3GPP TSG SA WG 4 Meeting 124 TDoc S4-230959

**Berlin, Germany, 22nd – 26th May 2023**

**Title: DRAFT** LS on 3GPP work on Energy Efficiency

**Response to:** LS S5-232903 on 3GPP work on Energy Efficiency from SA5

**Release:** 3GPP Rel-18

**Work Item:** EE5GPLUS\_Ph2

**Source:** 3GPP SA4

**To:** 3GPP SA5, 3GPP TSGs SA, RAN, CT

**Cc:** 3GPP WGs SA1, SA2, SA3, SA6, RAN1, RAN2, RAN3, RAN4, CT1, CT3, CT4

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**Attachments:** None

# 1 Overall description

SA4 fully supports SA5’s and 3GPP’s overall efforts in the work needed to address the ongoing climate emergency. To further enhance this work, SA4 suggests the following:

1. Clarify that the work on Energy Efficiency also includes measurement and evaluation of UE performance.
2. Modify the 3GPP Work Item Description and Specification templates to include a clause on “Impact on Climate” that would identify and collect relevant information.
3. Clarify or expand the 3GPP/SA5 Rel-18 work item to focus on:
   1. What can be done now with options/settings in the implementation and deployments of already existing specifications.
   2. What more we can do in Rel-18.
   3. Extending this work to a broader and perpetual Work Item (in every release from Rel-18 forward) focused on encouraging all the 3GPP WGs to develop Work/Study Items to address the climate emergency and tracking these features.
4. Not give the impression that we can achieve the necessary and substantially greener operation without sacrificing other KPI’s, including Quality of Experience. To provide truly effective solutions, networks and devices should be equipped with technologies that enable operating points that can trade-off QoE and other KPIs for energy efficiency and other green objectives.
5. Make it clear that all of this work is not about *green washing* 3GPP and the industry’s efforts but a sincere attempt to tackle the climate emergency.

**Reasons**

#1: Energy efficiency is a very important aspect, but just one component of all the work needed to address the climate emergency. For example, the Next Generation Alliance whitepaper on Green G [1] identifies many other aspects that would be important for 3GPP to consider if we are serious about addressing the on-going emergency.

#2: The time to take effective action on the climate emergency is now. We cannot only wait for the impact of Rel-18 and future releases. Figure [2] and Figure [3] from the Sixth Assessment Report from the United Nations Panel on Climate Change [4] illustrate how we have *only 7 years left until 2030 to significantly change* the trajectory of Nationally Determined Contributions (NDCs) of Green House Gas (GHG) emissions to avoid causing irreversible damage to our ecosystems. Subfigure a) of Figure [2] illustrates the current trajectory if we do not make any significant changes while subfigures b)-e) of Figure [2] describe some of the impact to global systems (e.g., with high confidence we will cause permanent and irreversible damage to warm water coral systems).

#3: In support of Digital Sobriety (DS) it is important to also provide service users the option to trade-off some quality of experience in order to achieve a more positive impact for the environment. It is unreasonable and destructive to give the impression that one can always do what is really needed to make an impact without making any compromises/concessions. Giving service providers and users the option to choose trade-off operating points is necessary to enable everyone to play their part in this global effort.

#4: While there are good industry and company efforts to tackle the climate crisis, there are also many events and efforts that corporations use to *green wash* their work. This is not only distracting to finding solutions, it can give the wrong impression that we are doing everything we can, and that we are on track to solve the climate emergency (which is quite the opposite of the United Nations Panel’s assessment). Finding truly technically robust green solutions will also become very important to our industry as regulatory bodies, such as the United States Securities and Exchange Commission (U.S. SEC), are currently considering rules that would require corporations to include their impact on the climate in their earnings reports and disclosures [5].

**SA4 Work/Study Items**

While 3GPP SA4 work is often guided by metrics and KPIs related to power-savings, implementation constraints, and aspects related to general efficiency for media services, SA4 currently does not have any Rel-18 work items focusing on energy-efficiency or the climate emergency. We will continue to study what can be done with existing specifications and design future ones with such design considerations in mind. We will then update SA5 and 3GPP as needed.

# 2 Actions

**To** 3GPP SA5, 3GPP TSGs SA, RAN, CT

**ACTION:** 3GPP SA4 asks SA5 and SA, RAN, and CT to consider the suggestions described above and repeated below:

1. Modify the 3GPP Work Item Description and Specification templates to include a clause on “Impact on Climate” that would identify and collect relevant information.
2. Clarify or expand the 3GPP/SA5 Rel-18 work item to focus on:
   1. What can be done now with options/settings in the implementation and deployments of already existing specifications.
   2. What more we can do in Rel-18.
   3. Extending this work to a broader and perpetual Work Item (in every release from Rel-18 forward) focused on encouraging all the 3GPP WGs to develop Work/Study Items to address the climate emergency and tracking these features.
3. Not give the impression that we can achieve the necessary and substantially greener operation without sacrificing other KPI’s, including Quality of Experience. To provide truly effective solutions, networks and devices should be equipped with technologies that enable operating points that can trade-off QoE and other KPIs for energy efficiency and other green objectives.
4. Make it clear that all of this work is not about *green washing* 3GPP and the industry’s efforts but a sincere attempt to tackle the climate emergency.

# 3 Dates of next TSG SA WG 4 meetings

SA4#125 21 – 25, August, 2023 Gothenburg, Sweden

SA4#126 13 – 17, November, 2023 Chicago, IL, USA

# 4 References

[1] Next Generation Alliance whitepaper on Green G**.** https://www.nextgalliance.org/white\_papers/green-g-the-path-towards-sustainable-6g/

[2] Figure SPM.3 | Synthetic diagrams of global and sectoral assessments and examples of regional key risks. https://www.ipcc.ch/report/ar6/wg2/figures/summary-for-policymakers/figure-spm-3

[3] Figure SPM.5 | Climate resilient development (CRD) is the process of implementing greenhouse gas mitigation and adaptation measures to support sustainable development.https://www.ipcc.ch/report/ar6/wg2/figures/summary-for-policymakers/figure-spm-5

[4] “Climate Change 2022: Impacts, Adaptation, and Vulnerability” from the Sixth Assessment Report of The United Nations Intergovernmental Panel on Climate Change (UNIPCC). https://www.ipcc.ch/report/sixth-assessment-report-working-group-ii/

[5] Climate and ESG Risks and Opportunities, https://www.sec.gov/sec-response-climate-and-esg-risks-and-opportunities