<table>
<tr><td colspan="2">Comments Template on EIOPA-CP-15-004
Consultation Paper on
the Call for Advice from the European Commission on the identification and calibration of infrastructure investment risk categories</td><td>Deadline
09.August.2015
23:59 CET</td></tr>
<tr><td>Company name:</td><td colspan="2">Actuarial Association of Europe</td></tr>
<tr><td>Disclosure of comments:</td><td>EIOPA will make all comments available on its website, except where respondents specifically request that their comments remain confidential.

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.</td><td>Public</td></tr>
<tr><td></td><td colspan="2">Please follow the instructions for filling in the template:
⇨ <u>Do not change the numbering</u> in column “Reference”.
⇨ 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>.
⇨ Our IT tool does not allow processing of comments which do not refer to the specific paragraph numbers below.
o 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.
o If your comment refers to sub-bullets/sub-paragraphs, please indicate this in the comment itself.
Please send the completed template to <u>CP-15-004@eiopa.europa.eu</u>, <u>in MSWord Format</u>, (our IT tool does not allow processing of any other formats).

The paragraph numbers below correspond to Consultation Paper No. EIOPA-CP-15-004.</td></tr>
<tr><td>Reference</td><td colspan="2">Comment</td></tr>
<tr><td>General comments</td><td>AAE appreciates EIOPA’s efforts on advising the European Commission on the treatment of infrastructure investments under Solvency II. The results of EIOPA’s hard work are a good basis for consideration for this asset class under Solvency II.
We appreciate that there is a potential large interest from market participants to invest in infrastructure assets, and that this interest is not limited to insurers whose interest is to match their</td><td></td></tr>
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	liabilities (i.e. insurers looking for asset and liability matching), but also insurers who seek to maximise returns on their investments (i.e. insurers looking for yield maximisation). But at the same time we have to be aware that infrastructure assets will not be a major part of the asset allocation of insurers. We even do not expect that the majority of insurance companies will invest in infrastructure assets for the next couple of years, and those who do, will select carefully. So we like to comment that the assumption of a well-diversified infrastructure portfolio is not seen to be very realistic. When commenting on the consultation paper as a profession we look at the paper from different angles. Looking from the angle of investment management we see a lot of merits in the work of EIOPA, appreciating a very good collection and analysis of existing material concerning infrastructure investments. Most of the technical comments in this comment letter are based on this view and rather supportive for EIOPA's proposal. Pragmatic investors will find a lot of interesting valuation approaches in the consultation paper. But looking from the systemic angle we deem it necessary to raise concerns about increasing complexity and degrees of freedom of the standard formula based on weak assumptions and conventions. In this context we have to mention that the model approach of EIOPA would not pass modelling standards for Actuaries. From this angle we see excessive model risks and would like to read more about calibration errors and their consequences in the consultation paper. Also systemic risk stemming from political risk and from catastrophe risk should be given some room in the consultation, what we fully miss is the treatment of enhanced diversification effects due to a new asset category in the standard formula. Infrastructure assets may be correlated to Cat risk and to other asset classes as well. From a valuation point of view, the valuation, pricing and calibration of infrastructure assets will rely on availability of market data. We understand that market data may be scarce to an extent, nevertheless, under the assumption that more institutional investors will take on infrastructure assets, this will only contribute to enriching the market data available. We would also like to comment that it is not uncommon that a bespoke valuation is undertaken to value these projects – this may seem to suggest that partial internal models / internal models approaches may be seen suitable approaches to set capital charges for infrastructure assets. Availability of market data may be a potential significant issue, should there be any major concerns	

	on calibration based on market data. We note the discussion around the split of the spread between credit risk and illiquidity risk. It is important, in our view, to confirm the richness and relevance of available studies which support the credit / liquidity split of the spread. An additional remark here is that considerations on the split of the spread between credit and illiquidity need to be considered in the matching adjustment (fundamental spread) calibration too, and perhaps even wider, in the volatility adjustment calibration. We note in this context the proposals discussed in this paper to calibrating the spread risk charge for infrastructure debt by looking at three options: calibrate the credit risk element of the spread, calibrate the illiquidity risk element of the spread or the initial spread approach, which EIOPA is not yet in a position to present results. We welcome the discussions on the credit risk vs. illiquidity risk calibration of the spread for infrastructure debt, which we found intellectually stimulating. While we agree in principle with EIOPA's analyses, results and comments, we would make the following remarks: • An illiquidity risk approach to calibrate spreads may be relevant when looking on a short-term horizon – i.e. on a longer term period, institutional investors may be more concerned with the credit riskiness of their investments, rather with the perceived illiquidity of their holdings. In other words, investors would be less concerned whether their holding is downgraded as a result of illiquidity risk being higher, but more concerned whether their investments are subject to a higher credit (default) risk. • A credit risk approach has the benefit that it can be supported by transition and default data available from rating agencies. • We believe a blended approach (i.e. one that combines the credit risk and illiquidity risk) may be a viable alternative to calibrate the spread risk for infrastructure loans. We make further comments on these aspects in sections 4.2.3-4.2.5 below. We also note that a number of important assumptions (e.g. 60:40 split of spread by credit risk and illiquidity risk and 10% forced sale assumption) may require robust validation and / or supported by up to date market data. The options available to set capital charges for infrastructure assets remain through a standard formula approach (which is the subject of the consultation paper), or through a partial / internal	

model approach.

We note EIOPA's work on discussing the principle-based approach (under the Solvency II rules) and the list of proposed qualitying criteria for infrastructure assets. We have the following comments on these:

1) It is important that the calibration for infrastructure assets (and in particular for equity investments) is kept under review, given availability of market data for these assets. The lack of such data is still seen as one of the major obstables to the adoption of the principle-based approach.
2) Small and medium enterprise investors would benefit significantly from the principle of proportionality with regards to risk management. There are other options available to them, such as external partnerships (e.g. specialist asset managers).
3) We would encourage EIOPA to consider some of the criteria be relaxed.

Given the political dimension to this consultation, EIOPA may wish to consider whether it should include in its advice to the Commission possible alternatives for the Commission to consider that would more specifically target the apparent aim of promoting growth (particularly within the EU or wider EEA). Any such wording should highlight that such decisions are ones that should be taken by the Commission and other relevant bodies rather than by EIOPA. For example:

(a) The assumption is that the long-term nature of some insurer liabilities might provide support for infrastructure investment. Targeting of such investments might be helped by including a minimum initial (expected) term in the definition of 'infrastructure assets' in 3.3.1. This might in any case be desirable from a prudential perspective. Assets with a very short initial lifetime might be inherently more exposed to competition than those that have longer expected lifetimes. As the definition includes reference to "systems and networks" it could include e.g. computer systems exposed to the risk of rapid technological obsolescence given the current pace of technological change in that industry.

(b) Perhaps the requirement in the current definition of 'infrastructure assets' in 3.3.1 that the assets be subject to limited competition may be unhelpful from a wider societal perspective even if it possibly offers better protection to the investor. For example, suppose a toll road meeting the definition of an infrastructure asset becomes clogged up due to high demand. It may be desirable from society's perspective to facilitate the building of another toll road

	to relieve this demand. It may be undesirable for the second toll road to have to be built or managed by the same entity as the first toll road, to avoid both then failing to satisfy this definition due to the competition each would then face from the other. Instead, perhaps "and are subject to limited competition" could be refined to say "and, either in isolation or in aggregate with other infrastructure assets meeting this definition, are subject to limited competition. (c) The current definition of a 'stable and predictable' political and legal environment in 3.3.4 does not differentiate between EEA countries and those countries in the OECD that are not in the EEA. The advice could indicate that if the aim was to promote just growth in the EU / EEA then a narrower definition might be desirable, although adopting such an approach might have other political ramifications.	
Section 1.1.	We agree that the current structure of the standard formula requires further work to appropriately include infrastructure assets (loans). Given the very bespoke nature of this asset class, and considering the scope of insurance companies' SCR, we recommend that under standard formula appropriate consideration is both given to the specific capital charge for infrastructure assets and, also, to correlation / relationships of this asset class with other asset classes (which, ultimately) and other risk categories as catastrophic risk. The consultation paper doesn't give advice on how to calibrate the diversification effects arising from an additional asset class. Having said this, we note that an internal model or partial internal model approach may be well more suitable to capture the riskiness of this asset class – however, the benefits for insurers as institutional investorsof having an enhanced standard formula to incorporate infrastructure assets as a separate asset class should be in balance with the increased model risk which is systemic for the whole industry..	
Section 1.2.	We welcome consideration of additional requirements for investments and system of governance for infrastructure assets – but would also recommend that consideration is given that the current governance and risk management requirements under Solvency II are of high standards and whether this may be deemed suitable and sufficient for these assets.	
Section 1.3.		
Section 1.4.	We note the structure of the consultation paper and believe it addresses the key areas around infrastructure assets. For consideration under Solvency II we miss the analysis of diversification	

	effects with other risk categories (other asset classes, catastrophic risk, etc).	
Section 1.5.	We note that, as professional actuaries, our standards of practice require us to "*consider whether sufficient and reliable data are available to perform the actuarial services. Data are sufficient if they include the appropriate information for the work. Data are reliable if that information is materially accurate.*" (European Standard of Actuarial Practice (ESAP) 1). Under these requirements, actuaries will be under pressure to ensure that valuation and capital charges for infrastructure assets adhere to rules and regulations (Solvency II) and professionals standards. We note that Prof. Blanc-Brude's paper indicates that data quality of infrastructure projects currently is inappropriate – which touches on the topic of sufficiency of data. We also note the mentioning of "well diversified" portfolios (as a working assumption) – and we encourage EIOPA to confirm this assumption and how it has been reached. Further clarification of what a well diversified infrastructure portfolio means would be beneficial. In this context, we also note that a number of classes within infrastructure assets are exposed to NatCat and man made risks – which links back to Cat risk SCR and could be of systemic nature (such that even well-diversified portfolios can not get rid of this risk). We also note the intention to require infrastructure debt have a minimum credit rating of 3 – we commented on this in section 3.3.3 below. We appreciate the proposed approach to distinguish between infrastructure debt with an investment credit rating and those with a subinvestment credit rating. While this requirement applicable to qualifying infrastructure debt is meant to ensure a high quality investment, we note that in a standard formula approach, and for pragmatic reasons, this may be better addressed via a "penal" capital charge for subinvestment credit rated infrastructure debt. Further comments on this are available in 3.3.3. We note the proposed treatment for infrastructure equity investments. We also provided comments further down below on the risk management considerations.	
Section 2.1.		
Section 2.2.		
Section 2.3.	We note the conclusions reached in this section with regards to how recovery rates on infrastructure debt compare with that on corporate bonds. We mentioned in our previous comments (a few months ago), in our view it is important to keep	

	these analyses under constant review. Additional considerations when comparing recoveries on infrastructure debt with that on corporate bonds is that it is not uncommon for investors in infrastructure assets to employ specialist underwriters and recovery specialists which could justify the higher recovery rates. The specific sector of the underlying infrastructure asset may also play a key role here. We also note that, while we agree in principle that recovery rates for infrastructure projects are higher on average than on corporate bonds, given the bespoke nature of infrastructure assets this assumption needs to be considered in the context of a granular analysis of infrastructure projects available to insurers. For example in energy infrastructure projects the recovery rate could easily be zero in default.	
Section 2.3.1.		
Section 2.3.2.		
Section 2.3.3.		
Section 2.4.		
Section 2.4.1.		
Section 2.4.2.		
Section 2.5.		
Section 2.5.1.		
Section 2.5.2.		
Section 2.5.3.		
Section 3.1.	We are supportive of EIOPA's proposal to not widen the scope of infrastructure assets to pooling investors.	
Section 3.2.		
Section 3.2.1.		
Section 3.2.2.	We are content with EIOPA's conclusion on the inappropriateness of the "slotting approach" used in the banking industry for the insurance industry, under the Solvency II rules.	
Section 3.2.3.	We note EIOPA's proposals:	

	1) that unrated infrastructure debt, subject to meeting certain qualifying criteria, is treated similarly to an infrastructure debt with a credit rating quality of 3. 2) That rated infrastructure debt with a minimum credit rating of 3 need to satisfy the remaining criteria for infrastructure assets. Assuming these conditions are essential to EIOPA's process and requirements to enhance the standard formula SCR for infrastructure debt, we are content with EIOPA's proposed approach.	
Section 3.3.		
Section 3.3.1.	We agree with the proposed definitions and recommend that supervising authorities collect infrastructure assets data available, for example, from internal and partial model applications, to supplement data available in the market. Possible definition refinements to offer to the EU Commission that might better address the underlying growth agenda implicit in the EU Commission's call for advice are included in our General Comments. We also note the proposed advice on the definition of infrastructure assets and the inclusion of the phrase "limited competition" which may need to be further discussed and agreed with specialists from economic sciences and lawyers.	
Section 3.3.2.		
Section 3.3.2.1.	We agree with the stress analysis in this section – we note that this analysis, alongside requirements for predictability of cash flows, may be seen as relatively strong, e.g. closer to requirements for an internal model application, which may threaten the underlying intention to support standard formula firms.	
Section 3.3.2.2.	Under 2. a) iv. a further point d) "monopolistic/quasi-monopolistic competitive position" (over a sufficiently long part of the holding period) should be added if this criterion is not meant to be addressed under be 2. a) iv. c)	
Section 3.3.2.3.	A concluding positive list of criteria defining the strong security package seems to be too restrictive, e.g.: 1. It may be difficult to guarantee upfront the compliance with all criteria over the entire lifetime of the project/loan.	

	2. For some PFI frameworks and regulated assets perfected security interests may not be allowed to leave the possibility for the regulator to step in prior to senior lenders executing on their securities. Therefore, further "compliance in general" with the criteria under 2. should be required.	
Section 3.3.3.	We note that this requirement looks akin to that imposed to matching adjustment portfolio, where assets which have a sub-investment credit rating can not have a matching adjustment higher than that for investment credit rated assets. Also this requirement may be difficult to comply with at all times. (Infrastructure) assets do get upgraded and downgraded, and therefore should an infrastructure asset be downgraded to a sub-investment credit rating during its lifetime, this requirement may be seen as (very) punitive – to the extent that the insurer might be forced to replace the investments to ensure it remains compliant with this qualifying criteria. This also becomes more relevant under a "held to maturity" approach. We note, for example, that for matching adjustment portfolio, this requirement translates via a cost (cost of downgrade) which is subtracted from the matching adjustment available to insurers in their matching adjustment funds. We would suggest that consideration is given for infrastructure debt to be subject to a similar treatment to that of matching adjustment assets, i.e. rather than forcing insurers to effectively remove or sell the assets, an additional cost or capital charge is added to its balance sheet to recognise the downgrade (future) event.	
Section 3.3.4..	Possible definition refinements to offer to the EU Commission that might better address the underlying growth agenda implicit in the EU Commission's call for advice are included in our General Comments.	
Section 3.3.4.1.	We consider the restriction to EEA/OECD countries in 2.a) a bit narrow. The additional analysis required under 2.b) shows that EEA/OECD membership is only considered as a requirement, but not a sufficient criterion. We would therefore suggest to base qualification on the analysis required by 2.b) in general and revise the EEA/OECD requirement. We note that this could be addressed, for example, using the same approach as the requirement for an investment credit rating – i.e. rather than excluding infrastructure assets which do not meet these criteria, a higher capital charge is imposed via additional costs.	
Section 3.3.4.2.		

Section 3.3.4.3.	We note the proposed advice on financial risk. We also note that for "perpetual" infrastructure assets, the amortisation requirement may not be possible (although, in practice this could be achieved through a pragmatic and simplistic approach). We note that the required stress analysis (bullet 1.79 Advice: Stress Analysis) should be sufficient to evaluate the payment schedule with regard to the project lifetime and cash flows.	
Section 3.3.4.4.	We note the proposed advice on construction risk.	
Section 3.3.4.5.	We note the proposed advice on operating risk.	
Section 3.3.4.6.	We note the proposed advice on design and technology risk.	
Section 4.1.	We note EIOPA's proposed approach to infrastructure debt which is to have the capital requirement SCR set within the spread risk module	
Section 4.2.		
Section 4.2.1.		
Section 4.2.2.	We note and are content with the advantages and disadvantages listed in this section. In particular we note the point that illiquidity (or liquidity) of a bond or loan is not taken into account in the spread risk sub-module.	
Section 4.2.3.	We note the references made in this section to various sources analysing spread as a function of credit risk and illiquidity risk. As indicated in the general comments section, we encourage EIOPA to consider the relevance of conclusions available in the available literature and experience built to date on similar assets (e.g. corporate bonds) in the context of infrastructure assets. We also note that existing calibrations of the (il)liquidity risk of corporate bonds and loans do exist under standard formula in the calibration of the standard formula (Article 181 in Level 2). We also note that some of the sources quoted to justify the proposed 60:40 split between credit and liquidity risk may be out of date (e.g. Bank of England 2007 study), and this would require more up to date information.	
Section 4.2.4.	We note the key points highlighted in this section, and are content with the key messages, and in particular we note the underlying assumptions for insurers investing in infrastructure debt that these assets are held to maturity. These rationale do indeed align well with principles underlying the matching adjustment. We are content with the EIOPA's rationale that in a matching adjustment	

	portfolio there is no need to consider additional factors in the calibration, given the underlying assumption of “held to maturity”. We also note that a key input in EIOPA’s proposed calibration of the spread risk sub-module for infrastructure debt resembles on the 10% forced sale assumption. We agree with one of the disadvantages listed in this section that should an insurer increase materially its infrastructure assets holding, then underlying assumptions (e.g. 10% forced sale) may need revisiting.	
Section 4.2.4.1.		
Section 4.2.4.2.		
Section 4.2.4.3.	We note that the conclusions presented in this section rely, among other things, on the appropriateness of probabilities (e.g. 10%). We also note that, as commented in the general comments section, the higher recovery rates on infrastructure assets may have implications with regards to the split of the spread between credit risk and illiquidity.	
Section 4.2.4.4.		
Section 4.2.4.5.		
Section 4.2.5.	We note and are content with EIOPA’s proposed rationale and list of advantages and disadvantages for setting the spread risk sub-module for infrastructure debt based on the credit risk approach. As mentioned in the general comments section, we encourage EIOPA to consider: • Suitability of underlying assumptions (e.g. 60:40 split of spread between credit risk and illiquidity risk, 10% forced sale assumption) • A blended approach to calibrate the spread risk, given that infrastructure assets are assumed to be held to maturity by institutional investors (such as insurance companies) and therefore during the various phases of the projects their assets would be exposed to both credit and illiquidity risks.	
Section 4.2.5.1.		
Section 4.2.5.2.		
Section 4.2.5.3.		
Section 4.2.5.4.		

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Section 4.3.	We note EIOPA's conclusions on this.	
Section 4.3.1.		
Section 4.3.2.		
Section 5.1.	We note EIOPA's comments and conclusions regarding calibrating infrastructure assets via the counterparty default risk module, and we are content with the conclusions.	
Section 5.2.		
Section 5.3.	As indicated elsewhere in our comments, we draw attention to the potential implications arising from calibration errors, due to lack of appropriate / suitable data on infrastructure assets to calibrate the capital charge for these assets.	
Section 6.1.		
Section 6.2.		
Section 6.2.1.		
Section 6.2.2.		
Section 6.2.3.		
Section 6.3.		
Section 7.1.		
Section 7.2.	We agree with the application of the principle of materiality (proportionality) in applying the risk management requirements.	
Section 7.3.		
Section 8.		
Annex I		
Annex II		
Annex III Sections:		
Section 1.		
Section 2.		

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Section 2.1.		
Section 2.2.		
Section 2.3.		
Section 3.		
Section 3.1.		
Section 3.2.		
Section 3.2.1.		
Section 3.2.2.		
Section 4.		
Section 4.1.		
Section 4.2.		
Section 4.3.		
Section 4.4.		
Section 4.5.		
Section 5.		
Annex IV		
Annex V		