

Comments on “the Cold Economy” – by Prof. Toby Peters and Dr. Leyla Sayin

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Strength of the Paper

- Cold economy is defined in this paper as a unique approach to meet three different goals that are not necessarily coordinated :
 - Goal of Paris Agreement,
 - SDGs, and
 - Kigali Amendment.
- The paper addresses how to manage demand for cooling as a means for climate change mitigation – presenting the historical perspectives as well as future challenges.
- The discussion covers the wide issue of cooling demand, including those for air conditioners, refrigerators, transport and data centres.
- The paper proposes important key words to deliver cooling with minimal climate and environmental impact :
 - Reduce,
 - Shift,
 - Improve, and
 - Aggregate.

Comments (1)

What is the objectives of this paper?

- It is a matter of structure. For the readers better understanding, key issues, challenges as well as the abstract of this paper had better be placed before the introduction section.
- Also, the objectives of the paper had better be clearly mentioned initially.

Structure of this paper had better be improved.

- For readers' better understanding, issues relevant to cooling had better be defined initially as it covers wide sectors, including (1) air conditioners, (2) refrigerators, and (3) transport.

Discussion had better be based on evidences.

- The section on "Some of the barriers to transitioning to the Cold Economy" – requires more surveys to provide evidences to the arguments.
 - IEEJ Outlook – service demand projection in consideration for technology EE and lifetime.
 - Developed country issues and developing county issues are mixed.

Comments (2)

Who is the targeted audience?

- Issues on developed economies and developing economies are combined to be presented in this paper. However, the situation is of course totally different by country in terms of implementing policies and regulations.
- In view of the increasing urbanization and income growth, the impact of cooling demand would be higher from current developing economies. Perhaps the discussion had better focus on developing economies' issues.
- Developing economies' issue differ substantially by country. More country-specific examples had better be presented.
 - Many of the countries in Africa with low income level are importing used ACs from Europe, and there is no regulation in recycling.
 - ASEAN countries – gradually improve the implementation of policies and regulation with respect to air conditioners, and increase MEPS level, and demand for “green building” is increasing.

Comments (4)

Presenting the real cases – including the private sector's undertakings.

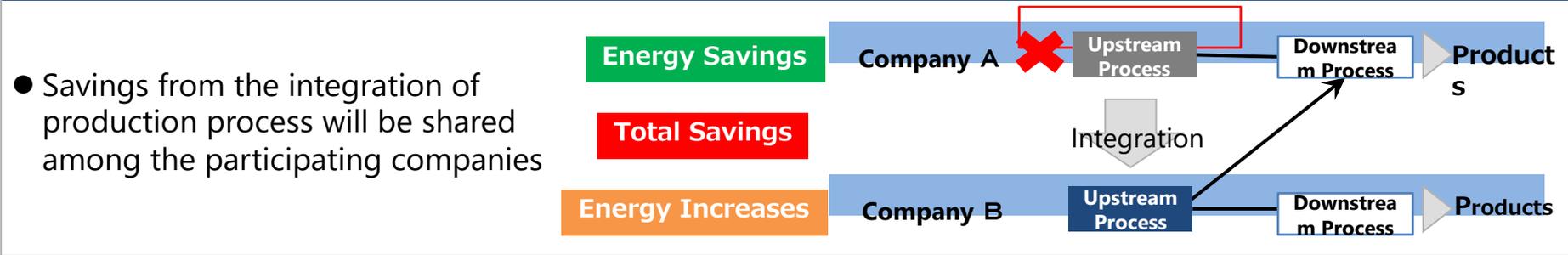
- Valuable insights are presented as follows. However, how to realize them would be important to draw practical implications to policy-makers, private companies and donor institutions.
- It is an ideal world that all the policies and its implementations are harmonized to establish the cold economy.
 - Case of Japan "Joint Energy Efficiency Improvement"
 - *The Cold Economy involves the development of integrated needs-driven – rather than demand-driven, resource-smart, system-level strategies to first mitigate need for mechanical cooling and, second to understand and identify multiple cooling needs across buildings, food and vaccine/health cold-chains, transport and data centres, and explore aggregation opportunities, understand the renewable, thermal, and saved energy resources, and finally define the right portfolio of solutions...*

Case of Japan : Joint Energy Efficiency Improvement

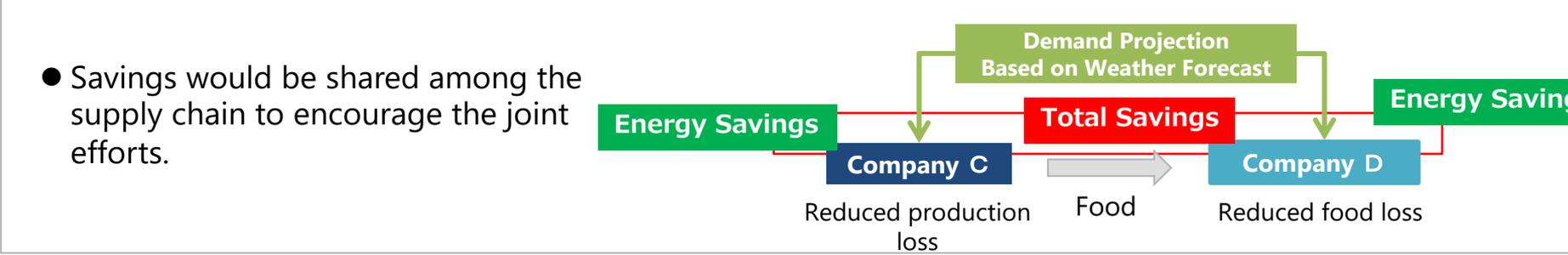
Article from 46 to 50 (Factories · Businesses), from 117 to 121 (Freight owners), from 134 to 138 (Transport businesses)

【Current】
Evaluation by business entity → **【Amendment】**
 Energy savings from joint efforts among different business entities would be shared among participating them.

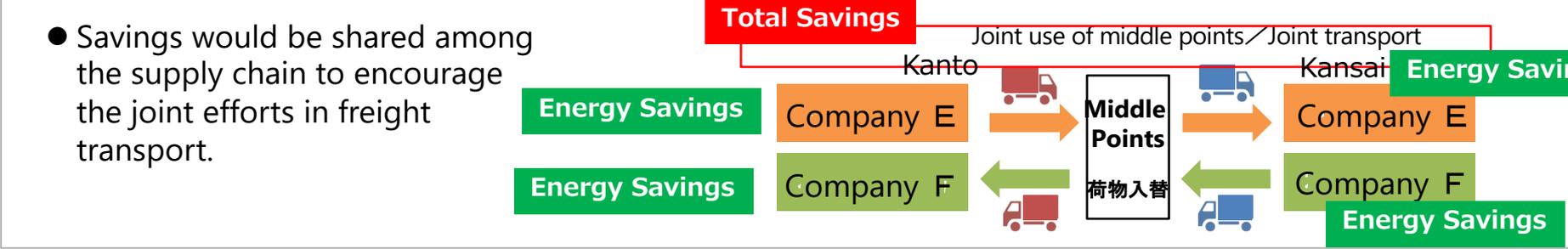
1 Production facility integration



2 Coordination in supply chain



3 Coordination in freight transport



Comments (6)

The order of requirement for realizing the “Cold Economy” had better be changed to reflect the order of impacts or it can be presented by sector.

- Valuable insights are presented as follows. For reducing AC demand, the most important would be “building design” including insulation, which would be followed by efficiency of AC.
- Meanwhile, the discussion on refrigerant – shift toward natural refrigerant is missing from the list.
- Also, issues on the difficulties to renovate “stock of residential/commercial buildings” are not identified in the list.
 - i. Minimizing the need for mechanical cooling through encouraging behavioural changes and passive technologies and approaches,
 - ii. Exploring the opportunities for aggregating needs-based demand,
 - iii. Harnessing available renewable, thermal, and waste energy resources,
 - iv. Using thermal methods of storage
 - v. Creating new finance and business
 - vi. Creating skills and capacity in line with the technical progress
 - vii. Establishing an adequate policy and regulatory to bring clean cooling technologies...