STRATEGY

Alongside with projects supporting 5G’s full implementation, the focus of NGMN’s Work Programme since 2021 is on three main equally important pillars with different time horizons.

ROUTE TO DISAGGREGATION

Leading in the development of open, disaggregated, virtualised and cloud native solutions with a focus on the E2E Operating Model.

GREEN FUTURE NETWORKS

Building sustainable & environmentally conscious solutions.

6G

Emergence of 6G highlighting key trends across technology and societal requirements plus use cases, requirements and design considerations to address.
GLOBAL PARTNERSHIP
More than 80 Companies and growing
GREEN FUTURE
NETWORKS
BUILDING A SUSTAINABLE FUTURE FOR MOBILE

• High relevance to MNOs, industry and globe

• A multi-year project to guide the industry with roadmaps and actionable recommendations

Phase 1 2021
Phase 2 2022
Phase 3 2023
GREEN FUTURE NETWORKS – PUBLICATIONS
PHASE 1

Opportunities & Challenges
Eco-Design
Energy Efficiency
Metering
CORE TOPICS
GREEN FUTURE
NETWORKS

- Reducing Environmental Impact
- Telco Supply Chain Sustainability / Circular Economy
- Network Energy Efficiency and Metering
- KPIs for Green Networks

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1. **Adopt ESG** (Environmental Social Governance) goals as an **integral part of the operator's objectives**

2. To reduce scope 3 emissions, **ensure alignment of major stakeholders** (in particular suppliers) with the ESG goals

3. **Update processes** to include ESG

4. Encourage suppliers to disclose carbon emissions data
KPIs FOR GREEN NETWORKS ASSESSMENT

KEY RECOMMENDATIONS

- The industry should move towards using a unified methodology for all key sustainability KPIs
- Move towards using the Environmental and Energy & QoE KPIs in the report
- Target Values defined – use them
- Consider reporting KPIs on a per-country level (rather than group level)
- Obtaining the right data is critical
  - More granular (e.g. separate energy consumption for each part of the network)
  - Trust (accuracy / integrity)

### Table 1: Environmental KPIs and their thresholds

<table>
<thead>
<tr>
<th>KPI Name</th>
<th>Target value Maximum threshold</th>
<th>Other thresholds</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sustainability reporting with audit</td>
<td>Sustainability report with the auditing company mentioned</td>
</tr>
<tr>
<td>2</td>
<td>Net Zero goal is set</td>
<td>2040</td>
</tr>
<tr>
<td>3</td>
<td>Sustainability goals set with a clear path to achieving these goals</td>
<td>Passed if a clear path to achieving Net Zero goals is indicated. The operators are advised to follow the ITU-T Industry standards 1.1471 (E1) and 1.1471 (D6). The best assurance is if climate targets are verified by Science Based Targets Initiative (SBTi) or another competent third party (24).</td>
</tr>
<tr>
<td>4</td>
<td>Target to reduce Scope 1 &amp; 2 to near zero</td>
<td>2025</td>
</tr>
<tr>
<td>5</td>
<td>Target amount of scope 3 emission reduction by 2030</td>
<td>40%</td>
</tr>
</tbody>
</table>

### Table 2: Energy and Quality of Experience KPIs and their thresholds

<table>
<thead>
<tr>
<th>KPI Name</th>
<th>Target value Maximum threshold</th>
<th>Other thresholds</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Quality of Experience (QoE) assessment</td>
<td>The top possible category or class, e.g., outstanding as in Figure 7. Corresponds to very high percentage of the points/value achieved.</td>
</tr>
<tr>
<td>2</td>
<td>Energy and electricity consumption reported</td>
<td>Passed if both the energy and the electricity consumptions are reported</td>
</tr>
<tr>
<td>3</td>
<td>Historical trend of network energy and/or electricity consumption</td>
<td>Decreasing</td>
</tr>
<tr>
<td>4</td>
<td>Power Usage Effectiveness (PUE) of data centres reported</td>
<td>KPI met if the company-wide value is reported</td>
</tr>
</tbody>
</table>
REDUCING ENVIRONMENTAL IMPACT
NEW PUBLICATIONS OUT SOON

- Development of common end to end services footprint calculation method
- Compendium of new business models based on LCA
- Critical raw materials and Life Cycle Assessment
- Ecosystem Water Footprint
Topics further addressing energy efficiency of networks

- Better engineering networks (Radio units and antennas, DC Power Distribution, Cooling, Energy harvesting & renewable energy)

- Using network energy saving features (standardised technology / sleep and power saving modes etc)

- Reviewing new technology enablers (Reconfigurable Intelligent Surfaces, others)

- Energy consumption of disaggregated networks
GREEN FUTURE NETWORKS
PHASE 3 / 2023

Circular Economy
• How to enable?

Energy Efficiency
• Short Term Energy Savings
• Industry Roadmap
GREEN FUTURE NETWORKS - JUST PUBLISHED

- Telco Supply Chain Sustainability (Published January)

- KPIs and Target Values for Green Networks Assessment (NEW)

- Further publications in next few weeks on Network Energy Efficiency and Reducing Environmental Impact
WE MAKE BETTER CONNECTIONS

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