

## LOT 26: NETWORKED STANDBY LOSSES STAKEHOLDER MEETING MINUTES

**DATE:** 14 FEBRUARY 2011, 10:00 – 16:30

**VENUE:** EUROPEAN COMMISSION  
ROOM 0B IN CENTRE BORSCHETTE, RUE FROISSART 36  
1040 BRUSSELS

### MEETING PARTICIPANTS

Name	Organisation
Alain Anglade	ADEME
Phillip Mummah	Advanced Micro Devices (AMD)
Marc Cumps	Agoria
Emilien Gasc	ANEC/BEUC
Patricia Testa	AVAYA
Kurt Muehmel	BIO Intelligence Service
Shailendra Mudgal	BIO Intelligence Service
Miguel Peeters	Broadcom
Daniel Hahn	Canon
Ana Patricia Lopez Blanco	CECED
Francesca Meloni	CECED/Indesit Company
Klaus Verschuere	Cisco
Anita Eide	CLASP
Hans-Günter Nolden	D&M Europe
Jan Viegand	Danish Energy Agency
Edouard Toulouse	ECOS
Ove Persson	Ericsson AB
Frédéric Melchior	eu.bac
Evelien Nijis	Federal Public Service Health, Food Chain Safety and Environment (BE)
Caroline Thienpont	Federal Public Service Health, Food Chain Safety and Environment (BE)
Bram Soenen	Federal Public Service Health, Food Chain Safety and Environment (BE)
Sascha Scheiber	Fraunhofer IZM
Lutz Stobbe	Fraunhofer IZM
Hideyuki Kanemitsu	Fujitsu
Masahiro Miyo	Fujitsu
Osamu Namikawa	Hitachi, on behalf of JEITA
Pierre Sicsic	HP

Matthias Meier	Ingenieurbüro M. Meier
Jim Kardach	Intel
Kirsty Macdonald	Intel
Greg Davies	INTELLIC
Yuji Kado	Japan Business Council in Europe
Bruce Nordman	Lawrence Berkeley National Laboratory
Jim Beveridge	Microsoft
Adriana Mattei	Microsoft
Lars Bruckner	NEC
Julia Cheung-Rueckert	Nintendo of Europe GmbH
Hans-Paul Siderius	NL Agency
Jos Beekwilder	Océ Technologies
Norbert Reintjes	Ökopol GmbH on behalf of Federal Environment Agency Germany
Benoît Chantoin	Orange/France Telecom
Marie-Helene Dubray	Panasonic
Richard Fassler	Power Integrations
Hirimitsu Hatano	Ricoh Europe PLC
Amanda Webb	Sony Computer Entertainment Europe
Huw Waters	Sony Computer Entertainment Europe
Andreas Schneider	Sony Computer Entertainment Europe
Ela Palackova	TechAmerica Eurpe
Patrice Mignot	Technicolor
Geoff Bellingham	UK Market Transformation Programme
Simon Kang	UPC Broadband
David Daniels	VA for CSTB
Karen Andreassen	VELUX A/S
Stephan Kolb	European Commission (DG ENER)

*Note: Slide numbers in this document refer to the version of the presentation published on the project website.*  
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## INTRODUCTION

The meeting was opened by **Stephan Kolb (SK)** of **DG ENER** who gave introductory remarks explaining the context and goals of the meeting. **SK** explained the Ecodesign process in the EU and specified that the goal today was not to consider the final outcome of the process, but to clarify the technical aspects. Specifically, **SK** emphasised that Task 8, covering the policy recommendations, would be informed by the outcome of the meeting. **SK** also emphasised that comments from stakeholders would be solicited regarding the outcome of that task.

**Shailendra Mudgal (SM)** of **BIO Intelligence Service** then presented the introductory slides of the presentation (slides 1-5), adding that the study is still open to comments in verbal or, preferably, written form and indicated that the minutes of the meeting would be published on the project website.

This introduction was followed by a *tour de table*, where all meeting participants introduced themselves, indicating the organisation that they represented.

## CONTENT – PART 1

**Lutz Stobbe (LS)** of **Fraunhofer IZM** then presented Part 1 of the presentation (slides 6-17), explaining the context of the study from the perspective of the eco-assessment. **LS** explained the methodology which was used in the study as well as the overall scope of products included in the analysis.

The following questions and comments were received during this portion of the meeting:

**Jos Beekwilder (JB)** of **Océ Technologies** and **DIGITALEUROPE** commented that while it is understandable how increasing the time products spend in idle mode would understandably increase consumption, it is difficult how to understand how increasing time in low-power modes could do the same. **LS** responded that several low-power modes were used in the model and that some had higher consumption than others. **LS** confirmed that most increases were due to idle mode.

**Jan Viegand (JV)** of the **Danish Energy Agency** questioned how “active” mode is defined and wondered whether it was too broad, encompassing periods which may be better described as “idle”. **LS** responded that an effort was made to not over-estimate active mode consumption but that the magnitude of the gap between active and idle modes depended largely on the product group.

**Greg Davies (GD)** of **Intellect** questioned how idle mode is defined for complex TVs. **LS** explained that in this context, idle means that the TV is receiving and processing a signal, but the display is off, adding that there is no definition for idle and that issues have come up regarding “quick start” modes. **GD** asked whether idle mode consumption is expected to increase towards 2020 and **LS** confirmed that, yes, it was expected to increase.

## CONTENT – PART 2

**LS** then continued with Part 2 of the presentation (slides 18-28), covering important terminology and introducing the “Network Availability” concept.

**Francesca Meloni (FM)** of **Indesit** and **CECED** commented that, as the definition of networked standby does not exclude any particular functionality, it is difficult to determine if a product is in a networked standby mode or not. **Pierre Sicsic (PS)** of **HP** added that there are many low-power modes which include functionalities beyond network reactivation, giving the example of printers which have paper sensors. **PS** emphasised that not all power in a low-power mode is used for making network reactivation possible. **LS** responded that that networked standby is defined by the useful service it provides to the user and the key issue is the speed to reactivation. **LS** added that the functional approach has its limits, as has been signalled by **Bruce Nordman (BN)** representing **Lawrence Berkeley National Laboratory** and **CLASP**. **LS** concluded that reactivation time is the key measure, given that there are many different product configurations meaning that “reduced functionality” needs to be kept general. **PS** asked whether the definition of networked standby included these other functions and, when the power consumption needs to be measured, how would

this power consumption be distinguished. **Nils Nissen (NN)** of **Fraunhofer IZM** responded that there would be no distinction made, but that specific examples would be appreciated. For example, in the case of TVs, it may mean that the display is off, for PCs it may mean that the main processor is deactivated.

**FM** commented that household appliances are categorised as having low network availability and said that this may not always be true in future applications, giving the example of interruptible loads in a smart grid. **FM** added that resume time is not the main parameter to determine power consumption, mentioning that the level of integration of the device is more important. **LS** responded that this case is product-specific and that having millisecond reaction time for white goods is not necessary. **LS** added that it is possible to give a positive signal to the user that the device is reactivating (e.g. via a display) more quickly than the full reactivation time of the device.

**Geoff Bellingham (GB)** of the **UK Market Transformation Programme** stated that he finds the approach generally acceptable, though commented that “network” has not yet been defined. **GB** gave the example that most people would not consider that an infrared remote control bundled with a product constitutes a network, but questioned if a Bluetooth® handset bundled with a game console be considered network reactivation. **LS** responded, saying that it is difficult to break down a specific network type, given the many different ways that users interact with devices. **LS** stated that a Bluetooth® ad hoc connection would be considered a network connection, but added that an infrared remote control is more difficult. **NN** questioned whether it makes a difference if the Bluetooth® remote control is delivered with the product or not, mentioning that when an infrared remote control is delivered with the product, it is considered “internal”. **GB** replied that Bluetooth® handsets are delivered with game consoles.

**Jim Kardach (JK)** of **Intel** commented that LowP4 and LowP5 modes suggest a soft-off mode for office use. **JK** questioned whether a user may deactivate the low-power mode if they are annoyed by a resume time which is deemed to be too long. **LS** mentioned that it may be possible to limit the “annoyance factor” by signalling to the user that the device is reactivating, as is done in imaging equipment. If it is not acceptable for users however, then a higher power state may need to be considered, adding that that is the question under discussion at the meeting. **JK** followed up saying that if a hibernate functionality were to be used for low network availability, then the user would likely deactivate it. **JK** added that, today, hibernate is generally only used to save system state information in cases of battery failure.

**Patrice Mignot (PM)** of **Technicolor** commented that, so far, only usability and not protocols are considered in the discussion of network availability. **LS** replied that this will be addressed later in the presentation, where the interaction between the network and protocol will be shown.

**GB** mentioned that the Unified Extensible Firmware Interface (UEFI) could be a solution, bringing reactivation down below 10 seconds. **JK** commented that there is a significant difference between getting to the operating system and restoring the full context of the system state, adding that moving a lot of data between volatile and non-volatile memory takes a long time. **Phillip Mummah (PhM)** of **AMD** commented that UEFI has been around for a long time, but that it is only responsible until the operating system is reactivated, beyond which UEFI has no control.

**BN** commented that there is a lot of potential to save energy in the Medium Network Availability states (MeNA), while Low Network Availability (LoNA) is less promising. **BN** questioned whether High Network Availability (HiNA) is really a standby mode as it may not compromise the services to the

user. **BN** added that it may be possible to simplify the model and focus only on MeNA. **LS** agreed that there is a trade-off between MeNA and LoNA and that this may be a reason to specify an amount of time which must be spent in a particular mode before shifting to a lower mode.

**JV** commented that HiNA does not always mean high power consumption. **NN** added that the mobile phone sector shows fast reactivation time with very low consumption.

## CONTENT – PRODUCT SCOPE

**LS** continued the presentation, presenting the product scope covered, as shown in slides 29 and 30.

**JB** mentioned that the WEEE Directive distinguishes between B2B and B2C sales channels and questioned whether that model could be used in this context. **LS** responded that it could be an option. **SK** remarked that the study looks at functionality and that it is built on the existing standby regulation (EC 1275/2008) and that it may be possible to simply amend that regulation. **SK** added that the proposed scope and distinction is generally working well. **JB** commented that using an existing regulation would be welcome.

**PS** commented that the Class A and B distinction has been effective in the context of DG ENER Lot 6, with a few exceptions. For example, some home/office servers are used by larger companies. If a customer in Japan is not able to complete a transaction on a system in the EU, then it would be a problem. **SK** commented that the Class A/B distinction works well in Lot 6 and was suggested by DIGITALEUROPE. **NN** commented that **PS**'s suggested use case may be quite rare. **SM** mentioned that, from a WEEE perspective, a supply chain distinction such as B2B or B2C is useful as WEEE concerns only end-of-life. In this context, however, supply chain is only one aspect.

**Osamu Namikawa (ON)** of the **JEITA** commented that Japanese companies consider Class A products to be out of the scope. **ON** added that, while Class B products are candidates for being included in the scope, there would need to be some exemptions and that this would be part of the future work.

**Edouard Toulouse (ET)** of **ECOS** commented that consumer behaviour is the weakest part of the study due to lack of data and that it is difficult to accept sections in Tasks 3 and 7 in their current state as the statements made are not sufficiently substantiated. For example, consumers may not want more network availability if they knew about the energy costs and increased wireless radiation. More products come with networked defaults, meaning they are constantly networked. It's not sure that users really use these networked options. **ET** continued, adding that it would be important to assess real consumer behaviour to assess how often these functions are used, noting that it is not easy to disable these networked modes, nor is it easy to know if the wireless service is active or not. **ET** added that, in Task 7, Option 1 suggests making it easy for consumer to move to a lower level. **LS** responded that it was very difficult to find real data, adding that if any stakeholders had data on user behaviour, it would be helpful. **LS** commented that one issue is whether the user wants the network service or not. If the user wants that service, they want a highly functional product. **LS** continued, saying that there is an apparent contradiction as industry says that users will disable power management while others say that it is difficult to disable the function.

**SK** commented that the aim is to prepare a regulation which specifies what the manufacturer must do when placing a product on the market and not how the consumer uses the product. **ET**

commented that “power management” is a vague term and **SK** replied, saying that a regulation would state that a product should contain a functionality, and not that the product should be used in a particular way. **ET** followed up, saying that if we know how a product were used, then it would be possible to require that it be easy to disable networking functions.

## CONTENT – IMPROVEMENT OPTIONS

**LS** continued the presentation, discussing improvement options in slides 31-72.

**JK** questioned what “power down” meant in the LowP2 state, asking if the state maintains network activity. **LS** responded that yes, it could be a sort of idle mode for certain devices with no lower-power modes.

**JB** commented that Option 4 covers all products, noting that some products have WAN service requirements. **JB** questioned if it made sense for the user to be able to power down these devices. **LS** responded that in the event of a power failure, the device must be able to re-establish its network connection. **NN** added that it would probably mean that the user could deactivate the LAN side, but not the WAN side, noting that products exist which allow for that.

**BN** commented that it is appropriate to talk about the user interface requirements, noting that networks are about communication and require standards for interoperability and that there should be similar standards for interfacing with the user. **BN** suggested that there be an international standard for power interfaces.

**JK** asked what was the intent of timer-based night routines. **LS** responded that it is a functionality which has been seen in home gateways where LAN functionality is deactivated. **LS** added that it also exists for network-attached storage (NAS) devices.

**Klaus Verschuere (KV)** of **Cisco** remarked that the definition of networked standby (for networking equipment) is confusing, asking what would be the case if only one interface were deactivated. **LS** responded that only in the case when all interfaces are not used, or when the device has not been used over a certain time, would the (networking) device be in networked standby.

**PM** commented that users decide what they want from products, adding that he was more concerned with automated options such as Option 2 and 3 because functional problems are more likely to arise.

**Norbert Reintjes (NR)** of **Ökopol GmbH**, on behalf of **Federal Environment Agency Germany**, questioned whether the option foresees to power down further from LoNA, going to a “No Network Availability” (NoNA) state. **LS** responded affirmatively, stating that this should be an option, though emphasising that this would require cooperation along the entire value chain for consumer premises products such as home gateways and complex set-top boxes.

**NR** added that the Commission is looking for a regulation on products, thus looking at the entire value chain may be seen as a contradiction. **NR**, however, appreciated the broader approach and emphasised that there are many interesting aspects in the value chain approach and that it would be a pity to lose them. **NR** suggested that they be included in the preparatory study report, even if they

might not be included in the regulation as they could then be used later by the Commission to determine where such an approach could feed into the process. **NR** added a comment regarding the scope, stating that there is a clear line around office and home equipment, but emphasised that professional equipment is important and the study should state clearly that this should be covered in any other process. **SK** responded saying that the aspects under discussion could be the basis of mandates for standardisation organisations, or a voluntary agreement, or upgrading a standard like DOCSIS.

**PM** commented that cable modems have much higher consumption compared to other similar products. **LS** responded that this is true and that DOCSIS poses a particular challenge, mentioning that if DOCSIS were the only protocol supported by a device, it would consume 6W by itself. **KV** mentioned that such disparities showed that products are different and that a limit of 10W may be appropriate for some, while 6W may be appropriate for others. **LS** responded that in order to calculate the improvement potential a single value was necessary (8W was used). **LS** added that there is still a full range of possible energy budgets for the regulation noting that nothing has been decided yet.

**JK** mentioned that looking at the data for CSTB, the proposed range seemed to be one or two standard deviations away from the median. **LS** responded that there has been improvement in CSTB, but that there are products for which 8W may be too much. **LS** suggested that it could be addressed across different interface standards over the next 15 years. **NN** added that these are only improvement options which could be reached over time and emphasised that 8W is not necessarily the value of any regulation, but was required to calculate the improvement potential.

**JK** asked how a device which currently consumes 100W could be expected to ever achieve 8W, mentioning home servers as an example. **SK** responded, saying that the goal for today is to clarify the technical feasibility, but not to "agree" on a roadmap to achieve the improved efficiency.

**David Daniels (DD)** of **BSkyB**, representing the **Voluntary Agreement for CSTB** noted that the devices shown on slide 46 do not qualify as CSTB as they do not include conditional access.

**NR** commented that the study does not include best not-yet-available technologies (BNAT). Based on this **NR** (1) pointed that the currently suggested values are only based on BAT and not yet reflect BNATs and (2) asked why BNATs are not covered in the study. **LS** responded that with the types of technologies under consideration in this study, it is difficult to draw a line between BAT and BNAT, giving the examples of proxying and energy-efficiency Ethernet. As an additional example, **LS** suggested storing system state information on non-volatile memory, noting that some comments have been received from TV manufacturers stating that the cycling of components could lead to reliability problems over time. **LS** questioned if this was really the case, given the use of non-volatile memory in other products. **LS** added that more data on non-volatile memory would be welcome. **NN** added that suggested breakthroughs in non-volatile memory were removed from the report as they could not be substantiated.

**PM** asked whether the Broadband Code of Conduct was seen as a good approach, noting that any regulation would need to be flexible, lest it limit the possible innovation that manufacturers could provide to consumers. **PM** gave the convergence of CSTB and consumer AV products as an example. **LS** responded, saying that the convergence of products is a good example and one which shows the importance of a horizontal approach.

**JK** noted with regard to slide 52 that, for a product to be present in the EnergyStar database, its resume time needs to be less than 5 seconds, adding that the amount of memory is what really determines resume time. **JK** added that, as RAM sizes continue to increase, so will power consumption in sleep modes.

With regard to slide 52, **JK** noted that “standby” in the Energy Star database means “off”. **LS** noted that the Energy Star databases were not included in the reports because of the discrepancies in the data.

**JK** added that the reactivation energy of computers can be significant as they resume, though only for a short period of time.

**Matthias Meier (MM)** of **Ingenieurbüro M. Meier** noted that the team should be careful using mobile technology as a benchmark as there are qualitative differences between mobile products and other consumer products. **MM** added that it is acceptable to draw such comparisons in front of a technical audience, but that it could be misleading for a non-technical audience. **LS** remarked that mobile technologies were included to demonstrate how efficient products could be, while still maintaining network availability.

**JK** commented that if the focus is too much on power consumption, then the overall goal of reducing energy use may be lost, remarking that LoNA and MeNA on computers could lead to users disabling the functions. **JK** added that saving 1 kWh could risk 189 kWh if it results in a level of performance which consumers deem to be annoying.

**JK** remarked that making generalisations about user behaviour across the entire European population is not sufficiently precise and that looking at each product and developing a specific use scenario may give a different result. **LS** responded, saying that the project team had a strict financial budget, and adding that the spread sheets were made available as a tool for anyone to test different hypotheses. **LS** added that if many people were to deactivate power management functions, then idle-mode consumption would be even higher.

**Adriana Mattei (AM)** of **Microsoft** (Xbox division) questioned which assumptions about use patterns did the report use for game consoles. **LS** responded that it was two hours active with different levels of idle depending on the network availability model. **LS** added that there was a large potential for gains from power management, depending on the type of machine. **AM** commented that the Lot 3 study assumes 22 hours in off, and two hours active, noting that, in game consoles, “idle” is processing a lot of data in the background. **AM** said that they believe that the improvement potential for game consoles is overestimated, saying that only 30% of the 2 hours in active mode is actually spent in idle. **LS** responded, saying that idle modes were assumed to be used to provide network availability. **LS** added that more precise use scenarios were used for computers and imaging equipment because they have more developed power management. **AM** commented that the game console industry has agreed on implementing power management solutions.

**Amanda Webb (AW)** of **Sony Computer Entertainment Europe** added that their PlayStation 3 device now has power management.

**Julie Cheung-Rueckert (JCR)** of **Nintendo of Europe GmbH** also added that the joint industry APD proposal had the backing of the NRDC (National Resource Defense Council) and was positively received by the consultants of Lot 3. **JCR** commented that they believed that the improvement

potential for games consoles was overestimated and that the assumed 12 hours per day in idle is an unrealistic figure. **JCR** added that the average time games consoles spend in idle is significantly lower and that it is more along the lines of 1.4 hours per day, referring to independent data compiled by the Nielsen Company that was cited in the Lot 3 preparatory study. **LS** stated that it is simply a scenario and **NN** added that it could be modified. **NN** added that, as game consoles may be used for internet access, watching TV, or as a Blu-ray® player, consumption may increase. **JCR** commented that Nintendo is not going in the direction of using the console for watching TV, rather, Nintendo's consoles are used mainly for playing games. **LS** noted that in evaluating the data for games consoles, only data for larger, high definition games consoles had been considered. **JCR** replied that Nintendo's consoles are not high definition, use very little power and thus are already energy-efficient. **JCR** emphasized that although Nintendo's consoles are not high definition, they are still within the scope of this study and that this aspect should be properly considered. **SK** added that consistency with Lot 3 would be desirable and that the game console industry's auto power down proposal is an encouraging sign.

**JB** commented that one of the arguments for the horizontal approach is for products which do not yet exist. **JB** asked what products the project team had in mind, adding that if we have no idea what products are coming, then why develop legislation? **JB** added that there would be time to identify which products will become popular and then develop appropriate legislation. **NN** gave the example of an alarm clock with a wireless repeater, it may not be popular now, but it may catch on in the future, adding that the goal is to avoid having many new products with network functionality, each with a limited market share, but together consuming large amounts of energy.

**Hans-Paul Siderius (HPS)** of the **NL Agency** commented that the problem with a vertical approach is that the product scope has to be defined very narrowly. **HPS** added that this makes it very easy to define a product which avoids the scope of the legislation. **HPS** continued, saying that a horizontal approach is needed to avoid too many grey areas and too many "in-betweens" which are not covered by a vertical approach, adding that the alarm clock wireless repeater would never be covered via a vertical approach, but that we would want it to be covered by a horizontal approach. **SK** added that setting consumption levels for products in "vertical" measures may be less efficient as lines are to be drawn between products. In the case of "television monitors" some prefer now to generalise television and computer monitors into a "horizontal" definition "displays". **SK** added that an intelligent, pragmatic horizontal approach could be preferable.

**PM** commented that a horizontal approach may save time at the legislative stage, but that it is more time consuming for companies to deal with. **PS** added that in the end, such an approach takes up more resources. **SK** responded, saying that the goal is to arrive at a common understanding in order to make things easier for manufacturers, adding that it is not necessarily helpful to split wide-ranging subjects like protocols into vertical lots.

**HPS** commented that the project team was right to take network availability as the fundamental parameter, distinguishing among low, medium, and high. **HPS** questioned, however, whether the stated resume times in LoNA and MeNA would be future-proof, as consumers may expect HiNA from all products. **JB** added that time is a crucial factor, noting that an instant response, but not necessarily instant fulfilment, is important. **JB** added that a proxy standard instantly answers a request and rather than looking only at resume time to application, time to response is also important. **JK** added that this approach may allow a device which requires HiNA to fit within the requirements of MeNA. **BN** compared the proxying approach to a sleeping human being, where most activity is deactivated, but a small amount of intelligence remains active to ensure vital functions. **LS**

commented that standby and off-mode losses first garnered attention 10 years ago and that, back then, products used to use 4 to 10 Watts. It seems we are at the same point again but with the issue of networked standby. **LS** continued, suggesting that with 10W, perhaps all products could meet the requirements of networked standby, but is that politically acceptable? Against the background of technical progress should not we expect to reduce networked standby to general 5W in the next 5 years?

**ET** commented that people tend to find everything too slow and asked how the big differences between products were explained. **LS** responded, saying that industry often provides a lot of performance in a sub-optimal way in order to bring the technology to market quickly. **LS** added that there is a lot of potential for improvement, giving the examples of standardised power management, value-chain cooperation, and better information on user behaviour.

**ET** commented that it is not clear if the improvement potential is a long-term or short-term target, adding that ECOS prefers when the Ecodesign process sets longer term goals which gives a vision to different groups. **ET** added that there were two clear product groups, those which require HiNA for networking functions and other products with network availability added for convenience. **ET** posited that networked standby will eventually replace passive standby and questioned whether it would be reasonable to expect networked standby power consumption levels to converge with passive standby levels. **LS** responded that there is a need to do something now and that it will be a process. **LS** added that products have a functional use for the user and that network availability serves a specific purpose which should be useful, safe and secure. **LS** concluded that the user should be aware that they are receiving an additional service and that there is an associated energy cost.

**BN** commented that neither a horizontal approach such as that of Lot 6 nor a vertical approach would be appropriate for this subject. **BN** suggested instead a hybrid approach where there is a library of policy options which are common worldwide and which are then applied to specific cases. **BN** argued that this would minimise complexity while maximising commonality. **BN** added that the topics discussed were not taking a global perspective, an approach which would minimise the burden on all. **BN** asked why service providers were not taking this approach. **BN** suggested that service providers' consumer premises equipment not be regulated, in exchange for service providers agreeing to pay for the electricity consumed by the devices and that they would have the ability to update the hardware as often as needed.

**DD** commented that CSTB consume less than displays, adding that the CSTB VA exists because many service providers are active and, therefore, the entire value chain is represented.

**SK** responded to **BN** regarding internationalisation, saying that the intention from the beginning of this project was that it be global, and that the contributions of international partners such as LBNL are appreciated. **SK** added that participation in the study is open to everybody and service providers were encouraged to participate by the contractors, but they cannot be forced to do so. **SK** continued, reminding that cooperation for such as IPEEC or the IEA aim at harmonising tools such as measurement standards and benchmarks, but not requirements, which, in the case of the EU, are subject to the legislative framework provided by the Ecodesign Directive.

**HPS** commented that the International Energy Agency (IEA) has an implementing agreement on Energy Efficient End-use Equipment (4E) of which **HPS** is the chair. **HPS** continued, saying that the 4E project on standby could be a good platform for international exchange of information and discussion. The IEA's 1 Watt initiative shows that even if each region has its own particularities, it is

still possible to harmonise internationally. **HPS** stated that any regulation with more than three figures will fail. **HPS** stated that he was happy that the consultants had come up with the figures for high, medium, and low network availability, but questioned if this could not be reduced further.

## CONCLUSIONS

**NN** concluded the presentation, showing slides 73 and 74.

**ON** commented that standardisation of test methods is very important, adding that once an implementing measure is issued, manufacturers will need to measure the power consumption and doing so requires a standardised method. **NN** responded, saying that the team was aware of this, but that the creation of a standard takes a very long time.

**PS** questioned how the implementing measure for computers, which includes power management requirements, would be dealt with in the framework of that study. **NN** responded, saying that the project team will try to fit the proposed solution with existing vertical lots.

**SK** commented on standardisation, saying that if a certain watt level is given, then how it is measured must be specified as well. **SK** continued, saying that the absence of a harmonised standard is not a veto for coming up with measures, adding that in the absence of a standard, then a certain way of measuring will be agreed upon and published in reference documents in the OJ. **SK** continued, saying that in the case of PCs, we must wait to see how the measures will be designed to ensure that there is no conflict or contradiction, adding that this is not a technical issue. **SK** said that burdens for industry will be examined in the impact assessment, taking into consideration the results of discussions in the Ecodesign Consultation Forum.

**SK** continued, saying that all feedback from stakeholders will be taken into account, inviting stakeholders to provide input on a roadmap to arrive at a certain level of ambition and what the right timing and staging would be, as well as the costs of different approaches. This will be in parallel with the consultation forum, where the economic and energy impacts will be explored further. **SK** invited further concrete inputs with regard to costs.

**JB** asked what the timeline would be going forward and when the deadline was to submit feedback to the contractors. **SK** asked when DIGITALEUROPE could provide feedback, adding that there is a need to finish the contract quite soon and that there is still a need for the industry to comment on Task 8, which is the personal view of the contractors. **JB** responded that it would usually take 4 to 6 weeks to produce some feedback. **LS** added that Task 8 is to be published in the second half of March.

**PS** asked if there was any date set for the consultation forum. **SK** responded, saying that no clear indication could be given at this stage.

The stakeholders were thanked for their participation and the meeting was adjourned.