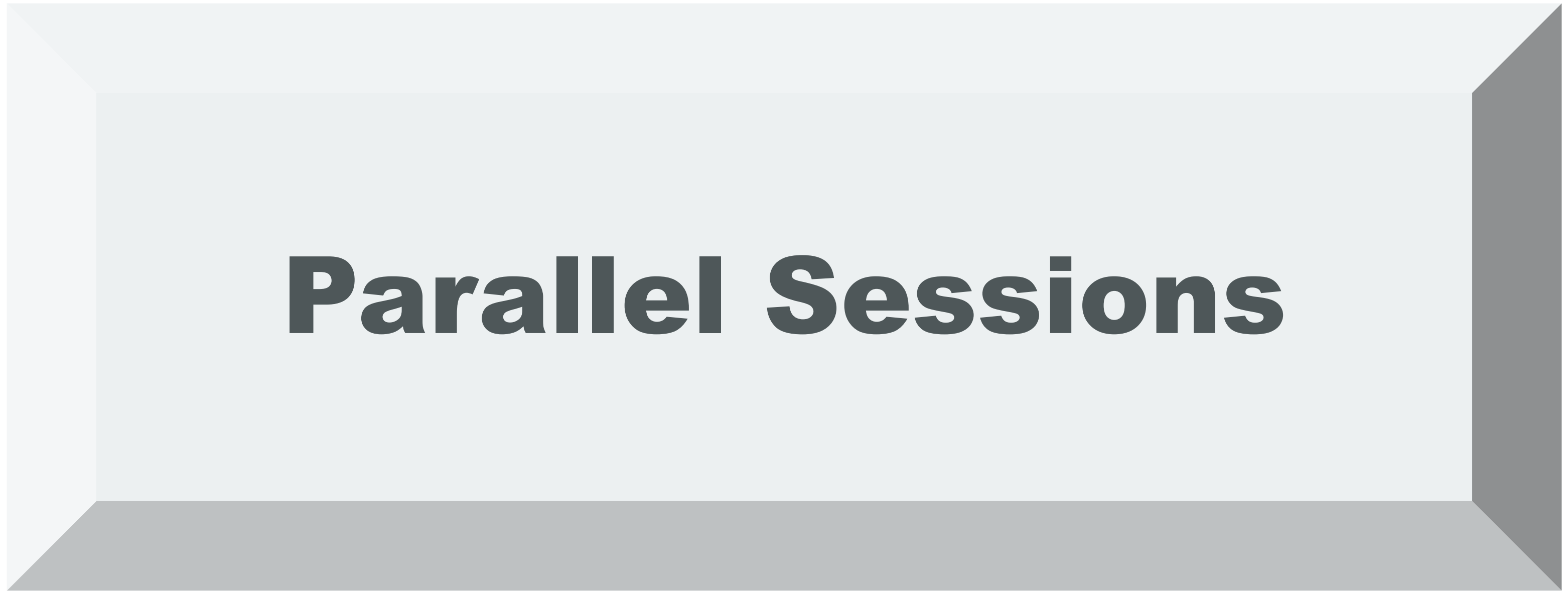


Energy Saving best practice workshop



- 205 Operations / Rolling Stock Session**
- 202 Infrastructure / Buildings and stations**
- 204 Energy contracts and partnerships**

Energy Saving best practice workshop



Parallel Sessions

205 Operations / Rolling Stock Session



Session Operation & Rolling Stock

Time	What	Methodology
9:50 – 10:00 (10')	Welcome and short round of introductions of the participants (maximum 20 participants)	Each of the participants receives a name badge in the colours red, blue and yellow for the later sub groups
10:00 – 10:15 (15')	Introduction and Overview by Christophe Gueudar-Delahaye (SNCF), Johannes Estermann (SBB) and Matthias Tuchschnid (SBB)	Overview of the shared information and the possible measures to reduce the energy • All the fact sheets are at the walls, grouped around the themes of rolling stock and operations, • overview posters (if applicable) and results of previous UIC taskforce meetings
10:15 – 10:45 (30')	Rating of the measures	Each of the participants receives sticky points and evaluates each measure in the dimensions of costs, time required for implementation and benefits (% of saved energy)
10:45 – 11:00 (15')	Coffee break	
11:00 – 11:30 (30')	Synthesis in 3 small group	Discussion in three small groups (red, blue and yellow): What are the 3-4 measures that each railway should implement from the point of view of energy efficiency?
11:30 – 11:50 (30')	Synthesis in session group	Presentation of the results in the small group, discussion and findings of the most promising 3-5 measures and determination of the DeepDive-Topics
11:50 – 12:20 (30')	Presentation in the big group: What are the 3-5 most important measures?	
	Lunch break	
14:30 – 15:30 (60')	DeepDive in small groups into the topics, for sure 1: ecostabling @ SBB, 2: ecodriving @ SNCF	Each of the participants chooses a DeepDive topic for themselves; in this round, the measure is worked on in greater depth. There are at least 2 subgroups, or more if necessary.
15:30 – 16:00 (30')	Preparing final synthesis • Each small group prepare 1-2 flipcharts	• How can the taskforce be organized in supporting the implementation of energy efficient measures by the different members • What are the next steps?
16:00 – 17:30 (90')	• Presentation of the synthesis in the big group: What are the next steps? • How can the UIC taskforce support the implementation of the measures by the members?	

Energy Saving best practice workshop



Parallel Sessions

202 Infrastructure / Buildings and stations

Energy Saving best practice workshop

Buildings and stations

Denzel Collins

Identified 4 focus areas

- Monitoring
 - Unclear about the costs: storing and analysing data
- Lighting & Dimming
 - LED since a lot of lighting is made for stations
- Behaviour
 - Involvement of staff by any means
- Technology
 - Cost & time for installing RE
 - Cost & time for installing ESS

Energy Saving best practice workshop

Infrastructure

Gerald Olde Monnikhof

Focus areas

- Traction system losses
- Maximising braking energy recovery
- Avoiding peak demand to reduce losses
- Switch heating

Itinerary Wednesday March 1st

Prepared by Gerald Olde Monnikhof & Andreas Toufexes

ProRail

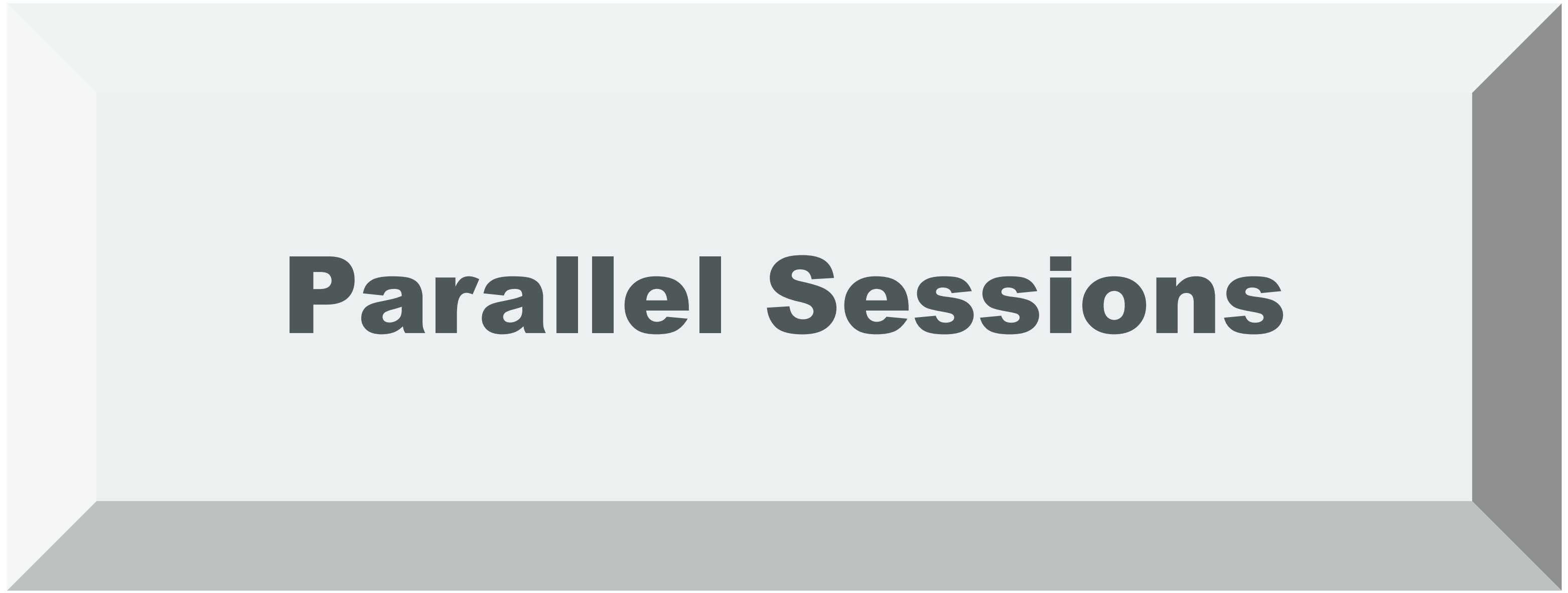
- Infrastructure
 - Buildings and stations
- * rows marked green: plenary

Starting time	Length	Activity
9:40 am	20'	Presentation about the energy consumption of ProRail Infrastructure and Railway Stations
10:00 am	60'	<ol style="list-style-type: none"> 1. Divide group in half (½ inf & ½ stations) 2. Explanation about the workshop 5' 3. Divide in subgroups 4 persons per group 4. Identification of consumers 5. Estimate of energy saving potential 6. Determine fundamental organizational policy 7. Who is responsible?
11.00 am	30'	Infrastructure and Stations come together and merge their findings
11:30 am	20'	Coffee Break
11:50 am	30'	First synthesis (Each group prepare to feed to plenary)
12:20 pm	40'	Plenary exchange about first outcome (10' per group)
13:00 pm	90'	Lunch
14:30 pm	30'	Parallel sessions continued <ul style="list-style-type: none"> - Mix up subgroups - Create matrix with two axis - Sort/long term axis - Easy/difficult axis
15:00 pm	30'	Parallel sessions' focus: What incentives can we think of that ensures energy efficiency is part of daily operation and contract(or)s
15:30 pm	30'	Prepare final synthesis: some kind of presentations with a duration of 20'
16.00 pm	90'	Synthesis and/or Presentations
17:30 pm	-	Conclusion, end of workshop
17:30 pm	120'	Evening Reception

Korail's input to the session

https://extranet.uic.org/system/files/files/20230301-02_KORAIL_Energy_saving_Stations.pdf

Energy Saving best practice workshop



204 Energy contracts and partnerships

Energy Saving best practice workshop

204 Energy contracts and partnerships

Price risk

Volume risk

Balance supply

Energy market wants to know how they will be able to handle that

What if diesel keeps on being cheaper than running on electricity?

Dived into how the different models for how countries manage that

E.g. Hedging strategies, owning plants, other risks handling, specific contracts through IMs?

How fine is matching electricity demand? Answered NO. JH mentions that NL ambitions to have a finer green electricity matching.

Energy contracts Partnerships

- Country overview – how does the market for traction energy work in different countries ?
- By how much have energy prices increased over the past 2 years in each country, and what, if any, government help is in place to help railway undertakings to cope with these increases ?
- Energy purchasing strategies and alignment with customer expectations (passenger, freight)
- Securing low-cost energy for future needs
- How is traction energy market organised in your country?
- What is the role of the Infrastructure Manager in the local electricity market?
- How do the Railway Undertakings purchase electricity? Can they chose their supplier? Do they give a mandate to the IM?

Agenda of the meeting

- **09.50 Parallel sessions**
 - **205 OPE / RS Session (Christophe Gueudar Delahaye, SNCF and Matthias Tuchschnid, Johannes Estermann, SBB, Christian Gerster, Alstom)**
 - **202 INFRA / Buildings and stations (Andreas Toufexes, ProRail and Sooyeon Lee, Korail)**
 - **204 Energy contracts and partnerships (Paul Hodgson, CFL Cargo and Bart Van der Spiegel, Infrabel)**
- **11.30 Coffee break**
- **11.50 First synthesis (Each group thinks about a way to feed the rest of the attendance)**
- **12.20 Plenary exchange about first outcome**
- **13.00 Lunch**
- **14.30 Parallel sessions continued**
- **15.00 Parallel sessions' focus: Implementation challenges and incentives**
- **15.30 Prepare final synthesis**
- **16.00 Synthesis**
- **17.30 Conclusion, end of workshop**
- **18.00 Networking drink**

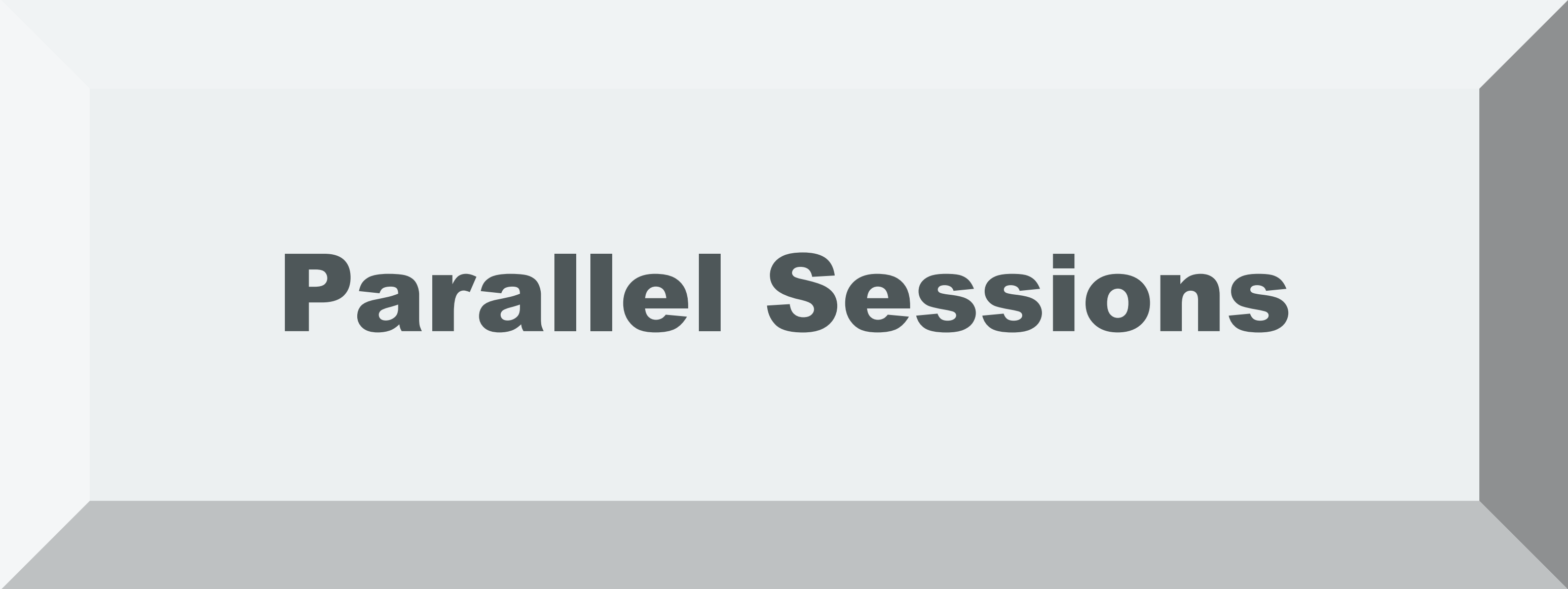
Energy Saving best practice workshop



Coffee break

Meet back at 11.50

Energy Saving best practice workshop



11.50 Each group thinks about a way to feed the rest of the attendance

Energy Saving best practice workshop



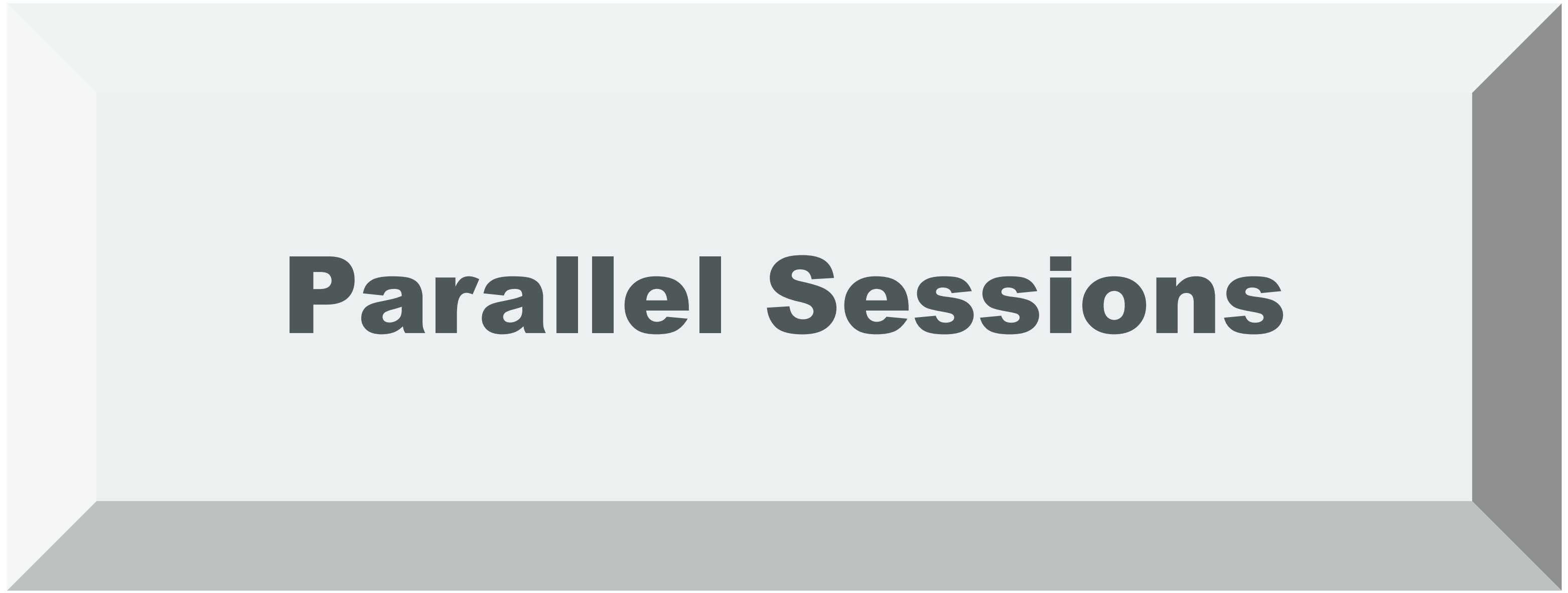
Lunch

Meet back at 14.30

Agenda of the meeting

- **09.50 Parallel sessions**
 - **205 OPE / RS Session (Christophe Gueudar Delahaye, SNCF and Matthias Tuchs Schmid, Johannes Estermann, SBB, Christian Gerster, Alstom)**
 - **202 INFRA / Buildings and stations (Andreas Toufexes, ProRail and Sooyeon Lee, Korail)**
 - **204 Energy contracts and partnerships (Paul Hodgson, CFL Cargo and Bart Van der Spiegel, Infrabel)**
- **11.30 Coffee break**
- **11.50 First synthesis (Each group thinks about a way to feed the rest of the attendance)**
- **12.20 Plenary exchange about first outcome**
- **13.00 Lunch**
- **14.30 Parallel sessions continued**
- **15.00 Parallel sessions' focus: Implementation challenges and incentives**
- **15.30 Prepare final synthesis**
- **16.00 Synthesis**
- **17.30 Conclusion, end of workshop**
- **18.00 Networking drink**

Energy Saving best practice workshop



15.00 Focus: Implementation challenges and incentives

Energy Saving best practice workshop



**Plenary
Synthesis**

16.00

Agenda of the meeting

- **09.50 Parallel sessions**
 - **205 OPE / RS Session (Christophe Gueudar Delahaye, SNCF and Matthias Tuchs Schmid, Johannes Estermann, SBB, Christian Gerster, Alstom)**
 - **202 INFRA / Buildings and stations (Andreas Toufexes, ProRail and Sooyeon Lee, Korail)**
 - **204 Energy contracts and partnerships (Paul Hodgson, CFL Cargo and Bart Van der Spiegel, Infrabel)**
- **11.30 Coffee break**
- **11.50 First synthesis (Each group thinks about a way to feed the rest of the attendance)**
- **12.20 Plenary exchange about first outcome**
- **13.00 Lunch**
- **14.30 Parallel sessions continued**
- **15.00 Parallel sessions' focus: Implementation challenges and incentives**
- **15.30 Prepare final synthesis**
- **16.00 Synthesis**
- **17.30 Conclusion, end of workshop**
- **18.00 Networking drink**

Ope/Rs

Ecostabling

Wake-up mechanism against timetable

What have we learned

What are the challenges:

Driver's cabin is something that needs to be kept comfortable (temperature wise)

Pantograph disabling vs HVAC mgt

UIC could build a list of best practice by type of train, workshops about Eco stabling, common use

Ope/Rs

Ecodriving

3 main successes

Bottom up approach to use DAS, DAS as teaching the driver to eco drive

Good acceptance for freight drivers

3 main challenges

Consumption info

Acceptance of drivers

Track data

Next steps (through UIC)

SFERA (BVdS mentioned last DAS ws and User Group)

Buildings and stations

Key:

- Monitoring
- Awareness/Train staff
- Funding measures
- Time (eg about 3000 stations of SNCF needs time for mgt)
- ProRail's escalators use quite a lot of Energy
- Energy storage (Batteries)
- LED lighting
- Engagement and approval from management is important

Infrastructure

Switch heating system represents a lot of energy to save

Make sure top speed is adapted to topology

Energy contracts

See conclusions slide (47 of session's slides)

What form of contract is needed according to the energy use.

Storing Renewable energy

How to adapt demand level to make it more attractive for energy suppliers.

-> Night trains, running off peak, more capacity, could help smoothing out the consumption curve.

Own production is an advantage.

Alternative is battery storage, and using onboard trains storage capacity.

energysavingtf@uic.org

stefanos@uic.org

Sustainability Advisor



Stay in touch with UIC:

www.uic.org



#UICrail

Energy Task Force

Energy and CO₂ Sector meeting 2023

Thank you for your attention.