Appendix 3.1

Update of the mapping of insurance regimes

contract n° 30-CE-0464094/00-38

December 2014

Contributors:

Thomas Dunand (Hannover Re)

Sabine Bernard (Hannover Re)

Alexandre Bied-Charreton (Allianz)

Jean-Jacques Doreau (Allianz)

Claire Doutreluingne (APAVE)

Marion Decalf (APAVE)

Kim Haugbølle (SBi)

Stefan Christoffer Gottlieb (SBi)

Table of contents

1.1 Update of the mapping of insurance regimes 3

1.1.1 Selected construction insurance schemes 3
1.1.2 Classification of the different situations 5
1.1.3 Construction Insurance Market 5
1.1.4 General Update Results 6
1.1.5 Links with single points of contact 7

References 9

Appendix A: Mapping of Insurance Regimes Questionnaire 15

1.1 Update of the mapping of insurance regimes

Based on the information gathered during the ELIOS pilot project mapping, this study first updated the information about the current different construction insurance regimes in force in the EU-28.

In a second time, this description of the legal framework has been extended to the Technical Inspection Services (TIS) in the countries were information could be collected.

The complete mapping of the 28 European community member states can be found in appendix.

With the final objective of sharing valuable information between the actors of construction insurance the information presented should give answers to the following questions for the selected countries:

- What are the legal requirements in order to define the local risks of operation?
- What guarantees are mandatory or requested by the market? What is covered?
- What are the existing technical inspection services? Are they supporting insurance activity?

1.1.1 Selected construction insurance schemes

Considering in first place the object of the study, i.e. eco-technologies, and according to the tender, we chose to ignore in our assessment property insurance guarantees such as household / home and content insurance or Construction All Risks (CAR) insurance.

Those guarantees protect from risks that are not necessarily linked to inherent defects of the construction work (i.e. caused by the construction work itself), but rather to causes that are external to the work, and therefore do not deal with the technologies themselves, all the more innovative ones, object of this study.

The study will focus essentially on liability insurance, whether general Third Party Liability (TPL), Professional Indemnity (PI) or long term Inherent Defect Insurance (IDI).

Considering the purpose of the study, i.e. access to insurance for SME's, we also chose to ignore guarantees taking place before handover (completion of construction), that are widely common and not closely linked with the technology itself.

Therefore the Third Party Liability guarantees taking place during construction is not assessed. Manufacturers' product guarantees are also ignored for the same reasons.

The existing tax incentives will be further surveyed and more generally the regulatory framework regarding incentives for sustainable constructions, with the difficulty that these incentives can change from one day to the next.

Considering this scope for the study, we will focus our analysis toward the following guarantees, on its post completion part regarding Third Party Liability (Insurance Europe Publications 2012):

- Third Party Liability (TPL)
- Professional Indemnity (PI)
- Inherent Defect Insurance (IDI)

In order to clarify the content of those guarantees, hereafter are some general definitions:

Third Party Liability (TPL)

TPL is a liability that covers bodily injury and/or material damage caused by the insured, whether individuals or corporations, to a third party as a result of action or inaction, or negligence, and which injury and/or damage must be remedied.

Professional Indemnity (PI)

PI insurance, also called professional liability insurance, is a form of third party liability insurance that protects professional advice and service-providing individuals and companies from bearing the cost of a negligence claim made by a client, and damages awarded in such a civil lawsuit.

The coverage focuses on alleged failure to perform on the part of, financial loss caused by, and **error or omission** in the service or product sold by the policyholder. These are potential causes for legal action that would not be covered by a more general liability insurance policy which addresses more direct forms of harm.

Inherent Defect Insurance (IDI)

IDI is a long-term insurance covering damages to the construction which result from an inherent defect discovered after completion and after the owner has taken over the property.

> *Inherent Defect*: any defect in the structural works which is attributable to a defect in design or workmanship or materials.
>
> Structural works: all internal and external load bearing elements essential to the stability and strength of the premises (including subsidence / heave of the soil).

While those guarantees rely on the same basis, they may have differential characteristics depending on their local implementation. Thus, we may find the following cases:

- Existence of different liability regime based on legal or contractual obligations.
- Possible choice of an applying legal framework that is different from the framework of the Member State of the insured, considering the non-application of the "overriding mandatory provision" to insurance, according to the "Law applicable to contractual obligations (Rome I)"(European Parliament and of the Council 2008) in Article 7 - Insurance contracts, Article 9 - Overriding mandatory provision.
- The regime can be based on fitness for purpose obligations or duties of care. Within the same regime, the obligation can change depending of the type of insured (e.g. fitness for purpose for contractors and duties of care for designers).
- Insurance can be compulsory or not.
- Scope of the guaranties :
  - Type of construction works concerned (by the law)
  - Amount covered / possibility to limit the indemnity
- Legal definition of "handover" or "date of completion", determining the time limits of the guarantees.

- Length of the guarantees (IDI can be of 5 to 12 years long).
- Liability based on no fault or on proven fault, determining where the burden of proof lies.
- Exemption clauses
- With or without recourse on responsible entities
- Claim management: claims made or risk attaching bases
- Legal delays for claim management
- Limitation period to activate the guarantees

1.1.2 Classification of the different situations

In order to focus our analyses we classified the insurance regimes by different legal frameworks situations and insurance situations.

Based on the ELIOS "overview of national liability and insurance systems in 27 EU Member States", we can already draft two important categories of situations: countries where an Inherent Defect Insurance (IDI) long term cover is widespread or even mandatory and other countries, with no post completion covers or very limited covers.

Countries with "widespread" IDI:

Belgium	Denmark	Finland	France	Ireland	
Italy	Latvia	Netherlands	Spain	Sweden	UK

Other countries:

Austria	Bulgaria	Cyprus	Czech Republic	Estonia	
Germany	Greece	Hungary	Lithuania	Luxembourg	Malta
Poland	Portugal	Romania	Slovakia	Slovenia	

It is also interesting to point out that the existence of IDI on a market is disconnected from the national legal schemes. Thus we only encounter a legal compulsory system in the following countries:

Denmark	Finland	France	Italy	Latvia	Spain

While in the following ones the insurance is voluntary:

Ireland	United Kingdom	Netherlands	Sweden (since summer 2014)

1.1.3 Construction Insurance Market

Beyond the presence of IDI covers, as supported by the "State of the art of insurance schemes in the EU-27 and transition paths" analysis, it appears that one of the main criterion to distinguish the situations is the general development of the country, whether it be from its economic wealth point of view or the size of the insurance markets based on an historic development of quality in construction.

This assumption is notably based on the fact that insurance is expensive and that insurers are mainly interested by what they call mature markets where wide spread products can generate profits. If more emerging markets might be of interest for an insurer it is by their growing potential, but never at the expense of a limited and controlled risk (achieved through limited guarantees).

This development criterion is reflected at a European level by a clear distinction between western and eastern countries. Eastern countries seem to rely on simple liability with limited covers while

western countries implemented more extended covers like IDI (with the notable exception of Germany and Austria which developed a specific set of responsibilities in order to achieve quality in construction).

As already underlined, within western countries, each country seems to have very specific insurance schemes, mostly around IDI covers. Hence a 2nd criterion of classification seems to be the type of IDI coverage those countries have historically developed through their custom practise of insurance.
Interestingly beyond our acknowledgement of independency between legal framework and existence of IDI, we observe that compulsory insurance does not necessarily means widespread subscription of IDI by the public. Italy is in this regard a good example, while theoretically IDI is compulsory on housing, the market stays very small. On the contrary Spain's market is now nearly inexistent because of the economic situation and not the consumers' behaviour.

From a market size point of view, available figures of main European non-life insurance markets (Insurance Europe Publications 2014) show that:

- In comparison, with its historic leadership regarding IDI, France maintain a level of direct premium of 2 500 M€ (FFSA 2014)
- The UK Home Warranty market is still the second biggest IDI market, with premiums in the 200 M€/year
- The IDI Spanish direct premiums were 364 M€/year in 2007 (ICEA - Investigación Cooperativa entre Entidades Aseguradoras y Fondos de Pensiones 2008), and progressively dropped down due to the economic situation, to reach 25M€/year in 2014
- Italian IDI market is generating an insurance premium of around 20 M€/year, even though the guarantee is compulsory
- Regarding IDI, from an absolute value point of view, the other IDI markets are not in the same order of magnitude. Nonetheless, Scandinavian markets are quite developed.

Comparison of other construction guarantees premium level, mainly TPL and PI, is impossible considering the absence of distinct information for construction guarantees. Historically, all Third Party Liabilities were mixed altogether and federations cannot retrieve breakdown figures for the different lines of TPL. It is very often even mixed with property figures (Insurance Europe Publications 2014).

1.1.4 General Update Results

Since their mapping during the ELIOS study, European construction insurance regimes have been subject to significant changes in some countries.

We can especially identify the following evolutions:

- Croatia joined the European Union the 1st July 2013. As its departure from a communist political regime to an independent republic only occurred in 1991, Croatia's construction legal regime and insurance practice are still very young and therefore limited. In addition, the construction sector suffered dramatically from the post 2008 credit crunch and government fiscal deficit.
- The Swedish compulsory IDI cover has been cancelled the 10th April 2014. However, even though the obligation disappeared, insurers don't seem to be very pessimistic regarding the evolution the insurance demand.

- Spain insurance market is still expecting to see the extension of its compulsory IDI with a three year cover for "habitabilidad". This delay is certainly linked to the current bad shape of the local construction industry.
- In Austria, as of 1st August 2013, the mandatory insurance for master builders and developers, real-estate agents and real-estate administrators must cover not only persons and property, but also financial losses.
- In the Netherlands, the Ministry of the Interior is working on a new "private building control" to be contracted by the building partners. The law is foreseen to be enforced in 2015.

Therefore, we can perceive that even though there is a willingness to extend the covers and sometime enforce compulsory systems, the bad economic conditions, are probably holding back those evolutions.

1.1.5 Links with single points of contact

As expressed in the Services Directive 2006/123/EC:

> *"(48) In order to further simplify administrative procedures, it is appropriate to ensure that each provider has a single point through which he can complete all procedures and formalities (hereinafter referred to as 'points of single contact'). […]*
> *Art. 21 […] Where appropriate, advice from the competent authorities shall include a simple step-by-step guide.*
> *Information and assistance shall be provided in a clear and unambiguous manner, shall be easily accessible at a distance, including by electronic means, and shall be kept up to date. […]"*

In other words, each country should provide accessible information notably about insurance subscription on its territory through a point of single contact.

One of the major difficulties in providing centralized information regarding insurance through this "single points of contact" is that the requirement of the service directive applies to "the competent authorities" of the countries. It is the governments that must provide information, about all procedures, including insurance. Consequently the insurance federations are not directly involved in the procedure, but rather subcontractors providing information to feed the "single points of contact".

Another difficulty is linked with the large array of information to be provided: actors of the construction sector amongst many other providers of services, access to insurance through many other procedures and formalities.

Hence, even though the list of "single points of contact" can actually be found on the related European Commission internet site (European Commission 2015), the information provided by the governments regarding insurance suffers some serious problems of clarity and readability for non-specialists. Some drawbacks were already pointed out in an EC study called "*The functioning and usability of the Points of Single Contact under the Services Directive - State of Play and Way Forward*", Deloitte and Tech4i2, 21/01/2012 (European Commission - Directorate General for Internal Market and Services 2012).

In fact, to our knowledge, companies prefer to contact insurers or insurance federations directly without knowledge of this access tool or of the linked national information. Nonetheless, from the Elios2 perspective, the EC internet site is a great opportunity of providing centralized access to information about insurance throughout Europe. We therefore recommend sharing and promoting this internet resource (Appendix 3.6).

References

Bauindustrie Bayern (2015), Building Enterprises Prequalification
http://www.bauindustrie-bayern.de/im-brennpunkt/praequalifikation.html

Bertelsen, S. (1997) *Bellahøj, Ballerup, Brøndby Strand. 25 år der industrialiserede byggeriet*, Hørsholm: Statens Byggeforskningsinstitut

Boligministeriet (1997) *Byggepolitik – bedre og billigere byggeri*, december 1997, København: Boligministeriet

Bonke, S. and Levring, P. (1996) *Fascicule 10: The Contracting System in Danish Construction: Pinning Down Autonomy*, London: Le Groupe Bagnolet, Bartlett School of Graduate Studies, University College London

Boxenbaum, E. and Daudigeos, T. (2010) How the social construction of a new technology affects its institutionalization: Lesson from prefabrication, *Constructions matter - Managing Complexities, Decisions and Actions in the Building Process*, Copenhagen Business School, May 5-7 2010.

Brahe, A., Frederiksen, D.J., Hyttel-Sørensen, R. Larsen, A.D. & Kristiansen, T.S (2013) Business plan for Cross Laminated Timber, Aalborg University

Bunni, N.G. (2003) Risk and Insurance in Construction, 2nd Edition, Spon Press: London and New York

Campagnac, E. (1996) *Europe: Conduite des projets de construction, Fascicule 8: Les stratégies ensemblières à l'épreuve de la réglementation des marches publics en France.* Paris: Groupe Bagnolet

CEBC (2006), Building Control Report - issue 2: building control systems in Europe, June 2006

Dansk Ingeniørforening (1951) *Forslag til forenkling af boligbyggeriets udførelse og organisation*, Udarbejdet af Dansk Ingeniørforenings rationaliserings-udvalg, København: Dansk Ingeniørforenin

Davies, R. and Harty, C. (2011) Building Information Modelling as Innovation
Journey: BIM Experiences on a Mayor UK Healthcare Infrastructure Project,
Proceedings of the 6th Nordic Conference on Construction Economics and Organisation – Shaping the Construction/Society Nexus, volume 2, 233-245

De Decker Thomas (2013), Dissertation for master science degree Tecnico Lisboa: building control systems and technical control activities in Belgium, Germany and the United Kingdom, July 2013

Deman Jonas (2013), Dissertation for master science degree Tecnico Lisboa: building control systems and technical control activities in Belgium, the Netherlands, Sweden and France, July 2013

Engelmark, J. (1983) *Københavnsk etageboligbyggeri 1850-1900, En byggeteknisk undersøgelse*, SBI-rapport 142, Statens Byggeforskningsinstitut, Hørsholm

Engwall, M. (2003). No project is an island: linking projects to history and context. *Research policy*, *32*(5), 789-808

ENHR (2011), Energy efficiency in housing management - conclusions from an international study, July 5-8, 2011
http://www.enhr2011.com/sites/default/files/paper-nieboer-ws11.pdf

European Accreditation (2015), Members
http://www.european-accreditation.org/ea-members

European Commission - Directorate General for Internal Market and Services (2012), DG MARKT/2010/22/E, The functioning and usability of the Points of Single Contact under the Services Directive - State of Play and Way Forward, January 21, 2012
http://ec.europa.eu/internal_market/services/docs/services-ir/study_on_points/final_report_en.pdf

European Commission - Commission Interpretative Communication (2000), Freedom to provide services and the general good in the insurance sector, February 16, 2000
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32000Y0216(01):EN:HTML

European Commission - Directorate General JRC (2010), Financing Energy Efficiency: Forging the link between financing and project implementation, May 2010
http://ec.europa.eu/energy/efficiency/doc/financing_energy_efficiency.pdf

European Commission (2015), Points of Single Contact
http://ec.europa.eu/internal_market/eu-go/
http://ec.europa.eu/internal_market/eu-go/index_en.htm

European Co-Operation for Accreditation (2015), Members
http://www.european-accreditation.org/ea-members, European Accreditation

European Foundation for the Improvement of Living and Employment and Working Conditions (2000), Sustainable Development - The Role of Local Environmental Initiatives in Job Creation, EF/00/13/EN
http://edz.bib.uni-mannheim.de/daten/edz-ma/esl/00/ef0013en.pdf

European Parliament and of the Council (2003), Directive 2002/92/EC, Insurance Mediation, January 15, 2003
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32002L0092:EN:HTML

European Parliament and of the Council (2008), Regulation (EC) No 593/2008, June 17, 2008
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:177:0006:0016:en:PDF

European Parliament and of the Council (2009), Directive 2009/138/EC, Taking-up and pursuit of the business of Insurance and Reinsurance (Solvency II), November 25, 2009
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:335:0001:0155:EN:PDF

European Parliament and of the Council (2010), Directive 2010/31/EU, Energy performance of buildings, May 19, 2010
http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32010L0031&from=EN

European Renewable Energy Council (2015), Smart E Buildings Glossary

http://www.erec.org/fileadmin/erec_docs/Projcet_Documents/Smart-e_Buildings/Glossary_Final.pdf

EUESCO (2011), Energy Performance Contracting in the European Union
http://www.euesco.org/fileadmin/euesco_daten/pdfs/euESCO_response_concerning_EPC.pdf
http://iet.jrc.ec.europa.eu/energyefficiency/european-energy-service-companies/energy-performance-contracting

Fédération Française des Sociétés d'Assurances (2015), Decennial liability insurance - A guide designed for European Builders, 2015
http://www.ffsa.fr/sites/upload/docs/application/pdf/2012-01/ffsa_a5_an_page_simple.pdf

Fédération Française des Sociétés d'Assurances (2015), How decennial liability insurance works, 2015
http://www.ffsa.fr/sites/jcms/c_51299/how-decennial-liability-insurance-works?cc=fp_7202

Fédération Française du Bâtiment (2013), La couverture du défaut de performance énergétique : la FFSA affine sa position, January 17, 2013
http://www.construction21.eu/france/articles/fr/la-couverture-du-defaut-de-performance-energetique--la-ffsa-affine-sa-position.html

Fedesco (2015)
http://www.fedesco.be/

FIEC - European Construction Industry Federation (2011), Qualification procedures in Europe - update 2011, November 2, 2001
http://www.fiec.eu/en/themes-72/qualification-of-construction-enterprises.aspx

Financial Times (2014), Smart meters deliver benefits and costs, June 24, 2014

Gann, D. M., and Salter, A. J. (2000). Innovation in project-based, service-enhanced firms: the construction of complex products and systems. *Research policy*, *29*(7), 955-972

Geels, F.W. (2002) Technological transitions as evolutionary reconfiguration processes: a multi-level perspective and a case-study, Research Policy, 31 (2002), 1257–1274

Geels, F.W. and Schot, J. (2007) Typology of sociotechnical transition pathways, Research Policy 36(2007), 399–417

Gobierno de España - Ministerio de Fomento (1999), Ley de Ordenación de la Edificación, Ley 38/1999, November 5, 1999
http://www.fomento.gob.es/mfom/lang_castellano/direcciones_generales/arq_vivienda/edificacion/calidad/orden_edificacion.htm

Gottlieb, S.C. (2010). The constitution of partnering: a Foucauldian analysis of dispositives, space and order in Danish construction. Kgs. Lyngby: Technical University of Denmark

Gottlieb, S.C. and Haugbølle, K. (2013) Contradictions and collaboration: partnering in between systems of production, values and interests, Construction Management and Economics, (31)2, 119-134

Greeninvestmentbank (2015)
http://www.greeninvestmentbank.com/

Greenwood, R., Suddaby, R., & Hinings, C.R. (2002). Theorizing change: The role of professional associations in the transformation of institutionalized fields. *Academy of Management Journal*, 45(1): 58-80

Heritage and Local government of Ireland, Guide to the building control system

Holzinger Katharina and Knill Christoph (2005), Causes and conditions of cross-national policy convergence, Journal of European Public Policy, vol. 12:5, October 2005, 775-796
http://www.gsi.uni-muenchen.de/lehreinheiten/ls_emp_theo/forschung/dokumente/knill_holzinger_2005.pdf

Howard, T. (2011) *Diamond Jubilee, NHBC 75th anniversary*, Housebuilder (April 2011), 25-26

ICEA - Investigación Cooperativa entre Entidades Aseguradoras y Fondos de Pensiones (2008), El seguro decenal en 2007, July 16, 2008
http://www.icea.es/es-ES/noticias/Noticias/Noticias0708/decenal_16_7_08.aspx?Source=%2Fes-es%2Fnoticias%2Fnoticias%2Fnoticias0709%2Fdecenal_01_07_09.aspx%3Fsource%3D%252fes-es%252fnoticias%252fnoticias%252fnoticias0511%252flossegurosdeingenieriaobtuvieronunvolumendenegociode420millonesdeeurosen2010.aspx%253fsource%253d%25252fes-es%25252fnoticias%25252fnoticias%25252fnoticias0512%25252fdia_16_05_2012%25252flosseguros deingenieria.aspx

Indenrigs- og Boligministeriet (1953) *Cirkulære nr. 114 af 18. august 1953 om statslån til utraditionelt byggeri*, København: Indenrigs- og Boligministeriet

Instituto de Ciencias de Construcción Eduardo Torroja (2015)
www.ietcc.csis.es

Insurance Europe Publications (2012), How Insurance Works, April 17, 2012
http://www.insuranceeurope.eu/publications/publications-web

Insurance Europe Publications (2014), European Insurance in Figures, December, 2014
http://www.insuranceeurope.eu/uploads/Modules/Publications/statisticsno50europeaninsuranceinfigures.pdf

Javier Lopez y Garcia de la Serrana, Garantías por Danos materiales ocasionados por vicios y defectos de la construcción, Revista de responsabilidad civil y seguro

Jensen, J.S., Gottlieb, S.C., & Thuesen, C.L. (2011). Construction sector development: Frames and governance responses . Building Research and Information, 39(6), 665-677doi: 10.1080/09613218.2011.621710

Joao Branco Pedro (2010), Tehnical regulations in EU countries: a comparison of their organization and formulation, OTB Delft University of Technology & Laboratorio Nacional de Engenharia Civil

Johnson Hugh (2015), Building control

KBS (1958) Modulordning for byggeindustrien – grundlæggende principper, *Dansk Standard 1010, 1. udgave*, Komiteen for Byggestandardisering (KBS), København: Dansk Standardiseringsråd

Kemp, R., Schot, J. and Hoogma, R. (1998) Regime shifts to sustainability through processes of niche formation: the approach of Strategic Niche Management, *Technology Analysis and Strategic Management*, 10(2), 175–195

KFW (2015)
https://www.kfw.de/kfw.de-2.html

Kieser, A. (1989) Organizational, Institutional, and Societal Evolution: Medieval Craft Guilds and the Genesis of Formal Organizations, *Administrative Science Quarterly*, **34**(4), 540-564

Kjeldsen, M. (1954) Om utraditionelt byggeri, *Boligbyggeriets produktionstekniske problemer*, Boligministeriets Produktivitetsfondsudvalg, København: Teknisk Forlag

Knill Christoph (2005), Introduction: Cross-national policy convergence: concepts, approaches and explanatory factors, Journal of European Public Policy, vol. 12:5, October 2005, 764-774
http://www.gsi.uni-muenchen.de/lehreinheiten/ls_emp_theo/forschung/dokumente/knill_2005.pdf

Le Moniteur (2013), Premières propositions dévoilées pour booster la garantie de performance énergétique, April 23, 2013

Munch-Petersen, J.F. (1980) *Politiske og teknologiske initiativer, IHF Report No. 149.* Danmarks Tekniske Universitet, Lyngby

Møller, S. (1954) Byggemyndighedernes erfaringer med ny byggemetoder. 1, *Boligbyggeriets produktionstekniske problemer*, Boligministeriets Produktivitetsfondsudvalg, København: Teknisk Forlag

PCR (2011), Country reports: the Netherlands, Belgium, Sweden, February 2011

Planning Portal (2015), UK Government's online planning and building regulations resource for England and Wales
http://www.planningportal.gov.uk

Rip, A.,Kemp, R. (1998).Technological change. In: Rayner, S., Malone, E.L. (Eds.), Human Choice and Climate Change. Battelle Press,Columbus, OH, pp. 327–399.

Royal Institution of Chartered Surveyors (2015)
www.rics.org

Seligman, E.R.A. (1887) Two Chapters on the Mediaeval Guilds of England, *Publications of the American Economic Association*, **2(**5), pp. 9- 113

Seyfang, G. and Longhurst, N. (2012) Grassroots innovations and complementary currencies – testing niche theories in the social economy, *IST 2012 – International Conference on Sustainability*

Transitions, Track D: Niche Regime Interactions, August 29-31, 2012, Technical University of Denmark, Denmark, pp.2-28

Slaughter, E.S. (1998) Models of Construction Innovation, *Journal of Construction Engineering and Management,* **124**(3), 226-231

Smartgrids - CRE (2011), Visite du Green Office Bouygues Immobilier, January, 2011
http://www.smartgrids-cre.fr/index.php?p=smarthome-bouygues

Smith, A., Stirling, A. and Berkhout, F. (2005). The governance of sustainable socio-technical transitions. *Research Policy*,34, 1491–1510

Solarif (2015), Solar Insurance & Finance
http://www.solarif.nl/sites/all/bestanden/fck/brochure%20Performance%20output%20warranty.pdf

Sustainable Energy Authority of Ireland (2013), A guide to Energy Performance Contracts and Guarantees
http://www.seai.ie/Your_Business/Public_Sector/Energy_Performance_Contacts_and_Guarantees.pdf

Thuesen, C. L., Koch, C., Monrad, D., Henriks, M., Lambrecht, J. F., & Hall-Andersen, H. (2011). *Styrkelse af dansk byggeris innovationssystem*. Technical University of Denmark (DTU)

Turner (2015), Subcontractors
http://www.turnerconstruction.com/subcontractors

Van de Ven, A., Polley,D., Garud, R. & Venkataraman, S. (1999) *The Innovation Journey*. New York: Oxford University Press.

Villadsen, K. (2004) *The Genealogy of Social Work - a History of the Struggle to Set Poor People and Outcasts Free*, English Summary of symposium lecture given at the International Summer School 2004 (Aug. 3rd to Aug. 13th 2004) at the Department of Psychology and Educational Studies, Roskilde University. Localised Feb. 19th 2008 at: http://www.ruc.dk/paes/forskerskolen/ program/info/summer_school/ 2004/lectures/kaspar_v/

Winch G.M. (2000), Construction business systems in the European Union, *Building Research and Information,* (18), 88-97

Visscher Henk and Meijer Frits, Certification of building control in the Netherlands, OTB research institute for Housing, urban and mobility studies Delft University of technology

Yeomans, D. (2001) The characteristics of traditional construction, paper presented at ISCARSAH meeting in Istanbul, July 11 – 13, 2001

Ørstavik, F. (2014) Innovation as re-institutionalization: a case study of technological change in housebuilding in Norway, *Construction Management and Economics*, 32(9), 857-873

Appendix A: Mapping of Insurance Regimes Questionnaire

Mapping of Insurance Regimes
QUESTIONNAIRE

Elios 2 – Mapping of Insurance Regimes Questionnaire

ELIOS 2 PROJECT

Elios 2 is a study initiated by the European Community which aims to "*Facilitate access to insurance by self-employed builders and small building firms so as to stimulate innovation and the promotion of eco-technologies in the European Union*"[1].
In order to do so, the Elios team notably seeks to set up an internet site to inform companies on the construction insurance requirements across the 27 constituent members of the EC.

Regarding insurance types, please note that the study concerns construction Liability in general, including Professional Indemnity, and after construction handover long term liability (e.g. Inherent Defect Insurance, Decennial Insurance, Latent Defect …).

Within the Elios 2 team, Hannover Re is leader of the Work-Package 3 which deals with "insurance".
For further details on Elios, its goals and organization, please visit: www.elios-ec.eu/

OBJECT OF THE QUESTIONNAIRE

Therefore, on behalf of the European Commission, we would appreciate it if you could complete this survey in order to provide information on Construction Insurance Regimes for innovative building technologies to companies willing to work throughout Europe.

By completing this survey, you will help the industry to understand insurance information needs and procedures to obtain coverage in your country. This information could also help you to provide a better service, whether when receiving a request from a foreign company or when accompanying your insured companies throughout the European Community.

While answering the questionnaire, please keep in mind that the study is essentially aimed at:
- Eco-technologies' insurance. Eco-technologies are defined as technologies which contribute to the environmental performance of buildings and/or whose use is less environmentally harmful than relevant alternatives. You can find some examples of eco-technologies in the appendix.
- Small and Medium Enterprises (SME) like specialized contractors, architects or engineering firms.

Feel free to add comments, or give a more detailed description of your regime if you consider it could be useful. Free space is provided at the end of the questionnaire.

Filling in the questionnaire should take around half an hour.
The information collected through this survey will not be made available to any third parties except in anonymous summary report form.

Please send it back by e-mail or post to: **elios2@hannover-re.com**

Hannover Re – Elios 2
52 avenue des Champs-Elysées
75008 Paris, France

Many thanks for your assistance in completing this questionnaire.

[1] Final report to be published by the European Commission by the beginning of 2015

Identification

Country
Name of your Company
Activity
Your Name
Address
Phone
E-mail

1 - LEGAL REGIMES

National legal and insurance regimes were presented within the Elios 1 study (see attached document).
Have there been any legal or jurisdictional modification to the attached extract from the Elios 1 study?

☐ Yes. Modifications to be made to the text :

Have any new guarantees been observed (e.g.: regarding energy performance) ?

- In general ☐ Yes. New guarantees:

- For eco-technologies specifically ☐ Yes. New guarantees:

2 - INSURANCE POLICIES

In order to answer the questions of the following sections, please find here below a glossary of the terms that are used:

Voluntary / Mandatory:	Is the cover provided on a voluntary or a legal mandatory basis?
Amount covered:	What is the usual value of the amount covered (e.g. "construction cost" or usual covered amount)
Cover extensions:	Examples of cover extensions usually included in the guarantees: - Faulty material / workmanship / design - Design including defective part (e.g. LEG 3 or DE5)
Name of cover:	What is the name used in your domestic market to name this cover?
Single covers:	Conditions made on a project by project basis
Open covers:	Conditions agreed initially, declarative basis
Annual covers:	Conditions made on a turnover basis

2.1 - BEFORE CONSTRUCTION HANDOVER (completion of works)

Are the following types of coverage of eco-technologies, for Small and Medium Enterprises, available on the construction insurance market in your country?			
Cover of damages caused by the contractor to third parties	☐ No	☐ Yes ☐ Voluntary ☐ Mandatory	Name of cover:
Financial loss directly related to the material damage	☐ No	☐ Yes ☐ Voluntary ☐ Mandatory	Amount covered: Name of cover:
Financial loss not directly related to the material damage	☐ No	☐ Yes ☐ Voluntary ☐ Mandatory	Amount covered: Name of cover:
From a legal point of view, can the amounts covered be limited, i.e. is it allowed to put a loss limit?	☐ Not allowed ☐ Allowed: ☐ Without a minimum amount covered ☐ With a minimum covered amount of:		
Are deductibles implemented in these covers?	☐ No	☐ Yes Usual value of deductible:	
Damages to the building under construction	☐ No	☐ Yes ☐ Voluntary ☐ Mandatory	Amount covered: Name of cover:
- limited to mechanical resistance and stability		☐ Yes ☐ No, cover extended to:	
Completion of the construction in case of failure of the contractor	☐ No	☐ Yes ☐ Voluntary ☐ Mandatory	Amount covered: Name of cover:

Free comments:

2.2 - AFTER CONSTRUCTION HANDOVER (completion of works)

Are the following types of coverage of eco-technologies, for Small and Medium Enterprises, available on the construction insurance market in your country?			
Damages caused by the contractor's work to third parties	☐ No	☐ Yes ☐ Voluntary ☐ Mandatory	Name of cover:
From a legal point of view, can the amounts covered be limited, i.e. is it allowed to put a loss limit?	☐ Not allowed ☐ Allowed: ☐ Without a minimum amount covered ☐ With a minimum covered amount of:		
Are deductibles implemented in these covers?	☐ No	☐ Yes Usual value of deductible:	
From a legal point of view, are those deductibles allowed?	☐ Not allowed ☐ Allowed: ☐ Without limit ☐ With a maximum limit of:		
Damages to the whole building	☐ No	☐ Yes ☐ Voluntary ☐ Mandatory	Name of cover:
- Limited to mechanical resistance and stability		☐ Yes ☐ No (see suggestions below)	
Damages to the work carried out by the contractor itself	☐ No	☐ Yes ☐ Voluntary ☐ Mandatory	Name of cover:
- Limited to mechanical resistance and stability		☐ Yes ☐ No (see suggestions below)	
From a legal point of view, can the amounts covered be limited, i.e. is it allowed to put a loss limit?	☐ Not allowed ☐ Allowed: ☐ Without a minimum amount covered ☐ With a minimum covered amount of:		
Are deductibles implemented in these covers?	☐ No	☐ Yes Usual value of deductible:	
From a legal point of view, are those deductibles allowed?	☐ Not allowed ☐ Allowed: ☐ Without limit ☐ With a maximum limit of:		
Covered extensions			
Weather proofing of roof and façade	☐ No	☐ Yes ☐ Voluntary ☐ Mandatory	Amount covered:
Guarantee of builders' obligation to complete / put right any defects of its works right after handover	☐ No	☐ Yes ☐ Voluntary ☐ Mandatory	Amount covered:
Mechanical resistance of building equipment (*)	☐ No	☐ Yes ☐ Voluntary ☐ Mandatory	Amount covered:

(*) If technical equipment is covered, please specify how "equipment" is defined:

Hygiene, Health and/or Environment liability	☐ No	☐ Yes ☐ Voluntary ☐ Mandatory	Amount covered:
Safety and accessibility of the building (for defects arising from the construction)	☐ No	☐ Yes ☐ Voluntary ☐ Mandatory	Amount covered:
Sound insulation	☐ No	☐ Yes ☐ Voluntary ☐ Mandatory	Amount covered:
Lack of energy performance:			
- Malfunction of the system	☐ No	☐ Yes ☐ Voluntary ☐ Mandatory	Amount covered:
- Level of production	☐ No	☐ Yes	Amount covered: Name of cover:
- Energy savings and heat retention	☐ No	☐ Yes	Amount covered: Name of cover:
Noncompliance / conformity with standards? (e.g. seismic, acoustic, fire safety, accessibility to disabled)	☐ No	☐ Yes ☐ Voluntary ☐ Mandatory	Amount covered: Name of cover:
- Even in absence of material damage		☐ Yes ☐ No	
Financial loss directly related to the material damage	☐ No	☐ Yes ☐ Voluntary ☐ Mandatory	Amount covered:

Type of construction covers offered to foreign companies:

Contractors:	☐ Single covers / ☐ Open covers / ☐ Annual covers
Architect or Engineering firms:	☐ Single covers / ☐ Open covers / ☐ Annual covers
Manufacturers:	☐ Single covers / ☐ Open covers / ☐ Annual covers

Free comments:

3 - RISK ASSESSMENT

What information do you usually require to make your risk assessment of a construction project?

	single covers	annual covers
Company activities		
- Date of creation / start of activity	☐	☐
- Description of the company's activities	☐	☐
- Size of staff	☐	☐
- CV of key staff members	☐	☐
- References	☐	☐
- Claim history	☐	☐
Financial and legal information		
- Turnover / financial results / growth of the company	☐	☐
- Company's security information / solvency / rating	☐	☐
- Financial relationship between the Insured and the Owner (other than the construction contract)	☐	☐
- Insurance clause in contract conditions	☐	☐
Covered Activities		
- Typology of activities, i.e. a classification defining the different professional activities covered (e.g.: waterproofer, roofer, etc.)	☐	☐
- Is it a typology common to the insurance market? Comments:	☐	☐
Professional skills		
- Proof of professional qualifications is required (e.g.: diploma):	☐	☐
- Proof of professional experience is required (list of completed projects)	☐	☐
Information on the project(s)		
- Size of the project(s)	☐	☐
- Contract value of the insured	☐	☐
- Typical plans and sections drawings	☐	☐
- Detailed technical specifications of the construction work	☐	☐
- Cost Breakdown	☐	☐
- Quality plan / risk management procedures	☐	☐
- Other technical data:		
Third party intervention		
- Technical Inspection Service contract or proposal for services	☐	☐
- Technical Inspection Service reports	☐	☐
- External opinion / review of the risk by a specialist on a specific topic	☐	☐

Quality signs

What quality signs do you consider useful for your risk assessment (e.g.: European Technical Approval - ETA):

Pathology

Within the risk assessment improvement process, is the following information about existing pathology useful?

	Yes	No
- Name of project	☐	☐
- Location of project	☐	☐
- Type of construction work project	☐	☐
- Starting & End date of works	☐	☐
- Date of loss	☐	☐
- Type of defective eco-technology	☐	☐
- Loss / damage type (e.g. malfunction, watertightness, explosion …)	☐	☐
- Defective part	☐	☐
- Detailed cause of failure	☐	☐
- Description of loss	☐	☐
- Quality sign involved	☐	☐
- Other:		

What other information could be useful from your point of view?

4 - SUBSCRIBING TO INSURANCE

Contacts

In order to get construction insurance from domestic insurance providers, which of the following is the usual contact for the contractors: brokers, agencies, insurers, others? Please list in decreasing order of occurrence:

Professional organization

Do the architects, land surveyors or engineers have to register with a local professional organization, association or body? Which ones?

Qualification

In order to carry out a construction activity, do the companies need to comply with minimum regulatory qualifications (e.g.: for engineers / architects)?

Type of activity:

Minimum level of qualification:

Name of the diploma:

Other qualifications:

Administrative requirements

In order to operate, do the companies need to register with a competent organization (ex: legal certification for technical inspection activity)?

Schedule

When should the companies contact the insurer in order to subscribe insurance?

Type of cover:

Submission schedule:

Type of cover:

Submission schedule:

Other:

5 - INSURANCE MARKET

Is there any quantitative information (level of premiums) available specific to the construction insurance market?	☐ There is no national information available ☐ The national insurance federation publishes specific reports on construction - The information is public ☐ / not public ☐ - Some information is available in english ☐ - Website or contact: ☐ Other source of information:
Is there any quantitative information available on the construction market (level of activity)?	☐ The national building federation publishes specific reports regarding: ☐ Eco-technology activities specifically ☐ Small and Medium Enterprise activity ☐ Other: ☐ Source of information (website, journal, federation …):

Cross border Insurance Market	
Do you have insurance requests from foreign companies?	☐ No ☐ Yes, frequency of occurence: times per year
Have you noticed any competition from foreign insurers operating under the "freedom to provide services"?	☐ No ☐ Yes, frequency of occurence: times per year
Do you receive requests to cover your insured companies in other European countries?	☐ No ☐ Yes, frequency of occurence: times per year
Do you cover them?	☐ Yes, frequency of occurence: times per year ☐ No, main reason:

6 - COMMENTS - ADDITIONAL INFORMATION

Appendix - Examples of eco-technologies

Topic of environmental performance	*Examples of eco-technologies*
Energy	
energy performance	1. 'passive house' / 'active house'
usage of renewable energy sources	2. photovoltaic panels (PV's)
	3. wind turbine
	4. solar hot water (SHW)
energy efficient techniques	5. mechanical ventilation with heat recovery (MVHR)
	6. heat pump
	7. domotics, e.g. controls for space heating
thermal insulation	8. insulation made of bio-materials, like natural fibers (hemp)
	9. Cavity wall insulation (CWI)
	10. Solid wall insulation (SWI)
	11. double skin curtain wall / façade
	12. EPS (expanded polystyrene) houses
	13. Vacuum-insulated panels (VIP's)
	14. double glazed windows with evacuated units
other energy conservation techniques	15. passive shading devices (e.g. sun shield)
	16. grey water heat recovery
Water	
water conservation techniques	17. green roof / brown roof
	18. in house water-treatment system
	19. rainwater catchment basins, grey water harvesting
water efficiency/management techniques	20. low-water use appliances, like spray taps, flush toilets
	21. ultra low water-efficient plumbing fixtures
	22. Sustainable urban drainage systems (SUDS)
	23. porous pavements
water metering	24. water leakage detection systems
Minimize pollution	
minimize waste during construction	25. biological waste treatment systems to treat waste on-site
separate/recycle waste	26. composting toilets
	27. waste containers
limitation of emission of CO_2, ozone depleting gases, greenhouse gases	28. ammonia cooling agent in cooling systems
limitation of toxic chemicals	29. low VOC materials (paints, kits, glues)
Protect biodiversity and natural environment	30. roof garden
Minimize the use of resources	
re-use or recyclability of construction works, their materials and parts after demolition	31. metal storage/ shipping containers
	32. aluminium or steel frame components/systems (up to 90% recyclable)
usage of renewable materials	33. wood, bamboo
	34. paper-based (e.g. Warmcell)
minimize materials	35. Bubble Deck floors