

| <b>Comments Template on EIOPA-CP-15-003<br/>Discussion Paper on<br/>Infrastructure Investments by Insurers</b>   |   | <b>Deadline<br/>26.April.2015<br/>23:59 CET</b> |
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| Company name:  | EIOPA Insurance and Reinsurance Stakeholder Group (IRSG)  |   |
| Disclosure of comments:  | <p>EIOPA will make all comments available on its website, except where respondents specifically request that their comments remain confidential.</p> <p>Please indicate if your comments on this CP should be treated as confidential, by deleting the word Public in the column to the right and by inserting the word Confidential.</p> | <b>Public</b>                                   |
| <p>Please follow the instructions for filling in the template:</p> <ul style="list-style-type: none"> <li>⇒ <u>Do not change the numbering</u> in column “Reference”.</li> <li>⇒ Please fill in your comment in the relevant row. If you have <u>no comment</u> on a paragraph, keep the row <u>empty</u>.</li> <li>⇒ Our IT tool does not allow processing of comments which do not refer to the specific paragraph numbers below. <ul style="list-style-type: none"> <li>○ If your comment refers to multiple paragraphs, please insert your comment at the first relevant paragraph and mention in your comment to which other paragraphs this also applies.</li> <li>○ If your comment refers to sub-bullets/sub-paragraphs, please indicate this in the comment itself.</li> </ul> </li> </ul> <p><b>Please send the completed template to <a href="mailto:CP-15-003@eiopa.europa.eu">CP-15-003@eiopa.europa.eu</a>, in MSWord Format, (our IT tool does not allow processing of any other formats).</b></p> <p>The paragraph numbers below correspond to Consultation Paper No. EIOPA-CP-15-003.</p> |   |   |

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| <p>Question 1 - Q1: What elements in the Solvency II framework might prevent insurers from investing in infrastructure (other than capital requirements)? How could they be adapted while preserving the same level of policyholder protection?</p> | <p><b>The valuation approach can create very large implicit capital requirements for long-term debt such as infrastructure which adds to the disincentives created by the very high explicit SCR.</b></p> <p>In addition to the <b>explicit SCR</b>, there will be a need for companies to hold <b>additional implicit solvency capital buffers</b> to cope with the volatility in Own Funds created because of the way Solvency II can require assets to be valued - using volatile market inputs, even if the asset has no market price and will not (and often cannot) be traded. This is especially important for very long-term debt such as infrastructure because the valuation approach will be particularly volatile for them. For example, the Solvency II valuation of an infrastructure bond with a 20 year duration would have moved by more than 50% during the crisis (because even AAA spreads increased temporarily by 250 basis points). The Volatility Adjustment included in the Omnibus II agreement will help only a limited degree. The Matching Adjustment works very well to avoid this problem but it is likely that only very few portfolios will be able to use this.</p> <p>Adapting the valuation approach to avoid creating volatility is likely to be more difficult than improving the SCR calibrations, given the short time available. It may be more realistic to address this issue as part of the first review of Solvency II to be done by before 2018. This issue makes improving the SCR calibrations even more important however to reduce disincentives.</p> <p>We note that in terms of policyholder protection, improving the measurements and calibrations to better reflect the risks will not put policy holders at unnecessary risk but rather ensure policyholders remain protected to the high (1 in 200) levels intended by Solvency II.</p> | <p><b>Public</b></p> |

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| <p>Question 2 - Which infrastructure investments (debt/equity, rated/unrated, credit rating, sectors, geographies, revenue-schemes, etc.) have a different risk profile than implied by the standard formula treatment and what is the evidence?</p> | <p>Moody's has published studies on the credit performance of two distinct infrastructure-relevant data sets:</p> <ol style="list-style-type: none"> <li>(1) A data set comprising \$1.6 trillion of unrated project finance bank loans (report titled hed studies on the credit performance of two distinct infrastructure-re-relevant data set</li> <li>(2) A data set comprising \$3.3 trillion of Moody's-rated infrastructure debt securities (report titled "Infrastructure Default and Recovery Rates, 1983-2014", March 2015)</li> </ol> <p>The data sets and the findings for each study are different. In relation to the unrated project finance bank loan study, the study shows (among other things) that:</p> <ul style="list-style-type: none"> <li>• Project finance loans (based on Basel II definition) are a resilient class and are structured to be highly robust to a wide range of potential severe risks and to minimise post-default losses.</li> <li>• In particular, unlike for corporate debt, default rates for project finance loans improve markedly over time, with some variance between OECD/non-OECD countries and between sectors.</li> <li>• Furthermore, recovery rates on project finance loans are largely independent of the economic cycle, unlike recovery rates for corporate loans that tend to fall when default rates rise.</li> </ul> <p>Although not addressed explicitly, the unrated project finance bank loan study infers that the credit performance of availability-based projects such as hospitals and schools, is better than user-pay projects such as toll roads. The study data set is compiled from actual loan data contributed from over 30 banks and institutional investors and includes over 5,000 projects across the world, representing about 60% of all project finance transactions originated over the study period.</p> | <p><b>Public</b></p> |
| <p>Question 3 - How relevant is liquidity for infrastructure investments by insurers?</p>  | <p><b>Secondary market liquidity is not a priority for insurers' infrastructure investments for most insurers.</b></p> <p>Insurers are aware that due to the bespoke and project-specific nature of most transactions, many of which are complex, it is unlikely that there will be much, if any trading in the securities subsequent to their initial purchase. See also answer to</p>   | <p><b>Public</b></p> |

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|   | Question 46.   |        |
| Question 4 - How could the criteria for debt with and without an ECAI rating differ and what is the rationale?  | <p><b>The definition of infrastructure asset class should not depend on there being an external credit rating (ECAI). Having an ECAI should not become a requirement for an asset to be treated as infrastructure as these are expensive and many infrastructure assets are unrated.</b></p> <p><b>The second option mentioned in the discussion paper is therefore the right one but needs to be reworded to make it clear that there should not be a separate calibration of rated vs unrated transactions.</b></p> <p>An ECAI can be a good method for assigning a credit step for debt infrastructure assets which can then be used to determine specific capital requirements (as they are for corporate debt). However, it should be possible to use other rating systems to identify the appropriate credit step such as appropriate internal rating systems or possibly those used by partners such as banks, which some insurance companies adopt facilitate their infrastructure investment.</p> | Public |
| Question 5 - Do you think that the definition of project finance from Basel II and/or the definition of specialised lending exposures as laid down in Article 147 (8) CRR could be used? Why (not)? | <b>Article 147 (8) CRR (or the similar Basel text from paragraphs 221 and 222) could be used, however we recommend the definition proposed in Question 8 below.</b>  | Public |
| Question 6 - Are there any other definitions of project finance in existing legislation which could be used   | <b>Yes, for example we are aware of the following: Council Directive 2008/114/EC, UK Planning Act 2008, UK Housing and Regeneration Act 2008, UK Localism Act 2011, UK Infrastructure (Financial Assistance) Act 2012. See attached Appendix.</b>  | Public |
| Question 7 - Which is your preferred option and why (pros and cons)?  | <p><b>A combination of the approach indicated in options a) and b) would be preferable.</b></p> <p>We would be concerned under option c) that if terms such as “sufficiently stable” are included that it will not be possible to arrive at definitions for this which will be practical and avoid excluding significant suitable investments.</p>   | Public |
| Question 8 - Could you provide a comprehensive  | <b>An example of workable approach we suggest the following approach:</b>  | Public |

and precise definition of infrastructure based on your preferred option?

**"Infrastructure" means a long term, capital intensive undertaking the purpose of which is to utilise certain assets, facilities, equipment, systems, networks or part thereof to provide services that are essential or desirable for the maintenance of societal or governmental functions, health, safety, security, economic or social well being of the population.**

**Recital wording could include, for example, the following sectors: (a) water, electricity, gas, telecommunications, sewage, waste or other related services; (b) energy or renewable equipment or facilities; (c) roads (including bridges and tunnels), railways (including rolling stock) and railway facilities, ports, airports or other transportation facilities; (d) health or medical equipment and facilities; (e) education, employment or training facilities; (f) courts, prisons or custodial facilities; (g) defence equipment or facilities; (h) sporting, recreational or social facilities; (i) governmental facilities; (j) flood defences; and/or (k) housing.**

**Additional criteria to align with the project finance definitions mentioned above and to help ensure the refined solvency treatment is limited to suitable assets could be:**

- (a) the exposure is to an entity which finances or operate physical assets or is an economically comparable exposure**
- (b) the contractual arrangements give the lender a substantial degree of control over the assets and the income that they generate**
- (c) the primary source of repayment of the obligation is the income generated by the assets being financed, rather than the financial capacity of a broader commercial enterprise**
- (d) if the exposure has the form of equity, then the exposure is not listed;**
- (e) the initial maturity at issuance is 5 years or longer;**
- (f) if the exposure includes a construction phase, the construction risk is appropriately mitigated and passed through under one or more comprehensive engineering, procurement and construction (EPC) contracts;**

**the assets are located in a political reliable jurisdiction or there is sufficient protection to mitigate such risks**

**No further more detailed criteria are needed to define infrastructure as an asset**

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|   | <p>class– we note that this is already far more restrictive and detailed than the Banking standard formula which as far as we can see, assigns a 8% times risk weight capital charge for all unrated project finance over 2.5 years maturity with no further criteria.</p> <p>Other characteristics/criteria such as credit rating or maturity could be used to determine the appropriate capital for assets with differing levels of risk within the asset class (as is the case for corporate debt).</p>  |               |
| Question 9 - Are there any legal definitions of infrastructure (investments) in existing legislation which could be of use?   | Yes, see attached appendix.   | <b>Public</b> |
| Question 10 - In some infrastructure sectors the vast majority of projects do not offer stable revenues and/or have considerable technological risk. What could these sectors be legislation which could be of use? | <p><b>It is difficult to generalise by sector. This is also true for every asset class – there will be individual equity or property investments which exhibit more risk than others. We note that Moody’s unrated project finance bank loan study<sup>1</sup> covered all project finance industry sectors and found the overall portfolio to be relatively low risk. Solvency II has a prudent person principle backed up with many Pillar II requirements that can ensure the company has the expertise and governance to ensure they are able to invest on an appropriate portfolio basis.</b></p> <p>Certain projects features, rather than sectors may be indicators of revenue stability for example; cash flows from consumers who pay for use of concessions can be more volatile than those which are based on availability payments from a government entity. Examples of concession-based transactions are toll roads, where investors do take the risk of toll road concession revenues being considerably less than targeted if usage is below expectations. However, roads with a history of traffic flows the risk may be low so again it is difficult to generalise.</p> | <b>Public</b> |
| Question 11 - Are there any other sources of criteria that EIOPA should consider, in addition to those used in Basel II and CRR?  | No comment.   | <b>Public</b> |
| Question 12 - Which are the most effective criteria and/or characteristics for identifying infrastructure   | <b>As indicated in response to question 8, extensive further criteria to those indicated are not needed in the definition of infrastructure as an asset class.</b>  | <b>Public</b> |

<sup>1</sup> „Default and Recovery Rates for Project Finance Bank Loans, 1983-2013”

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| <p>investments with a different risk profile than implied by the standard formula treatment? What is the evidence for their effectiveness?</p>  | <p><b>Other characteristics/criteria however (such as credit rating or maturity) could be used to determine the appropriate capital for assets with differing levels of risk within the asset class.</b></p>  |                      |
| <p>Question 13 - Are the criteria in Basel II and the specification regarding factors to determine risk weights developed by the EBA for the Regulatory Technical Standard a good starting point?</p>   | <p><b>Basel II “slotting Criteria“ referred to in the discussion document (see Annex to this response) do not relate to the banking standard formula – but rather are draft proposals being considered by the EBA for possible use for banks using (partial) internal models. They should not be used in the definition of the infrastructure as an asset class.</b></p> <p>The criteria could however possibly play a role in providing guidance for assigning infrastructure assets to the credit steps used to determine capital requirements, where there is no suitable rating system.</p> | <p><b>Public</b></p> |
| <p>Question 14 - Do you have any comments on the usefulness of individual criteria in the Basel II list?</p>  | <p><b>See Q13.</b></p>  | <p><b>Public</b></p> |
| <p>Question 15 - Do you have any proposals for how the Basel II criteria that are relatively high level could be further specified?</p>   | <p><b>See Q13.</b></p>  | <p><b>Public</b></p> |
| <p>Question 16 - Q16: Are you aware of any criteria to determine either the quality of project finance in general or specifically of infrastructure project finance in legal texts that could be useful (e.g. transpositions of the Basel II criteria in non-European jurisdictions)?</p> | <p><b>No.</b></p>   | <p><b>Public</b></p> |
| <p>Question 17 - How effective are the described other criteria in eliminating infrastructure investments for which a different treatment in the standard formula is not justified and what is the evidence?</p>  | <p><b>IRSG supports the suggested criteria relating to political risk, structural requirements and construction risk (if suitably worded) because these if worded appropriately can be straightforward to assess and can ensure appropriate assets were included in the infrastructure asset class without excluding many suitable assets. Some of these have been included in our</b></p>  | <p><b>Public</b></p> |

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|  | <p>illustrated text in answer to Q8.</p> <p>However, the other points mentioned including revenue risk, financial structure, operational risks, environmental and technology are important but difficult to validate criteria all form part of the basic credit assessment that a company or its asset manager will undertake. Credit ratings processes will take such factors into account and so they can impact the credit step and level of capital assigned to an infrastructure asset but prudential rules should not attempt to get into this level of detail of the investment decision process. Developing rules which work as intended would in any case be far too difficult to achieve. As noted earlier the prudent person principle and many Pillar II requirements should not be ignored.</p> |        |
| Question 18 - How could the criteria be described as precisely as possible?  | No comment.  | Public |
| Question 19 - Could the respective aim be achieved with other criteria (please describe them as precisely as possible)? What is the evidence?  | No comment.  | Public |
| Question 20 - What mechanisms allow a sufficient mitigation of the risks associated with the construction and ramp-up period?  | <p>Construction risk can be and often is mitigated very effectively with an engineering, procurement and construction (EPC) contract. This ensures that there is sufficient cover to protect the investors from delays/problems relating to the construction phase. Guarantees from a public body would also provide suitable protection – these may take the form of EPC contract too but with the public body as the counterparty rather than for example, a construction company.</p>   | Public |
| Question 21 - What are the requirements that these risk mitigants have to meet? Please define them.  | No comment.  | Public |
| Question 22 - One mechanism to mitigate the risks before the operational phase is a credit enhancement or a guarantee provided by public bodies. What would be the criteria to ensure that these mechanisms – potentially in interaction with others – provide a sufficient level of protection? | <p>During the pre-operational phase, contractor risk can be mitigated through the provision of performance guarantees available in the market. Credit enhancement or a guarantee from public body should not be a requirement for an asset to be classed as an infrastructure asset. It can be used to impact the level of capital needed because it will impact the credit step into which a debt asset is placed. Technical advice can also play an important risk mitigating role.</p>  | Public |

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|   | <p>For example, in EFSI pan-European institutions such as the EIB or EIF could provide targeted guarantees on certain types of risks that are exceptionally difficult to quantify, such as usage risks. But most investors do not want blanket guarantees on the senior or mezzanine portions of bonds. In addition as noted in Q20 EPC contracts can also provide suitable protection.</p> <p>Involvement of a respected third party institution such as the EIB can provide important level of risk mitigation even if they do not provide an explicit guarantee. For example, the EIB has provided guarantees on six Project Bond Credit Enhancement transactions. In addition, they most likely also performed due diligence in addition to the due diligence performed by credit ratings agencies (if used), arrangers and investors. All EFSI transactions are expected to include partial credit enhancement provided by the EIB. However, where EIB is a co-investor on non-guaranteed transactions, this can also mitigate risks.</p> |               |
| Question 23 - What is your view on the proposals set out in the Annex? What could be suitable thresholds and how could they be derived?           | <b>As indicated for Q17, revenue criteria should not form part of the definition of infrastructure as an asset class.</b>  | <b>Public</b> |
| Question 24 - Do you have alternative proposals for how to measure low revenue risk and what is the evidence that it is effective?                | See Q23  | <b>Public</b> |
| Question 25 - What are other contractual arrangements than those in the Annex with low revenue risk? How could this be assessed with a criterion? | See Q23.   | <b>Public</b> |
| Question 26 - What kind of non-public off-taker would have a sufficiently low risk of default? How could this be assessed (criterion)?            | See Q23.   | <b>Public</b> |
| Question 27 - What would be suitable ratios available to investors to measure the financial risk?   | <b>As indicated for Q17, financial structure criteria should not form part of the definition of infrastructure as an asset class.</b>  | <b>Public</b> |
| Question 28 - What would be a suitable minimum level for the ratios (e.g. corresponding to “investment grade”)? What is the source and            | See Q27.   | <b>Public</b> |

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| evidence for this level?   |   |               |
| Question 29 - What would be the arguments for also making non-senior debt eligible?  | <p><b>As noted already, this can impact the credit rating and therefore credit step but non-senior debt assets should not be excluded from the infrastructure asset class.</b></p> <p>Many investors are willing to do extensive credit analysis to understand the various cash flows of infrastructure transactions. There is no reason why they are not capable of funding both senior as well as subordinated exposures.</p>   | <b>Public</b> |
| Question 30 - Is it necessary to limit the refinancing risk in infrastructure projects (please provide evidence) and what are suitable criteria? | <p><b>No.</b> Whilst some financings may be structured with debt maturing and requiring refinancing (rather than being repaid from revenues), where the life of the assets and/or concession extends beyond such refinancing, and given stable revenues being a feature of infrastructure assets, the risk of being unable to refinance such debt is reduced.</p>   | <b>Public</b> |
| Question 31 - What significance does prepayment risk have and what would be a suitable criterion to limit it?                                    | <p><b>None in the context of defining infrastructure as an asset class.</b></p> <p>Prepayment risk relates to asset liability management and does not need to be taken into account in the definition of infrastructure asset class or the calibrations. Institutional investors such as insurers who buy to match long-term liabilities will often seek to limit prepayment options which have been common in the past due to because of the relatively limited involvement of such investors. It should be noted that most bond transactions will include full make-whole provisions on voluntary prepayment.</p> | <b>Public</b> |
| Question 32 - How could a condition “proven technology and designs” be made operational?   | <p><b>Such conditions should not be part of the definition of infrastructure as an asset class.</b> They will form part of the assessment of the investment by the investors.</p>   | <b>Public</b> |
| Question 33 - How could criteria that are difficult to validate (such as those described above) be incorporated into the framework?              | <p><b>Such conditions should not be part of the definition of infrastructure as an asset class.</b> They will form part of the assessment of the investment by the investors.</p>   | <b>Public</b> |

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| <p>Question 34 - Do you have any other suggestions besides those described below for how to derive alternative risk charges? What is the evidence?</p>  | <p><b>The basic nature of long-term debt investments is that they are invested long term and this must be taken into account in the calibrations using a combination of available data, economic principles and expert judgment.</b></p> <p>The absence of traded prices and the fact the insurance company is not exposed to forced (fire) sales and associated losses during the maturity of those assets makes it not appropriate to fit those assets into either the current equity risk submodule or the spread risk submodule.</p> <p>A calibration of infrastructure risk needs to be aligned with a long-term investment approach and reflect the impact this has on risk exposure – for example:</p> <ul style="list-style-type: none"> <li>• Infrastructure debt: via the counterparty default risk module with a calibration table covering credit step and maturity with capital charges based on appropriate loss in the event of default (ie based on default frequencies and recovery characteristics). This is in line with the approach already taken in Solvency II for residential mortgage investments which are also often longer-term, illiquid and have significant recoveries that impact significantly the overall risk of loss.</li> <li>• Infrastructure equity: via a new equity sub-module which includes appropriate correlation and capital charge – for example 22% in line with Solvency II calibrations already used for long-term or strategic equity investment.</li> </ul> | <p><b>Public</b></p> |
| <p>Question 35 - How would requirements for partial internal models need to be adapted so that they are suitable for infrastructure projects without reducing the level of policyholder protection?</p> | <p><b>The focus at this stage should be on refining the Standard Formula.</b></p> <p>Use of partial and full internal models for these assets can be monitored and assessed at a later stage to determine if any additional work is justified.</p>  | <p><b>Public</b></p> |
| <p>Question 36 - What are potential sources for reliable cash flow data on infrastructure projects in a sufficient quantity?</p>  | <p><b>Reliable sources/databases for cash flows on any asset class are limited or non-existent.</b></p> <p>As the infrastructure lending market has historically been dominated by bilateral lending between banks and projects, comprehensive data in a sufficient quantity would have to come from lending banks, sponsors or companies who have compiled data received from banks.</p>   | <p><b>Public</b></p> |

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| <p>Question 37 - How can historical cash flow data be transformed into an equity risk charge that reflects changes in market prices?</p>   | <p><b>Cashflow data, if it can be found, should be used rather to check if it can support certain recalibrations e.g. use of a 22% capital charge, rather than attempt to design a complex methodology to model market prices.</b></p> <p>It will not be possible to transform historical cash flow data into market prices without making basic assumptions on idiosyncratic risk premia estimated mainly from listed stock prices, and these often have no relation to underlying cash flows.</p>  | <p><b>Public</b></p> |
| <p>Question 38 - Which listed equities could be a good proxy for equity investments with a different risk profile than implied by the standard formula treatment and what is the evidence that the risks are similar?</p>                              | <p><b>Although there are a few indices that exist for utilities as well as project finance in certain regions, these indices are yet sufficiently comprehensive to be relied upon for equities calibration. See answers to question 34 to 37.</b></p>  | <p><b>Public</b></p> |
| <p>Question 39 - Can you provide any data regarding proxies?</p>   | <p>No.</p>   | <p><b>Public</b></p> |
| <p>Question 40 - What is the evidence that a segment of infrastructure project equity has a risk profile that is similar to type 1 equities?</p>   | <p><b>There is no evidence that the risk profile of infrastructure equity is similar to type 1 equity - the nature of infrastructure project finance should make it lower risk.</b></p> <p>Infrastructure equity is issued by a project (which fulfills the bankruptcy remoteness criteria) whereas common type 1 equity is issued by operating companies. This is why material risk factors of type 1 equity like entrepreneurial risk, labour law risk, business development risk et al are not part of infrastructure equity risk. Infrastructure equity is more comparable to a first loss residual note of a SPV rather than to equity issued by operating companies. This and the long-term nature of the exposure justify a significant lower charge in line with that already used by Solvency II for long-term and strategic equity investment.</p> | <p><b>Public</b></p> |
| <p>Question 41 - Is there evidence for a lower correlation between the value of certain infrastructure equities and other risks within the standard formula in a stress period? How could this be reflected (data inputs, calculations in detail)?</p> | <p><b>In the Moody's unrated project finance bank loan study, Moody's cites that ultimate recovery rate for project finance loans appear to be substantially uncorrelated with certain factors that are key determinants of ultimate recovery rates for general corporate debt facilities. Moody's further states that "this observation contracts with Moody's research on corporate loans and bonds which has found that ultimate recovery rates for defaulted corporate debt facilities are negatively correlated with default rates (e.g. ultimate recovery rates fall as default rates rise."</b></p>   | <p><b>Public</b></p> |

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|   | <p>This is also supported by qualitative evidence of a lower correlation between default frequencies and other risks within the standard formula. As infrastructure projects by definition are project for public service („opera publica“) they are mainly independent from each other with little contagion risk.</p>  |                      |
| <p>Question 42 - What evidence is available on spreads for project bonds in general and infrastructure project bonds in particular?</p>   | <p><b>A very limited number of project bond spreads are available, generally on a private basis, since they may be made on the basis of cash flow projections rather than actual trades through services such as Bloomberg, Markit and others. However project bonds represent a small proportion of all project financing and tend to be focused on lower risk projects (government related large project) in OECD countries, therefore their use as a proxy for all project financing would not be appropriate.</b></p>  | <p><b>Public</b></p> |
| <p>Question 43 - Is there evidence that movements in the spreads of infrastructure corporates differ from those of normal corporates with the same rating?</p>  | <p><b>As indicated earlier, the risk in most cases is not related to spreads because there is generally no price and the asset is bought to hold long-term and not to be traded.</b></p> <p><b>There is evidence that overall losses due to defaults are lower than average corporates in particular because of higher recovery rates than typical corporates. This supports a) lower capital charges for infrastructure and b) the use of the counterparty default module to determine the SCR.</b></p>   | <p><b>Public</b></p> |
| <p>Question 44 - Is there evidence that infrastructure corporate debt (or a suitable subset) can be used as a proxy for infrastructure project debt with a different risk profile than implied by the standard formula treatment?</p> | <p>Given the individual nature of infrastructure project debt and the fact that spreads fluctuate idiosyncratically there is no evidence of suitable proxies from the corporate world. It is necessary therefore to consider default and recovery performance.</p> <p>As noted further above, Moody's has published studies on the credit performance of two distinct infrastructure-relevant data sets:</p> <ul style="list-style-type: none"> <li>(1) A data set comprising \$1.6 trillion of unrated project finance bank loans, and</li> <li>(2) A data set comprising \$3.3 trillion of Moody's-rated infrastructure debt securities</li> </ul> <p>Moody's research in relation to unrated project finance bank loans demonstrates that certain characteristics of project finance bank debt are different from corporate bank debt - in particular, (i) default risk for project finance bank loans diminishes over time from financial close, which is not the case for corporate loans; and (ii)</p> | <p><b>Public</b></p> |

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|   | <p>ultimate recovery rates for project finance loans average approximately 80% despite features such as high gearing and long tenor that are generally associated with higher risk corporate debt.</p> <p>Moody's research in relation to Moody's-rated infrastructure debt securities demonstrates that certain characteristics of infrastructure debt are different from debt raised by non-financial corporates - in particular, (i) the credit quality of corporate infrastructure credits has been more stable than that of general corporate debt; and (ii) on average, corporate infrastructure debts have exhibited higher post default recovery rates than those of general corporates. A consequence of these two factors is that 10-year credit loss rates for corporate infrastructure debt securities are materially lower than for like-rated non-financial corporates.</p>  |                      |
| <p>Question 45 - Describe in detail (data, calculations) how an adjustment factor could be derived.</p>                               | <p><b>Spread risk should not be considered at all, so the adjustment factor should be derived such that all spread risk is eliminated – the outcome should then be the similar as if a counterparty default approach were taken.</b></p>   | <p><b>Public</b></p> |
| <p>Question 46 - What conditions could ensure that insurers are in a position to hold the infrastructure investments to maturity?</p> | <p><b>The condition which ensures that an insurer is in a position to hold the infrastructure investments to maturity is that an insurer is not exposed to fire-sale risk by the structure of its asset-liability profile. There must be no requirement to hold to maturity as this interferes with the ability to manage risks appropriately and obligations to optimise returns for policyholders.</b></p> <p>Due to the nature of the liabilities a forced sale is very unlikely. In addition there are typically many sources of cash (new premiums, dividends, rental income, bond interest and redemptions, etc) an insurance company can use. If assets have to be sold then there are many more liquid ones available such as listed shares and bonds that would be sold first and infrastructure is unlikely to be more than a few percent of the total portfolio. Therefore any liquidity concerns could be dealt with by requiring the company to confirm that they can avoid forced sales of their infrastructure (e.g. in their ORSA or liquidity planning) and are therefore in a position to hold the infrastructure investments to maturity.</p> <p>It is very important that the focus is on the ability to avoid forced sales and not on requiring the assets to be held to maturity – while these assets will usually be held to maturity companies must have the flexibility to manage risks appropriately and this includes making changes to their assets to avoid risk concentrations, to improve</p> | <p><b>Public</b></p> |

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|  | ALM, to manage credit risk and optimise returns for policyholders.   |               |
| Question 47 - What is the rationale to apply an adjustment factor for infrastructure debt but not for other (illiquid) debt investments like SME loans?  | <p><b>Calibrations for SMEs should also be looked into to see if they are unnecessarily high and create therefore unnecessary disincentives for investment. Given their illiquidity there may be justification for treating them under counterparty risk approach too.</b></p> <p>The impact on infrastructure is particularly large because the deviation between a default/recovery based approach used in the counterparty default risk module and spread based approach will be especially large because for infrastructure:</p> <ul style="list-style-type: none"> <li>a) Because infrastructure debt will be among the longest duration of all debt and so a spread based approach will especially penalize infrastructure (while SME debt will tend to be relatively short and less penalised)</li> <li>b) SME loans may have lower recovery rates than infrastructure transactions, broadly speaking.</li> </ul> | <b>Public</b> |
| Question 48 - What is the rationale to cover infrastructure debt in the counterparty default risk module while other exposures like SME loans or rated corporates are allocated to the spread risk sub-module? | <p><b>The rationale is:</b></p> <ul style="list-style-type: none"> <li>- <b>There is no active market price so bonds cannot be easily traded and by definition they are usually held long term</b></li> <li>- <b>They are generally unlisted assets so there is no market price therefore the use of a theoretical “worst case” price change to determine capital is very obviously questionable</b></li> <li>- <b>High historical levels of recoveries on infrastructure finance are key feature and provide strong evidence vs typical corporates</b></li> <li>- <b>Maturities will typically be very long-term and therefore will be most impacted by an incorrect treatment in spread module.</b></li> </ul>   | <b>Public</b> |
| Question 49 - How could a counterparty default risk charge for infrastructure project debt be derived (model, correlations, data)?   | <b>Default, recovery and correlation information is available and can be used as a basis to support better calibrations. It should be accepted that this will be a combination of data, theory and expert judgment and can be improved over time as more data is collected.</b>  | <b>Public</b> |
| Question 50 - Would including infrastructure project debt in type 1 or type 2 (i.e. using the current calibration) reflect its risk profile?   | <b>Calibrations for infrastructure are likely to be needed. A table similar in format to the one used for corporate debt in the spread module may be appropriate to take into account the impact of duration and credit steps on</b>   | <b>Public</b> |

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|  | <b>exposure to losses, but the calibration would be based on losses arising from default rates combined with recoveries.</b>  |               |
| Question 51 - How can a minimum quality for infrastructure debt without an ECAI rating be ensured?   | <p><b>This will be too complicated to achieve. Debt without a ECAI rating or any equivalent rating (e.g. from a bank) that can be used to assign a credit step should be assigned an equivalent capital requirement equal to a suitably conservative credit step as is done with corporate debt.</b></p> <p>It is important that the prudential rules do not force use of ECAI. Suitable rating systems other than ECAI, including for example Banks should be also allowed.</p> <p>The relevant distinction is more properly whether or not the risks of a project finance instrument are properly understood by the investor irrespective of ratings as sufficient proxy for credit quality in the best case. An ECAI rating can certainly assist in this case, but it is also perfectly possible that the investor will understand the risks (and therefore generate a risk evaluation) through its own internal model, advisers and/ or a third-party model or scorecard approach. The focus should perhaps be on granting a less favorable capital treatment where the investor cannot demonstrate that it utilises a suitable risk rating / credit risk evaluation methodology.</p> | <b>Public</b> |
| Question 52 - Do you have any comments on the areas of attention that EIOPA is considering? Are there any other areas EIOPA should consider? | <p><b>Insurers should have the necessary expertise to invest in infrastructure – either internally or access to it via outsourcing. This is the case for all areas of risk taking, It is correct that investments into infrastructure present potentially more complex risks but Solvency II already has risk management requirements in place and there are no additional requirements needed for investments into infrastructure.</b></p> <p>The questions raised in the discussion document are the kind that companies should ask of themselves and could form part of the dialogue between a supervisor and company if companies are investing significantly.</p>  | <b>Public</b> |

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| <p>Question 53 - Regarding the issue of due diligence specifically, do project sponsors provide financial models which can be used to evaluate the resilience of the project to severe downside stress scenarios?</p> | <p><b>Financial models are usually provided by project sponsors or by the lead financier (often an experienced bank). As the credit quality of an infrastructure project lending exposure whether equity or debt is mainly driven by the ability of the project to generate (stable) cashflows a financial model is a key input for risk evaluation. Such models can be used to run a valuation of the exposure (expected case) stress scenarios (downside cases).</b></p>  | <p><b>Public</b></p> |
| <p>Question 54 - Is there a kind of “industry standard” for financial models and would these models be subject to an audit?</p>   | <p><b>There is no industry standard for such models because they need to be flexible to meet the needs of each project. There will be some common features and generally they will be used to do scenario analysis for risk and pricing purposes. EIOPA should not seek regulation of these models – this will increase costs and the difficulties this would create would likely prevent infrastructure assets from developing.</b></p>  | <p><b>Public</b></p> |
| <p>Question 55 - What would be relevant information for investors in offering documents (i.e. prospectus) or reporting? Is this information currently included?</p>   | <p><b>There are already initiatives to establish good and best practice for investors. It is important that these standards develop through market practice rather than be imposed by regulation.</b></p> <p>The European Financial Services Forum (EFR) has developed model standardised reporting templates for disclosure and reporting. These are available on the EFR website at <a href="http://www.efr.be">www.efr.be</a>. Further work on these standards over time may be helpful as the market develops, given the bespoke nature of many transactions and a the potential unwillingness of certain parties to provide confidential information to a wide audience.</p> <p>The Juncker Plan should look at how to encourage and accelerate adoption of such good practices.</p> | <p><b>Public</b></p> |
| <p>Question 56 - What would be the costs and benefits of introducing as a criterion for a specific infrastructure investments category the availability of a specified list of information?</p>                       | <p><b>This should not be included in prudential legislation.</b></p>  | <p><b>Public</b></p> |
| <p>Question 57 - Are there any existing or emerging standards regarding offering documents or reporting?</p>  | <p><b>Please see the European Financial Services Round Table standardised infrastructure disclosure and reporting standards on their website (<a href="http://www.efr.be">www.efr.be</a>),</b></p>  | <p><b>Public</b></p> |

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|---|---|---------------|
| Question 58 - What is the added value and what are the costs of requiring the provision of information according to certain standards?                        | <b>This should not included in prudential legislation</b>   | <b>Public</b> |
| Question 59 - What could be standardised elements for infrastructure investments in the specific category? What are the costs and benefits of requiring them? | <b>See 56) above. At the moment there are no asset-class specific standards other than for infrastructure broadly defined.</b>  | <b>Public</b> |
| Question 60 - How can standardisation of investor information and contractual elements contribute to a higher liquidity of infrastructure investments?        | <b>Standardisation of disclosure and reporting is helpful for investors, and will over time facilitate higher liquidity of such investments. However, this is not a priority and given the special nature of infrastructure may be more difficult achieve and or take longer than with other asset classes, such as corporate bonds, and in certain securitisation asset classes.</b> | <b>Public</b> |

## Appendix

The definition in Article 147 (8) CRR for banks for specialised lending exposures (SLE) includes three criteria:

- a) the exposure is to an entity which was created specifically to finance or operate physical assets or is an economically comparable exposure
- b) the contractual arrangements give the lender a substantial degree of control over the assets and the income that they generate
- c) the primary source of repayment of the obligation is the income generated by the assets being financed, rather than the independent capacity of a broader commercial enterprise.

The Basel text (Paragraphs 221 and 222 referred in the discussion paper is:

**221.** Project finance (PF) is a method of funding in which the lender looks primarily to the revenues generated by a single project, both as the source of repayment and as security for the exposure. This type of financing is usually for large, complex and expensive installations that might include, for example, power plants, chemical processing plants, mines, transportation infrastructure, environment, and telecommunications infrastructure. Project finance may take the form of financing of the construction of a new capital installation, or refinancing of an existing installation, with or without improvements.

**222.** In such transactions, the lender is usually paid solely or almost exclusively out of the money generated by the contracts for the facility’s output, such as the electricity sold by a power plant. The borrower is usually an SPE that is not permitted to perform any function other than developing, owning, and operating the installation. The consequence is that repayment depends primarily on the project’s cash flow and on the collateral value of the project’s assets. In contrast, if repayment of the exposure depends primarily on a well established, diversified, credit-worthy, contractually obligated end user for repayment, it is considered a secured exposure to that end-user.

### **Current EU Bank Slotting Criteria Utilised in CRR Article 153 it for Specialised Lending Exposures (as a percentage of 8%)**

In the Standardised Approach, there is no specific treatment. The relevant corporate risk weight given under the standard approach is used. In the Internal Ratings Based Approach – Foundation, and IRB – Advanced, banks model the probability of defaults (IRBF & IRBA) and loss given defaults (IRBA only) for SLEs. These are inputs into the supervisory function that determines the risk weight for the corporate asset class. Banks are required to obtain supervisory approval for applying the IRB approaches first. Banks not able to estimate PDs or who do not meet supervisors’ IRB approaches must first use the following factors:

| <b>Regulatory RWs for SLEs</b>                   | <b>Cat1<br/>(strong)</b> | <b>Cat2<br/>(good)</b> | <b>Cat3<br/>(satis)</b> | <b>Cat4<br/>(weak)</b> |
|--|--------------------------|------------------------|-------------------------|------------------------|
| <b>CRR, M&lt;2.5 yrs remaining</b>               | 50%                      | 70%                    | 115%                    | 250%                   |
| <b>CRR, M&gt;2.5 yrs remaining (&amp; Basel)</b> | 70%                      | 90%                    | 115%                    | 250%                   |

## Comparison of SII Standard Formula vs Bank CRR Standard Formula and /Std App IRB Slotting Criteria

|   | Standard formula   |       |       |       |     |       | Non-standardised approach for SLEs (ie "non-standard formula") |                   |                  |                                      |
|---|--------------------|-------|-------|-------|-----|-------|--|-------------------|------------------|--------------------------------------|
|   | unrated            | rated |       |       |     |       | Cat1<br>(strong)   | Cat2<br>(good)    | Cat3<br>(satis)  | Cat4<br>(weak)                       |
|   |                    |       |       |       |     |       |  |                   |                  |                                      |
| <b>CRR risk charge &gt;2.5years (ie "European Basel")</b>                             | 8%                 | 1.6%  | 4%    | 8%    | 8%  | 12%   | 5.6%   | 7.2%              | 9.2%             | 20%                                  |
| <b>Corresponding S II Credit Quality Step</b>   | Between 3 and 4    | 1     | 2     | 3     | 4   | 5     | Between 2 and 3  | Between 2 and 3   | Between 4 and 5  | Far worse than 6 (CQS6 -> RW = 150%) |
| <b>Corresponding rating (S&amp;P)</b>   | Between BB and BBB | AA    | A     | BBB   | BB  | B     | Between A and BBB  | Between A and BBB | Between B and BB | Far worse than B                     |
| <b>Corresponding corp exposure risk charge under SII (assuming 10 years duration)</b> | 23.5%              | 8.4%  | 10.5% | 20%   | 35% | 58.5% |  |                   |                  |                                      |
| <b>Corresponding corp exposure risk charge under SII (assuming 25 years duration)</b> | 38.5%              | 15.9% | 18%   | 32.5% | 49% | 66%   |  |                   |                  |                                      |

## Examples of Infrastructure Definitions Currently Utilised in EU Regulation

| Legislation   |                       | Text  |
|---|-----------------------|---|
| <p><b>Council Directive 2008/114/EC</b><br/><br/> <a href="http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:345:0075:0082:EN:PDF">http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:345:0075:0082:EN:PDF</a></p> | <p>Article 2(a)</p>   | <p>‘critical infrastructure’ means an asset, system or part thereof located in Member States which is essential for the maintenance of vital societal functions, health, safety, security, economic or social well-being of people, and the disruption or destruction of which would have a significant impact in a Member State as a result of the failure to maintain those functions;</p>  |
| <p><b>UK Planning Act 2008</b><br/> <a href="http://www.legislation.gov.uk/ukpga/2008/29/section/216">http://www.legislation.gov.uk/ukpga/2008/29/section/216</a></p>   | <p>Section 216(2)</p> | <p>(2)In subsection (1) “infrastructure” includes—<br/>           (a)roads and other transport facilities,<br/>           (b)flood defences,<br/>           (c)schools and other educational facilities,<br/>           (d)medical facilities,<br/>           (e)sporting and recreational facilities,<br/>           (f)open spaces, and<br/>           (g)affordable housing (being social housing within the meaning of Part 2 of the Housing and Regeneration Act 2008 (c. 17) and such other housing as CIL regulations may specify</p>  |
| <p><b>UK Housing and Regeneration Act 2008</b><br/> <a href="http://www.legislation.gov.uk/ukpga/2008/17/section/2">http://www.legislation.gov.uk/ukpga/2008/17/section/2</a></p>   | <p>Section 2(3)</p>   | <p>(3)In this Part—<br/>           ...<br/>           “infrastructure” includes—<br/>           (a) water, electricity, gas, telecommunications, sewerage or other services,<br/>           (b) roads or other transport facilities,<br/>           (c) retail or other business facilities,<br/>           (d) health, educational, employment or training facilities,<br/>           (e) social, religious or recreational facilities,<br/>           (f) cremation or burial facilities, and<br/>           (g) community facilities not falling within paragraphs (a) to (f),<br/>           “land” includes housing or other buildings (and see also the definition in Schedule 1 to the Interpretation Act 1978 (c. 30)),</p> |

|  |                       |   |
|--|-----------------------|---|
| <p><b>UK Localism Act 2011</b><br/> <a href="http://www.legislation.gov.uk/ukpga/2011/20/section/205/enacted">http://www.legislation.gov.uk/ukpga/2011/20/section/205/enacted</a></p>          | <p>Section 205(4)</p> | <p>(4)In this section “infrastructure” means—<br/> (a)water, electricity, gas, telecommunications, sewerage or other services,<br/> (b)roads or other transport facilities,<br/> (c)retail or other business facilities,<br/> (d)health, educational, employment or training facilities,<br/> (e)social, religious or recreational facilities,<br/> (f)cremation or burial facilities, and<br/> (g)community facilities not falling within paragraphs (a) to (f).</p> |
| <p><b>UK Infrastructure (Financial Assistance) Act 2012</b><br/> <a href="http://www.legislation.gov.uk/ukpga/2012/16/section/1">http://www.legislation.gov.uk/ukpga/2012/16/section/1</a></p> | <p>Section 1 (2)</p>  | <p>(2)“Infrastructure” includes—<br/> (a)water, electricity, gas, telecommunications, sewerage or other services,<br/> (b)railway facilities (including rolling stock), roads or other transport facilities,<br/> (c)health or educational facilities,<br/> (d)court or prison facilities, and<br/> (e)housing.</p>   |