Country Report and Guidelines on social dialogue

Italy

Table of Contents

1.	THE	CONSTRUCTION SECTOR: MAIN FEATURES	. 154
2.	NAT	IONAL POLICY FRAMEWORK FOR SUSTAINABLE CONSTRUCTION	. 156
	2.1.	National Policies	. 156
	2.2.	Main regulations and legislative activity at national level	. 157
	2.3.	Regulatory framework from the point of view of Regions and Municipalities	. 161
	2.4.	Initiatives to support sustainable building	. 162
3.	MA.	OR TRENDS IN SUSTAINABLE CONSTRUCTION FOCUSING ON GREEN BUILDING	. 164
	3.1.	Economic Trends	. 164
	3.2.	Employment trends	. 166
	3.3.	Changes and innovations in the green building economy	. 167
	3.4.	Training needs for sustainability in building	. 169
	3.5.	Obstacles to and drivers for sustainable building development	. 170
4.	soc	IAL DIALOGUE AND SUSTAINABLE BUILDING	. 173
	4.1.	The industrial relations system in the construction sector	. 173
	4.2. constr	Role of the social dialogue in support of the green economy and sustainable uction	. 175
	4.3.	Drivers for and obstacles to social dialogue	. 184
5.		DELINES FOR SOCIAL DIALOGUE IN SUSTAINABLE CONSTRUCTION FOCUSING ON	
G	REEN B	UILDING	. 187
	5.1.	Tools to strengthen social dialogue	. 187
	5.2.	Areas of action	. 191
	5.3.	Directions for social dialogue at European level	. 196

1. THE CONSTRUCTION SECTOR: MAIN FEATURES¹

Since 2008, the main economic and employment dynamics in the construction sector recorded a downward trend in its two major components, housing and non-residential buildings and infrastructure. In fact, the crisis had negative effects on production (down 41.5%), profit (-35%) and employment (-25.3%), resulting in the closure of about 80,000 businesses (12.7%) (EC 2016, ANCE 2015b, 2016b, 2016c). The modest positive signs in the Italian economy in 2015 (where industrial output increased by 1.1% on 2014) have still not been reflected in the construction sector, where production in 2015 declined by an average of 1.7% on an annual basis, continuing the negative trend of previous years (ISTAT 2016b). However, in the final months of 2015 and early 2016, the sector showed a few signs of slight recovery: in February 2016, for example, the volume of construction production increased by 0.6% on average over the previous three months (ISTAT 2016a, b, OISE 2015). Construction still represents a major component of the national economy, 6.2% of the GDP in 2015 (ANCE 2016a). The composition of production in the construction industry in 2011, amounting to 255,297 million euros, is shown in Table 1 (ANCE 2015b).

Table 1 – Composition of production in the construction industry – 2011

∢		Thousands	%
EDI		of €	
INTERMEDIA RY COSTS (67.9%)	- PURCHASES OF GOODS AND SERVICES	172,225	67.9
TEF C C C 57.9	- domestic production	165,959	65.0
2 & 9	- imported	7,265	2.9
	LABOUR COSTS	37,581	14.7
l i	- Gross remuneration	26,535	10.4
VALUE)	- Social security/NI contributions paid by	11,046	4.3
ED .	employers		
ADDED \ (32.1%)	OTHER INCOME AND DEPRECIATION	41,817	16.4
₹ 🛎	OTHER NET TAXES ON PRODUCTION	2,674	1.0
	TOTAL PRODUCTION	255,297	100.0

Source: ANCE 2015b

_

¹ This research report on construction and social dialogue in Italy has been compiled using information gathered by consulting documentary sources and by interviewing a selection of qualified experts. The interviewees were: Ermira Behri (Secretary, *Fillea CGIL Nazionale*), Giovanni Carapella (Director, *FORMEDIL Nazionale*), Gianluigi Coghi (Vice-president, *ANCE Nazionale*), Gianni Meneghini (Vice-president, *FBM Spa*), Gianmichele Panarelli (Architect, *Chieti University*), Claudio Sottile (in charge of EU and international policies, *Filca CISL*), Massimo Trinci (in charge of international policies, *Feneal UIL*), Edoardo Zanchini (Vice-president, *Legambiente*).

In 2015, the industry had 1,444,700 employees (EUROSTAT 2016), almost 25% of industrial employees and 6.6% of workers in all sectors of economic activity. Whilst industry saw an increase in both working hours (+0.1%) and working units (+0.2%), in construction these decreased by 0.3% and 0.1% respectively (ISTAT 2016b). In 2016, the construction segments employed 1,346,000, 5.91% of the total employed, lower therefore than 2015 and 2014, confirming a further employment squeeze in the sector. As far as construction companies are concerned, Italy has a very fragmented production fabric and it is one of the European countries with the largest number of small- and medium-sized businesses (ANCE 2015 b). According to data from ISTAT (the Italian National Statistical Institute), in 2012 there were 572,412 companies active in the sector, with 1,553,165 employees. 96% of these businesses (548,709) had fewer than 9 employees; 3.9% (22,387) had between 10 and 49 employees and only 0.2% (1,316) had more than 50. The average number of employees per company is 2.7 and remains among the lowest in Europe. Along with the continuation of the crisis, submerged employment - irregular labour - has risen again: according to ISTAT, since 2012, the percentage in the sector (15.6%) has returned to be more than the average figure for the totality of economic sectors, amounting to 14.9% (ANCE 2015b).

Italy has 12 million residential buildings consisting of 31 million homes, 77% of which are occupied by residents. 60% are single-family homes, while large condominiums represent 2% of the housing stock. The total inhabited area amounts to 2,397 million square metres, with an average value of just below 100 square metres per dwelling. 18% of existing buildings were built before 1918, the large condominiums appeared since the period following the Second World War, while 52% of homes were built between 1946 and 1980 (RSE 2015, ISTAT 2014b). Non-residential buildings account for 15.7% of the total (approximately 2.7 million), with 65,000 offices, commercial buildings occupying 165 million square metres, 51,000 schools and 25,800 hotels (ENEA 2016a, ISTAT 2014b). In line with the European trend, the sector has a primary energy consumption of 37% and contributes 41% of greenhouse gas emissions (I-TOWN 2016). Energy efficiency investments have been increasing from 2012 to €5.6 billion in 2015, divided between residential (53%), industrial (32%) and tertiary and offices (less than 14%) (Energy&Strategy Group 2016).

The activities of **voluntary certification of the sustainability of the constructed** refer to the national protocol *ITACA* (Institute for Transparency in Procurement and Environmental Compatibility), as well as the international protocols LEED (Leadership in Energy and Environmental Design) and BREEAM (Building Research Establishment

Environmental Assessment Method). The most widespread certification system is the *ITACA Protocol*, developed in 2002 and adopted by numerous regional and municipal administrations through regional laws, building regulations, as well as in tendering processes and urban planning (I-TOWN 2015).

2. NATIONAL POLICY FRAMEWORK FOR SUSTAINABLE CONSTRUCTION

Public policies having to do to with construction activities refer to the various ministries and national agencies (including ENEA, the National Agency for New Technologies, Energy and Sustainable Economic Development), as well as the regions, autonomous provinces and municipalities. This **fragmentation of responsibilities** and, above all, the **lack of guidance and coordination of activities** are an obstacle to sustainable development the sector (OISE 2014, 2015).

2.1. National Policies

Building is an important tool in achieving energy efficiency targets for the country, as indicated by the **2017 National Energy Strategy (SEN)** currently being finalised², which considers the upgrading of the built patrimony as an important opportunity to revitalise the building sector as well as improve the territory.

Sustainable construction initiatives include the government programme STREPIN -National Strategy for Energy Renovation of Public and Private Buildings (promoted by the Ministry of Economic Development-MISE); PANZEB - The National Action Plan to increase Nearly Zero-Energy Buildings (MISE); and PREPAC – Energy Regeneration Programme for the Buildings of the Central Public Administration, coordinated by MISE-MATTM (Ministry of the Environment, Territorial and Marine Protection) cabin. STREPIN estimates energy savings expected by 2020 in the sector thanks to measures that have already been activated for energy efficiency. PANZEB assesses the energy performance of buildings in different types of use and climatic zones, estimates the extra costs needed, compared to current levels, for the construction of new nZEB, nearly Zero-Energy Buildings, or for the transformation of existing buildings into nZEB, and traces national developments and guidelines to increase the number of nZEB through the regulatory and incentive measures that have been made available. PREPAC covers about 3,500 buildings occupied by the central public administration to be renovated at a rate of at least 3% per year over the period 2014-2020 (Bonacci 2016). Coordination and monitoring of the progress of the programme are overseen by a steering committee

156

² http://www.sviluppoeconomico.gov.it/index.php/it/energia/strategia-energetica-nazionale

from the Ministry of Economic Development and the Ministry of the Environment³. Although buildings play a key role in the **circular economy** (ANCE 2016b) and there is a lack information on over 90% of the waste produced in Italy (Legambiente 2016), **our country still does not have a national strategy for resource efficiency**, although it has adopted some national targets on the issue (EEA 2016). In July 2017, the Ministry of Economic Development and the Ministry of the Environment launched a public consultation on the document "Towards a model of Circular Economy for Italy" defining the country's strategic positioning in relation to the issue, and this represents an important element for the implementation of a national strategy for sustainable development. As regards sustainability, MATTM⁴ is currently putting the finishing touches to the **National Strategy for Sustainable Development**, in line with the goals of 2030 Agenda of the United Nations.

Among the national policies that have indirect effects on the construction sector, mention ought to be made of the **Industry Plan 4.0** for 2017-2020, launched by the Government through the Ministry of Economic Development in September 2016 to encourage productive and technological change. Based on interventions to support productivity, flexibility and competitiveness, the Plan is aimed at businesses involved in the innovations introduced by the Fourth Industrial Revolution. The measures envisaged have been organised around two key areas (innovative investments and skills) and two accompanying areas (enabling infrastructure and public support instruments). Thanks to technological progress, along with the **Digital Agenda** (launched in Italy in 2012), Industry Plan 4.0 supports, in reality, the **digital transition** which is indispensable, among other things, for transforming urban environments into **smart cities**, of which smart and sustainable building is a fundamental component.

It is within this framework that the **norms regarding sustainable construction** are laid down, norms which are articulated in a series of national, regional and local laws and regulations.

2.2. Main regulations and legislative activity at national level

In recent years, the **national regulatory framework** has sought to provide greater awareness of the energy performance of buildings to citizens, operators and public administrations, also with a view to integrating the dimension of energy quality into the

³ http://www.sviluppoeconomico.gov.it/index.php/it/energia/efficienza-energetica/pubblica-amministrazione

⁴ http://www.minambiente.it/pagina/sviluppo-sostenibile-e-rapporti-internazionali

commercial value of properties (Bonacci 2016). The principle legislative measures on the energy efficiency of buildings from 2005 until June 2015 are shown in the table below.

Table 2 – Legislative measures on the energy efficiency of buildings from 2005 to June 2015

Date	Abbreviation	Object
		Object
August 19,	D.Lgs	Implementation of Directive 2002/91/EC on energy
2005	192/2005	efficiency in buildings (Italy introduces the new
		European provisions; many aspects are assigned to
		future implementing decrees)
June 25, 2008	D.Lgs	Implementation of Directive 2006/32/EC on the
	112/2008	efficiency of final energy uses and energy services
		and the repeal of Directive 93/76/EEC (Introduction of
		the "certification body" and the obligation to validate
		commercial software)
April 2, 2009	DPR 59/2009	Regulation implementing Article 4, para. 1, letters (a)
		and (b) of D.Lgs 192/05 on the implementation of
		Directive 2002/91/EC on energy efficiency in
		buildings (First implementing Decree of D.Lgs 192/05
		with a new framework of mandatory provisions in lieu
		of the "transitional" provisions of Appendix I of D.Lgs
		192)
June 26, 2009	DM	National Guidelines for Building Energy Certification
	26/6/2009	(Another Implementing Decree of D.Lgs 192/05
		defining the methodologies to prepare the Energy
		Certification)
March 3,	D.Lgs 28/2011	Implementation of Directive 2009/28/EC on the
2011		Promotion of the Use of Energy from Renewable
		Energy, amending and subsequently repealing
		Directives 2001/77/EC and 2003/30/EC (The decree
		modifies the rules on the obligations for coverage of
		energy from renewable sources – Article 11 and
		Appendix 3 – and for energy certification when selling
		and leasing – Article 13)
November 22,	DM 22/11/12	Amendment of the Decree of June 26, 2009, on the
2012		National Guidelines for Building Energy Certification
		(The Decree modifies the National Guidelines and
		specifically annuls the possibility of the self-declaration
		of G class for a building)
January 25,	DM 22/11/12	Amendment of Appendix A of D.Lgs 192/05
2013		implementing Directive 2002/91/EC on energy
		efficiency in buildings (the decree modifies Appendix A

		of D.Lgs 192/2005 "Further definitions")
April 16, 2013	DPR 74/2013	Regulation defining the general criteria for the exercise, operation, monitoring, maintenance and inspection of thermal plant for the winter and summer of buildings and for the preparation of hot water for sanitary-hygiene purposes, in accordance with Article 4, para. 1, letters a) and c) of D.Lgs 192/05
April 16, 2013	DPR 75/2013	Regulation governing accreditation criteria to ensure the qualification and independence of experts and bodies to whom building energy certification is entrusted, pursuant to Article 4, para. (1), letter (c) of D.Lgs 192/05
June 4, 2013	DL 63/2013	Urgent provisions for the transposition of Directive 2010/31/EU of the European Parliament and of the Council of May 19, 2010, on the energy performance of buildings for the definition of infringement procedures by the European Commission and other provisions on social cohesion (The decree incorporates the European Directive 31/2010/EU. The document contains the changes to D.Lgs 192/05 and the extension of tax incentives)
August 3, 2013	Law 90/2013	Conversion, with modifications, of DL no. 63 of June 4, 2013
February 21, 2014	Law 9/2014	Conversion into law of DL no. 145 of December 23, 2013 for urgent action to start the "Destination Italy" plan (This text covers, inter alia, energy performance certificates and the qualification of the energy certifiers)
July 4, 2014	D.Lgs 102/2014	Implementation of Directive 2012/27/EU on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC (The Decree establishes a framework of measures to promote and improve energy efficiency with a view to achieving the targets to be achieved in 2020)
January 9, 2015	DM 9/1/2015	Energy efficiency (The decree identifies the modes of operation of the steering committee established by Article 4, para. (4) of D.Lgs 04/07/2014 no. 102)
June 26, 2015	Inter- Ministerial Decree	Application of the methodologies for calculating the energy performance of buildings and the definition of regulations and minimum requirements for buildings

	26/6/2015						
June 26, 2015	DM	Adaptation of the Decree of the Ministry of Economic					
	26/6/2015	Development, June 26, 2009 – National guidelines for					
		the energy certification of buildings					
June 26, 2015	Inter-	Schemes and methods of reference for the					
	Ministerial	compilation of the technical design report for the					
	Decree	purposes of applying the regulations and minimum					
	26/6/2015	requirements for energy performance of buildings					

Source: RSE 2015, I-TOWN 2015a

The three decrees on regulations, energy certification of buildings and minimum energy performance requirements approved on June 26 came into force on October 1, 2015 by modifying and correcting previous standards. Within the scope of the Stability Law 2016 (L. 208/2015), various measures were introduced to reduce household costs and direct demand towards quality products, paying attention to the energy performance of buildings (ANCE 2015 b). The Environmental Link to the Stability Law 2016 (L. 221 of December 28, 2015, "Environmental provisions for the promotion of green economy measures and the containment of excessive use of natural resources") – entered into force on February 2, 2016 – defined a series of measures including, inter alia, environmental impact assessment, green public procurement, provisions to promote the adoption of EMAS and Ecolabel EU systems, and minimum environmental criteria (CAMs) in public procurement.

The **new Public Procurement Code** (Legislative Decree 50/2016) makes it compulsory for any contracting party to apply CAMs, which were redefined, in the light of recent technological changes, by DM 01/11/2017 for renovations and new construction in the PA.

As far as construction is concerned, the **2017 Budget** (Law 232/2016) confirmed and extended tax benefits on housing: the ecobonus for investments in improving energy performance and the bonus for restructuring. In addition, the **sismabonus**, an important tax deduction for the adaptation of buildings to earthquake situations (both for housing and productive activities) and condominiums in seismic-risk zones, was reinforced. The Law also envisaged the use of **income from housing and building sanctions** for the purposes of protecting and re-qualifying the environment and landscape, reuse, regeneration and rehabilitation of building complexes, soil protection and mitigation of the seismic and hydro-geological risk.

Finally, in June 2017, Legislative Decree 106/2017 on the marketing of construction products was issued, adapting national legislation to European provisions, stipulating that a constructor, designer, works manager, executive director or tester must comply with the obligation to use products conforming to EU Regulation 305/2011.

2.3. Regulatory framework from the point of view of Regions and Municipalities

The main measures launched by the Autonomous Regions and Provinces in terms of environmental and energy sustainability for buildings derive from national and EC regulations and vary greatly from one to another⁵. They relate to the **energy performance and efficiency of buildings**; in some areas, norms have been in force for some time, in others, no laws have been established (at most there are guidelines on sustainable construction that impose no limits), while in others there are not even levels of reference and a generic saving and thermal insulation is promoted. Also very different from one region to another us the **regulation of energy certification systems**, with substantial differences in controls and sanctions or the accreditation of certifiers and as regards the **use of renewable sources** (OISE 2015). The property market depends to a large extent on specific regional regulations to which the building in question has to refer.

Municipalities can intervene on building energy efficiency measures through Building Regulations (those which have introduced sustainability principles and norms into their building regulations number 1,182 – 14.7% of the total – 80% of which did so in the last 5/7 years) (OISE 2015). Following Law 164/2014 converting the Sblocca-Italia Decree, the **new building regulations**, valid at national level, were published in the Official Gazette no. 268 of 16/11/2016; there were jointly coordinated by the Ministry of Infrastructure and Transport (MIT), Regions, Municipalities and the Department of Public Function of the Presidency of the Council of Ministers. The Regulations are made up of a guide, an Appendix A listing the 42 standard definitions valid for all local bodies which will adopt it and an Appendix B listing 118 state norms that have an impact on construction.

⁵ The main measures of Regions and Autonomous Provinces are set out on the site http://www.itaca.org/speciale_sostenibile.asp

2.4. Initiatives to support sustainable building

Italian legislation envisages three main incentive schemes for energy efficiency measures: tax deductions, the Heat Account and White Certificates (Energy Efficiency Titles, TEE) (RSE 2015). The tax deductions introduced by the Financial Act 2007 (Law no. 296 of 27/12/06) constitute a targeted incentive for the energy upgrading and enhancement of existing buildings. In the period 1998-2015, tax deductions for building recovery and renovation and the energy upgrading of buildings involved over 12.5 million interventions and triggered 207 billion euros of investment, of which 178 billion was for building renovation and a little less than 30 for energy upgrading (Chamber of Deputies 2015, RSE 2015). A new Heat Account (DM 16/02/2016) came into force on May 31, 2016, which encourages interventions to increase energy efficiency and heat generation from renewable sources of €900 million, enhancing and simplifying the support mechanism introduced previously (DM 28/12/12), of which the PA, businesses and individuals are the beneficiaries. The White Certificate (TEE) system differs from previous one because it is based on a complex mechanism which, for electricity and gas distributors with more than 50,000 final customers, imposes annual energy savings in final energy uses (quantified by law as TEE, where 1 TEE corresponds to 1 TOE = Ton of Oil Equivalent). This obligation can be fulfilled either by implementing energy efficiency projects which grant TEE or by purchasing these certificates from other TEE on the market (RSE 2015). On April 4, 2017, the new decree on White Certificates of the Ministry of Economic Development (DM 11/1/2017), which contains the national quantitative energy-saving goals for the years 2017 to 2020, came into force, and which includes the new guidelines for the preparation, execution and evaluation of energyefficiency projects.

Other instruments that direct public resources for sustainable housing include the **Urban Peripheries Recovery Decree** (Presidency of the Council of Ministers, May 25, 2016), which provided for a 500 million euro call for tenders aimed at the large municipalities to refurbish urban areas suffering from economic and social marginalisation, building deterioration and lack of services. The 2017 Budget Law supplemented the fund with another €1.6 billion for the implementation of the Plans for the Relaunch of Deprived Peripheries of Large Cities (for a total state funding of €2.1 billion).

The 2016 Stability Law defined the contributions for the implementation of the **School Building Plan**, as confirmed in the 2017 Budget, with a budget of 3.9 billion by 2020 for interventions relating to the security, renovation and construction of school buildings.

The 2016 Budget also envisaged 25 major PIS projects (Strategic Infrastructure Programme) for which the funding was defined in the "Strategies for Transport and Logistical Infrastructures" appendix to the 2016 Economic and Financial Document.

It should also be noted that following the earthquake in Central Italy in August 2016, the Presidency of the Council of Ministers launched the long-term Casa Italia programme (for a total of 25 million euros) aimed at promoting housing security against seismic risk and intervening on existing buildings to reduce their vulnerability while increasing their quality of life. The Casa Italia Plan is closely linked to the sismabonus, the application of which was made possible by the recent **Seismic Risk Classification Guidelines for Construction**, approved with Decree no. 65 of 7/3/2017 of the Ministry of Infrastructure and Transport.

Lastly, since 2017, a **fund for the financing of investments** has been set up at the MEF, which includes, among other things, the Casa Italia Programme, anti-seismic and school safety interventions, and the recovery and restructuring of public housing stock.

3. MAJOR TRENDS IN SUSTAINABLE CONSTRUCTION FOCUSING ON GREEN BUILDING

3.1. Economic Trends

The effects of the crisis on the construction sector in Italy were severe, as shown in Table 3 on **investment in building** (net of ownership transfer costs) over the years from 2013 to 2015 and provisional for 2016.

Table 3 – Investments in Building (net of ownership transfer costs)

	2015 (€	2013	2014	2015*	2016*	2008- 2015*
	millio					
	n)					
CONSTRUCTION	128,5	-7.0%	-5.2%	-1.3%	1%	-34.8%
	10					
- homes	68,04	-3.7%	-4.1%	-1.4%	-0.1%	-27.6%
- new*	2					
- extraordinary	21,38	-13.4%	-13.9%	-6.0%	-3.5%	-61.1%
maintenance*	8					
	46,65	2.9%	1.5%	0.8%	1.5%	19.4%
	4					
non-residential	60,46	-10.4%	-6.4%	-1.2%	2.2%	-41.4%
-private	8					
- public	35,95	-11.2%	- 7.3%	-1.2%	-0.4%	-35.0%
	4					
	24,51	-9.3%	-5.1%	-1.3%	6.0%	-48.7%
	4					

Source: ANCE 2015b - *ANCE estimates

Between 2013 and 2015, **investments** in new residential buildings fell by more than 60% and those in non-residential by over 40%, while extraordinary maintenance saw an increase of almost 20%. In the years of the crisis, in fact, the **restoration of building assets** for static, functional and energy redevelopment contributed to containing the reduction of economic activity of the sector: in 2014, they accounted for 70% of the value of construction output (117.3 billion euros compared to a total value of output

estimated by CRESME⁶ at 169 billion). This trend was supported by the use of incentive measures and, in particular, the effects of boosting incentives in 2013 and 2014 (OISE 2015, Chamber of Deputies 2015). The tables below show the performance in Italy of the **production index**, the **value of production** and the number of companies active in the construction sector in the period 2010-2014.

Table 4 – Annual growth rate of construction: production index (% change over the previous year)

2010	2011	2012	2013	2014
-3.6	-4.5	-13.5	-10.8	-7.0

Source: EUROSTAT 2015

Table 5 – Value of production for the construction sector (in millions of €)

2010	2011	2012	2013	2014
227,625.0	210,382.7	202,692.7	181,368.1	171,735.9

Source: EUROSTAT 2016

Table 6 – Number of companies in the construction sector 2010-2013

2010	2011	2012	2013
607,771	590,555	572,412	549,846

Source: EUROSTAT 2016

Artisan construction companies also fell by 11% between 2009 and 2015 (from 584,000 to 518,417), with a loss of more than 65,000 units (CGIA 2016, ANAEPA Confartigianato 2015). Overall, the share of the construction sector in the GDP went from 9.5% in 2008 to just over 6.2% in 2015 (ANCE 2016), with negative employment effects (para. 1.2). Starting from the second half of 2015, there were signs of a slight economic recovery (FORMEDIL 2015) concerning, among other things, the number of employees, the reduction of bankruptcies (CERVED 2016) and the hours authorised of the redundancy fund, even though the most important indicators for construction economics remain negative or stationary (OISE 2015, ANCE 2016c). Plant performed better compared to traditional constructions. In 2015, the market share of plant in construction investment was 34%, with a production value of about 46 billion euros (CRESME 2016). Contrary to the overall trend, the timber construction market for the period 2010-2015 showed a steady growth (OISE 2015, Housing Policies 2015).

⁶ Centre for economic and social research in the building market. At http://www.cresme.it

3.2. Employment trends

In line with what was described above, between 2008 and 2015, the construction sector lost about half a million direct jobs, as well as 280,000 in related sectors. Workers in 2015 account for almost 25% of industrial employees and 6.6% of those operating in all sectors of economic activity (ANCE 2015b, FORMEDIL 2015); in 2016 those employed in construction represent 5.91% of total employment (Osservatorio Costruzioni Fillea-Fdv, 2017).

Table 7 – Employment in the construction sector (in thousands)

2008	2009	2010	2011	2012	2013	2014	2015	2016
1929.4	1892.3	1863.3	1767.5	1673.7	1526.5	1458.6	1444.7	1346.0

Source: Our processing of Eurostat data 2016

Over the course of 2015, employment showed **slight signs of recovery** with territorial discontinuities, which are not able to bridge previous losses. Data on membership of the Construction Workers' Fund shows a 6.9% increase in the first eight months of 2015 compared to the same period of 2014 (ANCE 2015b), and also according to ISTAT, construction shows an increase in employment in the second quarter of 2015 (+2.3% on an annual basis) after more than four consecutive years of shrinkage. Employees in construction-related sectors are mostly involved in building, both in 2014 (72.6%) and 2015 and 2016, when they exceed 74%. Compared to the labour market as a whole, which grows by 65,000 units, the construction industry loses about 81,000 people between 2015 and 2016, thus increasing the contraction already taking place since 2014 when workers and former workers were about 246,000 more than in 2016 (Osservatorio Costruzioni Fillea-Fdv., 2017).

If the current reduction in employment in the sector has been partially contained through **tax incentives** for building renovation and energy updating, which according to CRESME for 2011-2015 had 1,163,255 direct employees (Chamber of Deputies 2015, OISE 2015), the **forecasts** for the construction and related sector show a **still critical picture**, with a reduction in employees which is attenuated compared to the previous period but not yet finished (OISE 2015).

3.3. Changes and innovations in the green building economy

Despite the above, construction faces a new, highly innovative phase (Bellicini 2016) made possible, as well as by favourable economic causes, by propulsive factors related to energy technology, the management and upgrading of existing stock, innovations in products and processes, and new technologies. Technological innovation and digitalisation are leading to structural reconfiguration concerning: the emergence of certain market areas in relation to the shrinking traditional ones; the evolution of traditional products, processes and models of supply; the impact of digitalisation on the construction and civil engineering sectors (FORMEDIL 2015). According to CRESME, the areas of greatest innovation concern: the best use of data and information through Building Information Modeling (BIM) and IPD (Integrated Project Delivery) tools; a greater use of prefabrication in construction sites; the integration of facility management systems in BIM models; the industrialisation of supply in response to the micro-demand for renovation (Bellicini 2016, FORMEDIL 2015). The Observatory on Innovation and Sustainability in the Construction Industry (OISE 2015) also refers to a new industrial cycle for building based on urban regeneration from the perspective of adaptation to climate change and safety. The latest report (OISE 2015) lists among the changes and innovations in the sector the **new materials**, **production processes** that are more attentive to the life cycle of the product, the different organisation of work onsite in relation to productive processes, an ever-expanding articulation of construction chains, the new centrality of plant in view of the renovation of existing property assets and innovative techniques for safety, retrofitting of buildings or asbestos removal. The GreenItaly 2016 report by UnionCamere and the Symbola Foundation reports, for example, on the spread of more than 100 network contracts between businesses in Italy for the development of industrial chains of green building, aimed at transforming the phases of the productive process thanks to the synergy between the various operators.

Another study on sustainable building (Rugiero, Di Nunzio, Galossi 2014) identifies the areas of change in relation to forms of technological and productive innovation relating to: construction materials, the manufacture of green products; the production and use of energy from renewable sources; the management and maintenance of buildings; the quality-control process; dismantling in the cycle of the construction process; urban

⁷ Promoted since 2011 by the leading trade union federations (Fillea CGIL, Feneal UIL and Filca CISL) together with Legambiente.

planning; the development of ESCOs (Energy service company), that provide integrated energy services.

In synthesis, ongoing trends can be described generally in five major macro-areas having to do with:

- the **paradigm of sustainable development** (interventions do not only concern energy efficiency, but also the resilience of cities to climate change, the perspective of the life cycle of products and processes, urban regeneration and quality of life and the quality of living, decent work, fighting energy poverty, and so on);
- the introduction of **elements of innovation** (mainly in products and processes), with implications for **innovative onsite management** (with a greater use of prefabrication) and the **organisation of the whole building chain**;
- the industrialisation process of the sector;
- **knowledge and information management** to improve processes and systems for the design, management and maintenance of buildings, with reference to the opportunities for computer modelling to support cooperation between players in the chain, worker interoperability, risk prevention and quality control;
- changes in the **demand market**, more focused on building and urban renewal, characterised by the expansion of plant and sensitive to offers such as wooden constructions.

The introduction of innovations (especially of products) in the construction industry brings health and safety risk management, both for workers and citizens, into a context where it is difficult to discern the distinction between new risks (associated with innovative products and technologies) and old ones (pre-existing, which increase, as in the case of the removal of asbestos). In Italy, knowledge and research on the effects of exposure to innovative products seems less rapid than their introduction (OISE 2015), with negative effects on the regulation of uses and the dissemination of information among workers. If the progressive industrialisation of construction work seems to favour the reduction of some onsite safety risks, the fact remains that safety and health issues are almost absent in the debate on the green economy and green building (Rugiero, Di Nunzio, Galossi 2014).

3.4. Training needs for sustainability in building

Guidelines for sustainable construction and upgrading have profound repercussions on work activities, and this leads to the need for new skills, knowledge and capacities on the part of consolidated figures in the sector as well as the emergence of new profiles in some cases (FORMEDIL 2015, 2015b, OISE 2014, 2016, Rugiero 2011, 2014). On the one hand, this consideration comes up against the inadequacy of the training system for the construction sector (where there are 144 different profiles with an enormous range of regional differentiation) (ENEA 2015b, BUILD UP Skills 2014) and, on the other, a marked discrepancy between a widespread demand for super-specialised workers and generalised framing at the lower levels of the construction workforce registered with the construction funds (OISE 2015). In addition to the training activities carried out by the construction funds, businesses and the education and training system (which do not coincide with each other from the point of view of qualifications, certifications and recognition of skills), two projects have been established to create and update training programmes for construction workers and artisans within the framework of the EU Intelligent Energy Europe Build Up Skills Pillar II: I-TOWN (Italian Training Qualification Workforce in Building), coordinated by FORMEDIL⁸, and Bricks (Building Refurbishment with Increased Competence Knowledge and Skills), coordinated by ENEA. Starting from the results of a survey of the skill needs of about 1,000 employees in the sector, I-TOWN has formulated a proposal of contents for the training of trainers (in the classroom and onsite) on energy efficiency and sustainability, to be achieved through the construction funds and addressed at the crafts workers and technicians of the wider construction sector: construction, plant and installation⁹. The BRICKS project also seeks to outline the content of training trainers in five profiles: the site trainer, the thermal coating installer, the energy diagnosis manager, the energy trainer, the geothermal plant installer and the building automation installer¹⁰.

⁸ FORMEDIL is the National Training and Vocational Training Institute (http://www.formedil.it). The I-TOWN Project Partnership includes ANCE, ASSISTAL, RENALE (the National Network of Local Energy Agencies), SINERGIE, University of Naples Federico II – Industrial Engineering Dept., Turin Polytechnic, CNA-ECIPA.

⁹ http://www.bus-itown.eu.

¹⁰ http://www.bricks.enea.it.

3.5. Obstacles to and drivers for sustainable building development

The **obstacles** to sustainable building development identified in the sources (analysis of the literature and workshops) are organised into **six macro-areas**: public policies; economy and finance; technology and knowledge; operational/organisational area; working conditions; social aspects. The following table lists the obstacles that were recorded.

Table 8 – Obstacles in public policies

- Poor orientation of public policies in the promotion of sustainable construction and/or innovation in the sector (in particular, a lack of policies to accompany the legislative measures)
- Lack of coordination of urban policies and a national strategy for the governance of cities
- Lack of a national policy on the circular economy in building
- Lack of direction of energy-efficiency policies in the transition
- Absence of coordination and guidance of environmental and energy research
- Lack of medium/long-term public planning, for rehabilitation and renovation projects and urban regeneration, which entails the risk of reducing sustainable building policies for the promotion of energy efficiency
- Poor knowledge of the effects of the energy-efficiency policies implemented in recent years
- Slowdown of interventions on public property, even with incentives, European funds and certifications, caused by the Stability Pact
- Episodic nature of the incentives for energy efficiency and redevelopment (the Energy Efficiency Fund introduced by DL 102/2014 is not operational and the implementation methods are not generally known)
- Poor utilisation of incentives for energy efficiency in the South of Italy
- Limited availability of public incentives for research and innovation activities
- Lack of incentives relating to credit (cost of credit for the financing of projects)
- Difficulties in access to incentives by the weaker population groups and associative and collective entities such as condominiums
- Delays in certification and control of interventions on the part of the PA and the Regions
- Delays in payment by the PA as an obstacle to reinvestment strategies
- Obstacles and administrative delays for efficiency and safety interventions
- Times and costs of procedures for obtaining licences and work permits
- Lack of adequate skills in the public administration
- Lack of adequate training policies

Table 9 - Economic and financial obstacles

- Lack of demand, both public and private
- Focus on building costs (rather than on the quality of the built)
- Limited economic convenience
- High initial costs of energy redevelopment
- Cost of energy audits
- Shortage of credit opportunities for innovation
- Shortage of economic resources for building sustainability training

Table 10 – Technological and cognitive obstacles

- Failure to update knowledge on the characteristics, dynamics and working conditions in constructions
- Poor dissemination of information on good practices and innovative experiments in Italy
- Lack of adequate and recognisable tools for measuring sustainability elements
- Poor integration between profound energy updating in buildings and maintenance
- Absence of social dimension indicators in sustainable building certification models
- Unsuitability of the training offer
- Poor information and training regarding BIM

Table 11 - Operational and organisational obstacles

- Lack of structure of the entrepreneurial system in construction, which does not allow for the coordination of all players in the supply chain
- Lack of orientation to innovation in micro and small construction companies
- Difficulties of micro and small construction companies in using BIM programmes
- Fragmentation of sustainable building experiences in place
- Fragmentation of small business restructuring measures
- Difficulty for subcontractors to participate in programming (contractor dependency)
- Presence of a number of businesses and risks of interference (failure to co-ordinate)
- Dissemination of energy efficiency certification systems for buildings that reward the least effective solutions in the long term and those less suited to the climate of our country
- Lack of expertise needed to provide reliable financial forecasts (to convince investors)
- The presence of unreliable or poorly qualified construction companies and installers
- The lack of an aggregator capable of offering a "keys-in-hand package" for energy and rebuilding interventions
- Unwillingness of workers in the sector to work in teams

Table 12 – Obstacles relating to working conditions

- Lack of specialised and competent personnel for the sustainable transition in construction
- Presence of new and emerging risks, in addition to the traditional ones, for the health and safety of workers
- More precarious and irregular work in the construction sector
- Failure to recognise the qualifications issued by the Construction Schools on the part of entrepreneurs

Table 13 - Social obstacles

- Low attractiveness and little real impact of sustainable building projects
- Shortage of information on bio-building issues
- Lack of integration among the subjects in the territory (PA, educational-training system, etc.)
- Lack of information and awareness about the effects of investment in construction (energy upgrading is perceived as an extraordinary cost; uncertainty about energy savings)

The **drivers** for sustainable building development referred to in the sources consulted include:

- The **industrialisation** process, based on the adoption of standardised and replicable solutions (greater use of prefabricated and factory-made components to be integrated in the design and construction process);
- the **introduction of innovative elements** (mainly in products and processes) into the various components of the value chain;
- the recognition of the **centrality of the quality dimension** in constructions, processes, products and workers;
- digitalisation (introduction of BIM and IPD), for better data use, coordination and interoperability of workers starting from the design stage and in real time during construction;
- **better utilisation of incentives** (to be stabilised over time and corrected) in the light of the very positive effects already achieved and with particular reference to the renovation of the building stock, enhancing the plant component;

- the adoption of the **life-cycle perspective of the process**, with reference to the circular economy paradigm, for the renovation of buildings and urban regeneration;
- **training of workers** in the sector (based on the recognition of the centrality of the design phase and sensitive to the life cycle);
- the dissemination of information on positive experiences, also to promote the spread of sustainable building culture through **promotion and communication activities**;
- the **combination of restructuring measures** with those relating to safety and, more generally, the **protection of the territory**;
- the transposition of **European Directives** on energy efficiency, circular economy, urban regeneration policies and so on;
- the **financial instruments** foreseen by the 2014-2020 programme to access European structural funds, which can be used to support sustainable activities in the sector.

4. SOCIAL DIALOGUE AND SUSTAINABLE BUILDING

4.1. The industrial relations system in the construction sector

The crisis has pushed the industrial relations system to focus more on second-level bargaining than national collective bargaining (which remains the main reference point) to respond to business and territorial demands. In this framework, cooperation between the major trade unions (CGIL, CISL and UIL) has intensified and the importance of bilateral organs at sectoral or intersectoral level has increased to provide welfare and services related to wages, training, working hours, and so on (Eurofound 2016b).

The main **construction trade unions** in Italy include: Fillea (Italian Federation of Workers in Wood, Construction, Related and Mining Industries) CGIL; Feneal (National Federation of Construction and Woodworkers) UIL; Filca (Federation of Italian Construction and Related Workers) CISL; UGL Costruzioni and FESICA (Italian Trade Union Federation of Commerce and Crafts). The **employers** include: ANCE (National Association of Constructors); ANAEPA (National Association of Craftsmen, Decorators, Painters and Related Activities) Confartigianato; CNA (National Confederation of Crafts and Small and Medium Enterprises); ANIEM (National Association of Building Manufacturers); FIAE (Federation of Italian Craftworkers) Casartigiani; CLAAI (Free Confederation of Italian Artisan Associations); ANCPL (National Association of Cooperatives for Production and

Laboor) Legacoop, Federlavoro and servizi-Confcooperative; AGCI (General Association of Italian Cooperatives) Production and Work; AGI (Association of Large Businesses).

There are four contractual planks for the construction sector, signed by Feneal UIL, Filca CISL and Fillea CGIL: industry (signed with ANCE-Confindustria); crafts (ANAEPA-Confartigianato, CNA-Costruzioni, FIAE Casartigiani and CLAAI); small- and medium-sized enterprises (Confapi-ANIEM); cooperatives (ANCPL-Legacoop, Federlavoro and Servizi-Confcooperative, AGCI-Production and Labour). Each contractual plank gives rise to its own bilateral system, characterised by a strong territorial imprint, based on the presence of joint bodies responsible for the provision of contractual and mutual benefit services, vocational training and health and safety at work, and supplementary pensions. The signing of understandings and agreements by the social partners gives rise to the bilateral system of constructions, based on the unification at the organisational and functional level of the four bilateral systems and structured in three subsystems: the system of construction funds, joint bodies present in the territory that provide benefits and provisions established by the national collective bargaining agreement and territorial agreements signed by the business and trade union organisations in the sector, with which 150,000 companies and over 800,000 workers are registered 11, coordinated by the Joint National Committee for Construction Funds (Cnce), constituted by ANCE and CGIL, CISL and UIL; the professional training system, led by the national Formedil (building training), with regional Formedil and a network of over one hundred building schools throughout the country that accompany workers from their introduction to the site throughout their career¹²; the system for the protection of health and safety, through the Territorial Joint Committees (Cpt), coordinated by the National Commission for Accident Prevention, Hygiene and the Working Environment (Cncpt).

¹¹ From the site http://www.cassaedile.it.

¹² For 2015, the FORMEDIL National Training Database (BDFC) has registered 42,549 courses, attended by 306,069 users, for a total of 477,175 training experiences (FORMEDIL 2015b).

4.2. Role of the social dialogue in support of the green economy and sustainable construction

The hoped-for economic recovery in the construction sector, attentive to dignified labour, social dynamics and the environmental dimension, is found in the paradigm of sustainable development. From this perspective, Italy is way behind other European countries, lacking a policy and strategy for the transition to sustainable development (OISE 2014, 2015): MATTM only initiated functional consultations on the National Strategy a few months ago, as envisaged by the Environmental Link of the Stability Law of 2016¹³. In Italy too, in fact, full attention to the environment by industrial relations has matured above all over the last decade (Tomassetti 2015). In the absence of suitable places for the governance of the transition to sustainable development and urged by international organisations and the two crises, for some years the social and economic partners, local authorities, individual companies and various expressions of civil society (environmental organisations, research and development bodies, movements to safeguard public assets and active citizenship, professional orders, etc.) have assumed positions or adhered to networks and groups to meet, draft proposals that are strategicprogrammatic or related to specific measures and interventions, put pressure on institutional players, and intervene in the territory. In this direction, realities have taken root such as the **Stati Generali della Green Economy** – created in 2012 to encourage the development of the green economy in Italy, promoted by the National Green Economy Council in collaboration with MATTM and MISE and co-ordinated by the Foundation for Sustainable Development¹⁴; annual meetings have been sponsored since 2011 around the GreenItaly report on the progress and prospects of the Italian economy and its businesses, promoted by the Italian Union of Chambers of Commerce, Industry and Crafts (UnionCamere) together with the Symbola Foundation. In 2015 and 2016, some employers' associations and trade union organisations were involved in the Italian Coalition "2015-2015: Let's Mobilise for the Climate" (now completed) at the Forum for **Promoting Fair and Sustainable Development** established in December 2015¹⁵ and the Italian Alliance for Sustainable Development (ASVIS)¹⁶ set up in March 2016 around the United Nations Global Agenda for Sustainable Development.

Several Pacts for Sustainable Development have been signed at local level on the basis of agreements between local authorities and social forces (such as the Pact for the

¹³ Law, 28/12/2015 n ° 221, G.U. 01/18/2016.

¹⁴ http://www.fondazionesvilupposostenibile.org.

¹⁵ http://www.mybes.it.

¹⁶ http://www.asvis.it.

Sustainable Development of the Piedmont Region of 2008) or innovative experiments in industrial relations on a territorial basis have been promoted (for example, in 2011 in Treviso with the Pact for Sustainable Development, Employment Qualification and Competitiveness of the Local Economic System); while in Lombardy, the Chambers of Commerce and Unioncamere Lombardia established the Sustainable Development Network in 2013 to disseminate instruments in support of sustainability paths in the various economic sectors¹⁷.

With regard to **sustainable construction**, special working groups have been set up in the **Stati Generali della Green Economy**¹⁸ and in the **Kyoto Club** (but this thematic group is no longer operational)¹⁹, while, in 2008, the **Green Building Council (GBC) Italia** was set up²⁰ (which, among other things, promotes the LEED certification system). Recently, the system of the **Chambers of Commerce** has developed *qualification schemes* for companies in the most representative and high-quality *Made in Italy* sectors which include sustainable construction ²¹.

Initiatives at national level

Employers' associations and trade unions, along with environmental organisations, universities and local authorities, share the view that the transition to sustainable building represents an opportunity for development and partial recovery from the crisis. A similar shared viewpoint exists between the union and a number of associations – such as Legambiente (OISE 2014, 2016) and ASVIS²² – regarding the role of social dialogue in this framework. In the following paragraphs, actions and interventions are proposed that can be traced back to the social dialogue around sustainable construction revealed, especially at local level, through consultation with the sources. These are signals of social dialogue in a broad sense, since the actions do not necessarily include the establishment of specific technical tables or the opening of disputes, but are *always* characterised by forms of ongoing consultation, comparison and cooperation.

http://www.lom.camcom.it/?/ambiente/innovazione-e-qualita-dello-sviluppo/network-sviluppo-sostenibile.

http://www.statigenerali.org/gruppi-di-lavoro/per-un-manifesto-della-green-economy-nelledilizia-e-nellurbanistica.

¹⁹ http://www.kyotoclub.org.

²⁰ http://www.gbcitalia.org.

²¹ http://www.dintec.it/it/pqualificarsi/qualificarsi.

²² Concurrently with the presentation of the Association to the Chamber of Deputies in March 2016, ASVIS underlined the centrality of social dialogue in the transition to sustainability in the urban dimension.

The activities that can be attributed to **national social dialogue** around sustainable building are not many. A first important event is represented by the signing of the Manifesto of the Construction Stati Generali on 14 May 2009 by Feneal UIL, Filca CISL, Fillea CGIL, ANAEPA-Confartigianato, Claai, CNA Costruzioni, Fiae Casartigiani, Aniem Confapi, Agci/Psl, Ancpl-Legacooperative, Federlavoro Servizi Confcooperative, Agi, Ascomac-Cantiermacchine, Assoimmobiliare, Federcostruzioni (ANCE, Andil, Anie, Anima, Assovetro, Federbeton, Federchimica, Federlegno-Arredo, Oice), and Finco. The Manifesto, drafted as a reaction to the first effects of the crisis, proposed to the Government, Parliament and the institutions to move in synergy around the objectives of "renewing the territory through urban regeneration policies; an extraordinary plan of economic and popular construction; the use of the tax leverage for technological adaptation and energy saving; qualification of businesses; the traceability of financial flows to counter the Mafias; the intensification of controls on the static safety of buildings and safety at work; the extension of social security cushions; a strengthening of the DURC (certificate of NI contributions) for legality"23. In the years that followed, the virtuous pathways needed to achieve the proposed objectives were not followed.

A second signal of national social dialogue is represented by the activation, in 2011, of an *Observatory on Innovation and Sustainability in the Construction Industry* promoted by Fillea and Legambiente, which was later joined by Feneal and Filca as well, created to prepare an annual report on the evolution of the sector in Italy while paying attention to sustainable innovation and disseminating information on practices and interventions conducted in this area on the territory. The report reached its fourth edition in January 2016.

Further national action is represented by the signing of a *Protocol of understanding on the promotion of the culture of sustainable energy and energy efficiency for the promotion of jobs and green jobs* of March 26, 2014 by Feneal, Filca and Fillea, and the National Council and Order of Architects of Rome. The Protocol provides for the training and dissemination of energy efficiency and containment criteria for the public and private building stock and for the upgrading, regeneration, enhancement and energy efficiency of urban transformations and the static and structural upgrading of the existing building stock.

177

²³ Report by Walter Schiavella, Secretary General of Fillea, to the Stati Generali delle Costruzioni, May 14, 2009.

Following the earthquakes that struck Central Italy from summer 2016 to February 2017, Fillea-Cgil and Legambiente set up the **National Observatory for quality reconstruction** to monitor the reconstruction and introduce innovations based on the principles of the circular economy, reducing the environmental impact starting from the reuse of rubble and increasing anti-seismic safety and energy efficiency through the active involvement of local populations in pilot projects. The Protocol also envisaged the adoption of a series of measures (the DURC for legality and the weekly report) in order to ensure transparency and to protect the contractual rights of workers.

Other instances of national comparison, consultation and joint evaluation of interventions, actions, measures and policies between social partners, civil society, state bodies and the PA (social dialogue in the broad sense) are represented by the **European projects** relating to sustainable construction. These include the abovementioned **I-TOWN** and **Bricks** projects (para. 3.4), the **Build Upon** project²⁴ – conducted in 2015 by Italy's Green Building Council (GBC) in parallel with another 12 GBCs, to define, in 2016 and 2017, a shared energy renewal policy for building at national level – and **Construction 21 Italy**, a platform for professionals active in sustainable building promoted by ANCE and Unioncamere of Veneto²⁵.

Initiatives at local level

The types of actions and interventions of social dialogue in the territory (also in a broad sense) indicated by the sources include: training of workers and the qualification of businesses; knowledge management; the adoption of a structural approach to energy redevelopment; urban planning and regeneration activities; information and awareness-raising activities among the public. For each entry of this type, a few examples are shown in the following panels (this is not a mapping, but an example of what is happening locally).

²⁴ http://buildupon.eu/it.

²⁵ http://www.construction21.org/italia/static/chi-siamo.html.

→ TRAINING OF WORKERS AND QUALIFICATION OF BUSINESSES

- Training of young BIM managers, also aimed at experts and surveyors, to manage the application phases onsite. Promoted in Lombardy in 2016 by Assimprendile-ANCE, Fondimpresa and Milan Polytechnic
- Training seminars on urban regeneration and environmental sustainability (2015) under the project *Resource. Territory. Ionian area* funded by Apulia Region and conducted by the Building School of Taranto with Bari Polytechnic, in agreement with the professional orders of architects, engineers and surveyors
- Preparation and implementation of a training plan to enhance knowledge and skills in the Green Building Economy related to the various stages of the construction process, to promote new ways of designing and building plant, to innovate the construction range and reduce energy consumption, within the framework of the AGIRE Programme of Confindustria Training Systems shared with ANCE, Fillea, Filca and Feneal, funded by Fondimpresa and implemented with FORMEDIL and the building schools

→ MANAGEMENT OF KNOWLEDGE

- The Best Department of the Milan Polytechnic recently launched **Building Smart Italia**²⁶, an association that promotes the digitalisation of the construction chain and brings together parties interested in the culture of interoperability and the interoperable use of building software (with other university departments, software companies, businesses, trade associations)
- In 2015 Tuscany Region established the "Abitare Mediterraneo" platform for research and experimentation in eco-sustainable buildings at the University of Florence's technology centre, together with the University of Florence, Unioncamere, the Business Network of Mediterranean Wood, ANCE, FORMEDIL, Lucense and Legambiente

→ STRUCTURAL APPROACH TO THE ENERGY UPDATING OF BUILDINGS

 To assist local authorities in the implementation of PAES (Sustainable Energy Action Plans), the Muvita Foundation of Genoa Province, with the Chamber of Commerce and the Carige Bank and other key players, through the *Intelligent Condominiums* project has experimented with an energy-updating instrument for condominiums in 16 residential condominiums through ESCOs, later transferred to other municipalities in 2014

_

²⁶ http://www.buildingsmartitalia.org.

→ URBAN PLANNING AND REGENERATION

- In 2015, Ivrea Town Council, CNA, the Order of Architects of Turin, Spi-CGIL, Banca D'Alba, Turin Polytechnic and ANACI signed a protocol of understanding and created a technical group for experimentation in urban regeneration to improve the performance culture of those involved in the construction process and to support the realisation of the local government PAES
- ANCE Veneto, the University of Padua, Fillea, Filca, Feneal, Unioncamere, architects, Legambiente and INU drafted the Manifesto "An Urban Regeneration Pact – Urbanmeta" and set up a group to work with a multidisciplinary and integrated approach on urban regeneration, addressing issues of land governance and soil consumption, in agreement with Veneto Region (2015)

→ INFORMATION AND RAISING PEOPLE'S AWARENESS

- In 2013, Spi-CGIL, Fillea, Auser, Sunia, Federconsumatori and other organisations provided a *Guide to Energy Consumption in Homes "Casa prima cosa"*
- Since 2012, Padua City Council, together with National Legacoop, Finabita, Tuscany Region, ER Region, Ancc-Coop, has been carrying out the *Eco-friendly Courtyards* project for the reduction of domestic energy consumption
- In June 2015, a Protocol of Understanding between businesses, trade unions and consumers was drafted in Fermo to overcome the construction crisis, revitalise the green economy and save energy by reducing the cost of household bills. To this end, a proposal was formulated for saving and energy efficiency in the construction sector aimed at the owners of 643,000 public and private buildings

Interventions and actions for the social dialogue

The signals of social dialogue, the obstacles to the development of building sustainability and the sources consulted have highlighted a number of **possible actions and interventions**, divided into seven dimensions regarding public, economic, financial, technological and knowledge, operational-organisational, and social and territorial policies, as well as those related to working conditions.

PUBLIC POLICY DIMENSION

- Defining clear and unambiguous policies to support the transition to sustainable housing
- Determining a public commitment to favour the introduction of innovation in companies in the construction chain
- Preparing a national strategy for the governance of cities based on the adoption of a wide-ranging approach aimed at programming and a new industrial cycle characterised by urban regeneration
- Adopting a change of scale for policies relating to the building stock to move from housing to urban and territorial dimensions, by treating as unitary energy efficiency and building safety, social housing and urban regeneration, the viability of private and public spaces and workers' safety
- Activating forms of coordination and guidance for environmental and energy research activities (by the Ministry of Education, University and Research – MIUR and MATTM) to promote the introduction of the necessary innovation for the transition to sustainability in the sector
- Activating a coordinated public, short- and medium-term intervention in the construction and building market both on the supply and demand side.

ECONOMIC AND FINANCIAL DIMENSION

- Defining a national plan for the allocation of supplementary public funds compared to those available to the municipalities – for energy efficiency and the renovation of public housing, in addition to tax deductions aimed at householders
- Modulating incentives starting from the adoption of an integrated approach between energy efficiency and safety, with the possible intervention of the Cassa Depositi e Prestiti and also taking into account school and health building
- Stabilising and remodelling incentives for property upgrading, to be bound to improvements in the energy class of buildings and access to the less well-off
- Simplification of the administrative procedures needed to carry out updating interventions in condominiums through ESCOs
- Operational translation of the legislative instruments available (such as the Energy Efficiency Fund provided by DL 102/2014, for which the criteria for access by private and public bodies have to be established).

TECHNOLOGICAL AND KNOWLEDGE DIMENSION

- Defining an industrial project for the entire construction industry
- Promoting network contracts in the sustainable construction chain
- Supporting the relationships between training and research to foster the transmission of innovations from the experimental to the productive phase
- Upgrading knowledge about the characteristics, dynamics and working conditions in the construction sector

- Disseminating information and knowledge to introduce innovation (starting from the BIM) in the various construction sectors, enhancing experimentation and virtuous practices
- Consolidating research on new health and safety risks associated with the use of chemical agents and products created with innovative materials (nanotechnologies)
- Verifying the skills needs for workers in the sector
- Extending preparatory training for all workers working onsite (including employers), at the same time as the introduction of the mandatory 16 hours for safety at work, energy-efficiency issues, sustainability in building, urban regeneration (with mutual funding mechanisms).

OPERATIONAL AND ORGANISATIONAL DIMENSION

- Simplifying and putting in place the mechanisms that make European funds (sustainable urban development) directly available for the construction sector
- Promoting and activating partnerships between public and private (PPP)
- Enhancing urban planning and the construction of popular housing in concert with the trade unions and based on a sustainable approach (through the introduction of the *eco-systemic quality* criterion), such as, for example, the "Neighbourhood Contracts" programme promoted at end of the '90s by the Ministry of Public Works
- Introducing certification and traceability elements for companies operating in the construction industry with trained staff, with recognised and accredited expertise
- Introducing indicators related to the social dimension in certification systems
- Introducing health and safety indicators for workers and citizens in building certification systems
- Greater effectiveness in implementing inspections by the PA
- Activating the single record book for buildings.

DIMENSION RELATING TO WORKING CONDITIONS

- Adopting an overview of the production cycle of constructions in bargaining activities, based on the centrality of the design phase
- Enhancing the participatory component of bargaining for issues related to the definition of working times and methods, professional qualifications and knowledge enhancement, autonomy and career paths (in addition to salary and continuity of employment)
- Promoting of site bargaining, in order to counter the wage dumping associated with the use of contracts other than the one for building workers onsite
- Identifying unifying and homogeneous minimum conditions for the common parts of the contracts of professional figures involved in the various phases of the construction lifecycle as well as the different first- and second-level contracts, given the new relationship between the construction and the site (overcoming the clear distinction between construction workers and labourers)

- Formulating a national strategy for the management of workers leaving companies abandoning the construction sector (including, for example, retraining plans)
- Enhancing workplace instruments against illegal employment such as total document traceability and the DURC²⁷ for legality
- Promoting skills certification for specialist figures involved in energy-saving buildings, requesting a technical group from the Regions to define a unitary attestation system (given the high mobility of workers)
- Defining a suitable training offer (for new entrants, to adjust the skills of workers and to retrain those who are excluded), enhancing the bilateral aspect
- Introducing health and safety issues in educational actions for workers in the industry, for all qualifications and at all phases of the process (with reference, *inter alia*, to the risks and problems associated with removing asbestos from buildings)
- Consolidating new and increased risk prevention activities.

SOCIAL DIMENSION

- Extending the protocol signed by Legambiente, Fillea, Feneal and Filca to other key players
- Introducing of health and safety issues for workers and citizens in the debate on sustainable building and green economy
- Enhancing the experience of the *Coalition for the Climate* (activated in relation to the United Nations Conference on Climate COP 21 in Paris, December 2015), to open with the same methods new disputes on sustainability issues with the Government, Regions and Municipalities
- Promoting actions aimed at raising the awareness of the key players in the construction market with regard to local benefits (lower pollution, economic development, lower energy expenditure for households) driven by energy performance interventions on buildings.

TERRITORIAL DIMENSION

- Participation of the trade union in consultation and planning activities on territorial development, energy policies at regional level and disputes over redeployment and conversion of plant
- Participation of the players in social dialogue in the monitoring and control of the implementation of PAES of the municipalities that have adhered to the Mayors' Pact
- Increasing controls and sanctions by the PA on energy performance and building safety
- Simplifying administrative building procedures using the single building record (antiseismic, energy and noise)
- Integrating territorial civil protection plans into tools for territorial development and urban policy management.

²⁷ The DURC is a document issued by the Construction Funds along with Inail and Inps which attests to the regularity of NI contributions by businesses.

4.3. Drivers for and obstacles to social dialogue

The social partners and institutions, as well as a number of environmental organisations, share the opinion that social dialogue represents one of the tools to be used in fostering the development of the industry in the direction of sustainability. Until now it has not been possible to make the most of social dialogue for green building because of the difficulties faced by the industry in managing and contrasting the serious effects of the crisis.

The obstacles to the development of social dialogue for green building in Italy can be described in four areas, concerning: public policies; economic and work-related issues; R&D, technology and innovation; social and cultural issues. The drivers identified concern only the first three areas.

The obstacles to the development of social dialogue for green building

In terms of **public policies**, the following obstacles were identified:

- The lack of a defined strategic position on the part of the Government on green building and sustainability with a resulting lack of relevant framework policies at national level
- The lack of a medium- and long-term perspective in planning public policies relevant to green building
- A fragmentation of responsibilities among the public authorities in the sector
- Poor coordination between national and European policies, as well as between national and local ones, on green building

The area concerning **economic and work-related issues** includes the following obstacles:

- The fragmentation and the very small dimensions of the companies in the sector
- The lack of a shared vision on green building among employers' organisations
- The limited presence of social partners in green companies in the construction industry
- White-collar workers often not being considered a target group for relevant policies
- Poor involvement in the social dialogue on green building of key actors in other sectors

As regards **R&D**, **technology and innovation** the obstacles identified are:

- Poor public investment in research and innovation on the sustainable economy and green building
- Limited relationships among research institutes (universities and other organisations) and companies in the construction sector at national and local level
- Poor information and lack of training opportunities on the use of BIM

The obstacles concerning the **social and cultural dimension** include:

- Poor knowledge and information among the public about the real advantages of investments in green building.

The drivers for the development of social dialogue for green building

On terms of **public policies**, the following drivers were identified:

- Compliance with European Directives
- The launch of new measures for securing interventions due to current and widespread hydro-geological instability and earthquake emergencies in Italy
- National policies on energy efficiency relevant to the construction sector

The area regarding **economic and work-related issues** includes the following drivers:

- The existing strong bilateral system of the construction industry, having a special role in training workers on the topic of green building
- The shared vision, strategy and formal agreements of the main sectoral national trade unions on green building
- The growing number of concrete practices of tripartite and multi-stakeholder social dialogue on green building at local level
- The tripartite national alliance initiatives fostering sustainable development
- Compliance with the legal framework on health and safety issues in the construction industry
- The growing demand for training in order to improve workers' skills and qualifications as well as the role of the OHS representatives
- The corporate social responsibility of companies in the construction industry and the implementation of branch national agreements on issues concerning green building
- Current available subsidies and European funds to be used to strengthen the role of the social partners in the framework of sustainable construction
- The European Works Councils in the construction sector

As for **R&D**, technology and innovation the drivers for social dialogue embrace:

- The current collaboration of the national sectoral trade unions with environmental organisations for the implementation of the Observatory on Innovation and Sustainability in Green Building
- The setting up of networks/platforms/working groups to share knowledge and information on practices of innovation in the green building sector at local level, involving social partners, research and innovation institutions, environmental organisations, experts and associations of professionals and the public.

5. GUIDELINES FOR SOCIAL DIALOGUE IN SUSTAINABLE CONSTRUCTION FOCUSING ON GREEN BUILDING

5.1. Tools to strengthen social dialogue

In Italy, social dialogue on green building appears in different forms, both at national and local level, ranging from the sharing of information to consultations and negotiations, partially overlapping and in any case characterised – according to the context and different situations – by the involvement of social partners, national institutions and local authorities, universities, academies and research organisations, branch companies, experts and various professional associations, environmental and citizens' organisations. Forms of social dialogue on green building take place through various tools supporting the transition to sustainable building. These tools include, for example: the definition of formal agreements, the implementation of joint actions and practices, the setting up of trilateral networks and working groups.

5.1.1. Current tools for social dialogue on green building

AT NATIONAL LEVEL

- The signing of the Manifesto of the Construction Stati Generali in May 2009 on behalf of the sectoral trade unions and employers' organisations, proposing a joint action to the Government and institutions. It was signed by Feneal UIL, Filca CISL, Fillea CGIL, ANAEPA-Confartigianato, Claai, CNA Costruzioni, Fiae Casartigiani, Aniem Confapi, Agci/Psl, Ancpl-Legacooperative, Federlavoro Servizi Confcooperative, Agi, Ascomac-Cantiermacchine, Assoimmobiliare, Federcostruzioni (ANCE, Andil, Anie, Anima, Assovetro, Federbeton, Federchimica, Federlegno-Arredo, Oice), and Finco
- The setting-up of an **Observatory on innovation and sustainability in the construction sector** in 2011, promoted by the sectoral trade unions (Fillea, Feneal and Filca) and the environmental organisation Legambiente, which presented its fourth update in January 2016.
- The drawing up of a **Protocol of understanding on the promotion of the culture of**sustainable energy and energy efficiency for the promotion of jobs and green

jobs signed in March 2014 by the three main trade unions (Feneal, Filca, Fillea), and the National Council and Order of Architects of Rome.

- The establishment of the **National Observatory for Quality Reconstruction** promoted by Fillea CGIL and Legambiente in February 2017 after the earthquakes that struck Central Italy from summer 2016. The Observatory aims to monitor the reconstruction and introduce innovations based on the principles of the circular economy, reducing the environmental impact starting from the reuse of rubble and increasing anti-seismic safety and energy efficiency through the active involvement of local populations in pilot projects. The protocol contains a series of measures, such as the DURC for legality and the weekly report, to ensure transparency and to protect the contractual rights of workers.
- Recently the **Seismic Bonus** a new fiscal incentive was introduced, similar to the current mechanism of the Energy Bonus (*Ecobonus*). The Seismic Bonus envisages the transfer of tax credits to companies willing to restructure properties applying anti-seismic building criteria. This new tool can be used throughout Italy and not only in areas affected by earthquakes. Recently, in part thanks to the request of ANCE-Confindustria and Fillea CGIL, the transfer of the Energy Bonus directly to banks on behalf of citizens was made possible, overcoming the limitations of the fiscal deductions system that did not help those on lower incomes. Currently, the extension of these to the Seismic Bonus is being considered.
- The **European projects** on sustainable buildings involving at national level in Italy trade unions, employers' organisations, representatives of professional associations and environmental organisations, experts, universities and other relevant organisations (such as, for instance, Build Upon, BRICKS, I-TOWN, Construction 21 projects).

AT LOCAL LEVEL

The interventions for the energy improvement of buildings based on an intersectoral and integrated approach (through the involvement of condominiums, financial institutions and ESCOs for the implementation of Sustainable Energy Action Plans together with local administrations; some experiences of urban planning and building of public housing grounded on the sustainability paradigm and agreed with the trade unions; etc.).

- The launch of **round tables on urban renewal** to agree on interventions and experiments based on formal agreements and protocols involving local authorities, trade unions, employers' organisations, building companies, universities, professional associations, etc. (for example, the "Pact for urban generation Urbanmeta" Manifesto in Veneto Region was signed in 2015 by ANCE Veneto, the University of Padua, Fillea, Filca, Feneal, Unioncamere, architects, the National Institute of Urban Planners and Legambiente).
- The training of workers (training of young BIM managers promoted in Lombardy by Assimprendil_ANCE, Fondimpresa and Milan Polytechnic University in 2016; interventions by the Building School of Taranto aimed at engineers, architects and surveyors on urban regeneration and environmental sustainability, promoted by the Polytechnic University of Bari and the associations of architects, engineers and surveyors).
- Knowledge management activities (setting up the network Building Smart Italia, an association supporting the digitalisation of the production chain of the construction industry, connecting key players interested in digital interoperability in the sector, set up by the Polytechnic University of Milan with software and building companies and branch employers' organizations; the "Abitare Mediterraneo" platform for research and experimentation in eco-sustainable buildings, promoted in 2015 by Tuscany Region with the University of Florence, Unioncamere, the network of companies in the wood supply chain, ANCE, Formedil, Legambiente).
- Information and awareness-raising activities among the public (the drafting of the *Guide to energy consumption in the home*, prepared by the SPI-CGIL, Fillea, Auser, Sunia, Federconsumatori and other organisations in 2013; the project *Ecological Courtyards* for the reduction of energy consumption at household level, promoted in 2012 by the Municipality of Padua with Legacoop nazionale, Finabita, Tuscany Region, Emilia Romagna Region, Ancc-Coop; the delivery of a proposal for energetic saving and efficiency to 643,000 owners of public and private buildings in 2015 in the Marche Region, implemented on the basis of an agreement involving building companies, trade unions, citizens' association and the Municipality of Fermo).

5.1.2. Strengthening the current tools

- To make the most of the Covenant of Mayors for Climate and Energy for the implementation of SEAPs (Sustainable Energy Action Plans submitted under the 2020 Covenant) and SECAPs (Sustainable Energy and Climate Action Plans submitted under the 2030 Pact), undersigned in Italy by 3,905 municipalities out of roughly 8,000.
- To restart the previous collaboration of the three main trade unions with environmental organisations on the topics of innovation and sustainable building, extending it to professional associations and other relevant key players in the wider production chain, also in order to better disseminate information and knowledge.
- To exploit the International Framework Agreements and European Works Councils in the construction sector.
- To make the most of the bilateral bodies in the construction sector to define a training offer that satisfies the needs the requirements of the transition towards sustainability.

5.1.3. New tools

- The establishment of a permanent governmental structure for social dialogue (a committee or a working group) at national and regional level on the issues of sustainable building, involving all the stakeholders among workers and business, research and innovation, environmentalism and the general public
- The participation of trade unions in negotiation and planning activities on local development and regional energy policies, as well as in disputes on reconversion and the dismantling of industrial plant.
- The launch of alliances and partnerships between key players in the wider construction industry (local authorities, universities and academies, companies, social partners, environmental organisations, etc.).
- The establishment of working groups on behalf of trade unions federations at intersectoral level (particularly in construction and public research).

- Making the most of pre-existing opportunities for businesses, local authorities, universities and academies, social partners, CSOs and environmental organisations to meet together (e.g. the *Solar Decathlon*), with a widening of participation in the events.
- The collection and dissemination at national level of information about **social** dialogue initiatives on green building already undertaken at local level.

5.2. Areas of action

5.2.1. Policies and legal framework

- Apply the perspective of sustainability and the circular economy at every level (national, regional, local) of the policies concerning sustainable construction through the adoption of an integrated and intersectoral approach: not only energy efficiency, industrialisation, research and development, but also satefy, planning and urban regeneration (paying attention to the outskirts and metropolitan areas), urban resilience to climate change, quality of life and living.
- Strengthen the dialogue with national institutions in order to make them assume a clear position on sustainable building and promote the establishment of an space for social dialogue on the issue, within which all participants should clearly define their own role and assume their own responsibilities.
- Define a national strategy for the transition towards sustainable building which integrates the various areas (at present, the Ministry for Economic Development is preparing the new National Energy Strategy, while the Ministry for the Environment is drafting the Strategy on Energy and Climate). Responsibilities should be clearly defined and the strategy should be outlined at regional and local level as well.
- Support the national strategy for the transition towards sustainable building by establishing a multi-level governance structure led by a steering panel (which should include the Government, social partners and CSOs), responsible for the coordination of all relevant stakeholders.
- Promote the definition of a sustainable industrial project including the overall supply chain in the construction industry (building and construction materials).

- Encourage the creation of public demand for the sustainable construction sector, beginning with interventions for the requalification of certain strategic areas (such as school buildings, areas affected by earthquakes, public housing, hospitals, etc.) and exploiting pre-existing tools such as, for example, the network of the Covenant of Mayors for Climate and Energy for the Implementation of SEAPs (Sustainable Energy Action Plans submitted as part of the 2020 Pact) and SECAPs (Sustainable Energy and Climate Action Plans submitted under the 2030 Pact).
- Encourage a process of critical review of the current mechanisms for energy certification (which are not all aligned among the Regions) involving institutions, local authorities, companies, environmental organisations, professional associations and the public. The procedures, criteria and controls should be defined within the framework of the sustainability and product life-cycle approaches, and data should be inserted in a simplified way into a single construction register (for example, the Single Record of Buildings). Furthermore, the introduction is suggested within the system of indicators used for the implementation of certification activities concerning the health and safety of workers and the general public.
- Ask for guidance in and the coordination of policies concerning sustainable building of the Member States at European level, based on dialogue and consultation among the different stakeholders (a bottom-up approach) and not only on the emission of directives (a top-down one).
- Complete the adoption of the European directives concerning sustainable building.
- Outline how to improve the incentives for energy efficiency and urban and building renewal by making them more stable in the medium and long term, paying particular attention to targets such as poorer citizens and people in public housing or condominiums. ESCOs (Energy Service Companies) should be strengthened and the credits of owners/tenants (included the less well-off) obtained thanks to energy, restructuring or anti-seismic safety measures should be transferable to banks and financial institutions (possibly through a rewards system depending on the scale of the intervention, the single housing unit, the condominium, the group of more than one condominium).

- Sustain a sensitivity towards sustainability in housing policies, both at macro level (metropolitan areas, municipalities, regions), and at micro level (condominiums, districts, outskirts, abandoned areas to be re-used, etc.)
- Support the businesses in the construction industry not only to acquire information and access economic and financial opportunities, but also in order to build their capacities for establishing relations with the key players at local level (local authorities, research bodies, universities, financial institutions, etc.), to allow them to enter the network of the supply chain and form alliances and partnerships.
- Intervene in the regulation of the building market to ensure competition among companies in the industry is based on the quality of products and production processes and not on the reducing of costs. From the point of view of certification and environmental requirements, the introduction in the New Code for Public Tendering (Dlgs. 50/2016) of mandatory environmental and energetic efficiency criteria in any tender on behalf of all the contracting parties, is very interesting. The new code was defined as the result of consultations between Government and trade unions. In this framework an action in the tendering system would seem to be appropriate, in order to avoid the award being made based on the lowest price, ensuring the application of the National Collective Labour Contract for building more stringent and certain in comparison to other collective contracts which result in salary, training and safety dumping.
- Foster the participation of trade unions at local level in negotiation and planning activities on local development and regional energy policies, as well as in disputes on reconversion and the dismantling of industrial plants.
- Support simplified regulatory and town planning tools, rewarding projects that deal with regeneration and reconversion towards other uses of public or private assets (recovered in favour of local communities) through fast-track for assessment, control and certification.

5.2.2. Working conditions and new skills

 Adapt training in the building sector to current demand (continuous training, retraining of workers from redundant plants, secondary and tertiary education for young people) rescheduling the contents on the basis of the sustainability

paradigm, in order to cope with the shortage of qualified workers and the need to develop new skills and profiles.

- Make the most of existing bilateral bodies in the construction sector in order to adapt and widen the training offer for workers (giving value to training already delivered by the Building Schools, also in connection to technical secondary education and the universities).
- Increase and improve the levels of public inspection on working activities on construction sites, making full use of tools such as the DURC for legality²⁸ and the weekly register of work on the site, both for safety reasons and in order to block the black economy and illegal work.
- Align the contracts of workers who belong to companies involved in different areas of the construction supply chain and operate with different professionalisms on the same work site (site contract), also in order to contrast the phenomenon of wage dumping, according to the principle of applying the contract that delivers the best treatment to workers on the work site. This principle should be twofold: a single contract for each site, selecting the one providing greater protection in terms of wages, training, health and safety.
- Pay attention to the new health and safety risks related to sustainable building activities, in light of the data provided by INAIL (National Institute for Insurance against Accidents at Work), the inadequate training offer and the very high average age of the workers of the industry.

5.2.3. Technology, knowledge and innovation of the productive process

- Establish a governmental structure for social dialogue on issues of sustainable building involving all the stakeholders from research, development and innovation organisations, the world of work, production and civil society, through the setting up of a permanent committee or working group at national and regional level.
- Increase public, basic and applied research on sustainable building and new construction materials (wood, brick, new generation cement) in order to

²⁸ The DURC is a document released by the Construction Fund together with INAIL (National Institute for Insurance against Accidents at Work) and INPS (National Social Insurance Agency) certifying the regularity of contributions by the company.

encourage the introduction of process and product innovation and to study the new risks to the health and safety of workers and the public caused by the use of chemical agents and products created with innovative materials (for example, through nano-technologies).

- Support process innovation and industrialisation of the sector, integrating all the players involved in the extended supply chain, including the manufacturing plants delivering products and materials.
- Connect the interventions supporting product and process innovation and the industrialisation of companies in the supply chain of sustainable building to the paradigm of the circular economy, starting from a policy aimed at the recovery of building materials (reduction of land-fill use, recycling of components and semifinished products).
- Accompany the transition towards sustainable building through digitalisation, making the most of BIM tools and the industrialisation of the construction process. At the same time, pay attention to safeguarding employment levels and quality of work.
- Facilitate the exchange of practices and information among those companies in the construction industry already sensitive to sustainability.
- Make public the information in databanks and other centralised big data systems concerning actions on energy efficiency in the building sector in order to assess their efficacy and impact and be able to adjust existing measures and incentives, if necessary.
- Make the most of pre-existing social-dialogue tools devoted to sharing information and managing knowledge on green building, also in order to spread information about social dialogue at local level and define the conditions for their dissemination and duration over time.
- With this in mind, relaunch collaborative activities previously undertaken on these topics with environmental organisations, professional associations and research institutes.

5.2.4. Cultural dimension

- Increase awareness-raising and communication activities on the subject of sustainable building (incentives and fiscal allowances, national and local programmes, certification activities, opportunities for the promotion of integrated actions in the territory, measures for energy requalification and urban renewal, etc.), providing clear and transparent information to the public, families living in a defined area/district/neighbourhood, professional associations, trade unions and companies.
- Disseminate information on good practices carried out at local level grounded in the active participation of the different parties in the enlarged social dialogue, paying particular attention to the implementation of integrated actions of sustainable building.***

5.3. Directions for social dialogue at European level

In order to strengthen European social dialogue it is necessary to adopt a multistakeholder approach with the involvement of the social partners, institutions, experts and civil society, also reinforcing relations between European and national levels.

In particular, workshops and interviews underline some key points to strengthen European social dialogue:

- supporting the creation of committees, observatories, forums and working groups focused on specific issues (e.g. green building and urbanisation, research and innovation, professional training, etc.);
- considering the complex value chain of the building sector, the process of industrialisation and the circular economy;
- considering the introduction of technological innovations in productive processes, in the planning and construction of buildings (e.g. BIM), in the organisation of production and labour;
- considering the existing formal and informal national networks to support the exchange of best practices of social dialogue.

European social dialogue should be directed towards a number of relevant actions:

- defining European strategies considering economic and social specificities at national and local level, identifying priority areas of intervention considering various relevant critical points, such as: pollution, urbanisation, seismic and hydro-geological risks, etc.;
- promoting European directives to support the development of national interventions;
- promoting vocational training considering both the low- and high-skilled professions, with particular attention to the inclusion of young people and women;
- promoting training for the decision-makers and stakeholders;
- promoting the updating of professional training also taking into consideration new technologies and processes of digitalisation;
- financing green buildings and the re-qualification of old buildings with long-term strategies, also from the point of view of social housing;
- promoting a standardisation of building certification criteria with the aim of creating a common framework that is able to consider national specificities;
- financing public research and supporting the network between academia and businesses;
- supporting the creation of international academic networks;
- promoting the exchange of good practices aimed at zero-impact building interventions;
- promoting employment and organisational policies aimed at respecting the principles of decent work.

References

AgenziaEntrate (2017), Ristrutturazioni edilizie: le agevolazioni fiscali (4 giugno 2017).

ANAEPA Confartigianato (2015), Il tempo dell'incertezza. Rapporto ANAEPA-Confartigianato Edilizia 2015.

ANCE (2015a), L'industria delle costruzioni: struttura, interdipendenze settoriali e crescita economica, Direzione Affari Economici e Centro Studi (a cura di).

ANCE (2015b), Osservatorio congiunturale sull'industria delle costruzioni, Direzione Affari Economici e Centro Studi (a cura di).

ANCE (2016a) *Allegato ANCE Congiuntura Febbraio 2016*, aggiornato al 18 febbraio 2016.

ANCE (2016b), Una politica industriale per il settore delle costruzioni. Le proposte dell'ANCE, 21 giugno 2016.

ANCE (2016c), Osservatorio congiunturale sull'industria delle costruzioni. Sintesi, Luglio 2016.

ANCE (2017a), Osservatorio congiunturale sull'industria delle costruzioni. Gennaio 2017.

ANCE (2017b), Rivoluzione industriale 4.0 quale modello da applicare al tessuto industriale italiano. Strumenti per favorire la digitalizzazione delle filiere industriali nazionali. Indagine conoscitiva.

ASVIS (2017), L'Italia e gli Obiettivi di Sviluppo Sostenibile. Rapporto ASVIS 2017.

Bellicini L. (2016), "Rivoluzione? L'impatto della digitalizzazione nel settimo ciclo edilizio delle costruzioni", in *Dedalo*, Numero Quarantatre, gennaio-febbraio 2016.

Bellicini L. (2016), "Bigger and better": nuovi modelli di crescita urbana, CRESME.

Bonacci E. (2016), La normativa e i requisiti sulla riqualificazione energetica del costruito in Italia "Contenuti chiave del D.lgs 102/2014 e i D.M. 26 Giugno 2015", presentazione, kick off meeting del progetto BUILD Upon, Roma, 6 maggio 2016.

Build Up Skills (2014), EU Overview Report, Staff Working Document.

Camera dei Deputati (2015), Il recupero e la riqualificazione energetica del patrimonio edilizio: una stima dell'impatto e misure di incentivazione, Roma, n. 83/2,8 ottobre 2015.

CERVED (2016), Prosegue il calo di fallimenti e procedure non fallimentari. Dati aggiornati al primo trimestre 2016, maggio 2016.

CGIA (2016), La crisi ha affossato l'artigianato: molti i mestieri in via di estinzione, 13 febbraio 2016.

Ciribini A. et al. (2015), La validazione del contenuto informativo è la chiave del successo di un processo BIM-based.

Ciribini A. (2016), "Le frontiere della ricerca nell'ambito digitale", in *Dedalo*, Numero Quarantatre, gennaio-febbraio 2016.

Confindustria, CGIL, CISL, UIL (2011), Avviso Comune: Efficienza energetica, opportunità di crescita per il Paese, 21 dicembre 2011.

D'Ercole G. (2016), "Le relazioni industriali nella green economy", in *Nuovi Lavori*, n. 175, 31 maggio 2016.

Dall'O' G. (2011), Green Building Economy, Ed. Ambiente.

Della Torre S. (2016), "Sviluppo delle competenze e dell'interoperabilità. L'azione di Building Smart", in *Dedalo*, Numero Quarantatre, gennaio-febbraio 2016.

Domenighini G. (2016), "I nuovi strumenti, la formazione, i servizi: inquadriamo il BIM anche grazie all'azione associativa", in *Dedalo*, Numero Quarantatre, gennaio-febbraio 2016.

EC (2016), European Construction Sector Observatory. Country Profile: Italy, January 2016.

EC (2017), Riesame dell'attuazione delle politiche ambientali dell'UE. Relazione per paese. ITALIA. Documento di lavoro dei servizi della Commissione, SWD(2017) 47 final, 3.2.2017.

EEA (2016), More from less. Material re source efficiency in Europe. Italy Country Profile, May 2016.

ENEA (2015a), Rapporto annuale sull'efficienza energetica RAEE 2015, Roma.

ENEA (2015b), BRICKS Informa, Newsletter n. 1, Maggio 2015.

ENEA (2015c), BRICKS Informa, Newsletter n. 2, Luglio 2015.

ENEA (2015d), BRICKS Informa, Newsletter n. 3, Ottobre 2015.

ENEA (2016a), Rapporto annuale efficienza energetica 2016.

ENEA (2016b), BRICKS Informa, Newsletter n. 4, Gennaio 2016.

ENEA (2017), Rapporto annuale efficienza energetica. Analisi e risultati delle policy di efficienza energetica del nostro paese.

Energy&Strategy Group (2016), Energy Efficiency Report, Politecnico di Milano.

Eurofound (2011), *Industrial relations and sustainability:* the role of social partners in the transition towards a green economy, Dublin.

Eurofound (2015a), Representativeness of the European social partners organizations: Construction sector, Dublin.

Eurofound (2015b), Italy: Working life country profile, Dublin.

EUROSTAT (2015), *Industry and construction stastistics – short term indicators*, Data from October 2015.

EUROSTAT (2016), April 2016 compared with March 2016, Production in construction down by 0.2% in euro area, Up by 0.4% in EU28, Newsrelease, 124/2016 – 20 June 2016.

Federcostruzioni (2015), Rapporto 2015. Il Sistema delle costruzioni in Italia, Roma.

Federici A. (2016), La STREPIN e la riqualificazione in Italia, presentazione, kick off meeting del progetto BUILD Upon, Roma, 6 maggio 2016.

Fillea CGIL (2015a), Politiche abitative. Newsletter n. 4.

Fillea CGIL (2015b), Politiche abitative. Newsletter n. 18.

Fillea CGIL (2015c), Politiche abitative. Newsletter n. 21.

Fillea CGIL (2015d), Politiche abitative. Newsletter n. 23.

Fillea CGIL (2016), Innovazione e sostenibilità. Aggiornamento IV trimestre 2015.

Fondazione Symbola (2016), GreenItaly 2016. Rapporto 2016.

Fondazione Symbola (2017), GreenItaly 2017. Rapporto 2017.

FORMEDIL (2015a), Innovazione e formazione. L'edilizia oltre la crisi. Rapporto Formedil 2015, Roma.

FORMEDIL (2015b), Linee di azione per un piano biennale attività ottobre 2015settembre 2017.

FORMEDIL (2016), WP2 – Rapporto di ricerca sui fabbisogni formativi dei lavoratori nel campo dell'efficienza energetica degli edifici e della bioedilizia. Rapporto di sintesi, I-Town.

Fusco C. (2016), "La città diventa sostenibile soltanto con il dialogo sociale", in *Nuovi Lavori*, n. 170, Anno 9, 22 marzo 2016.

Il Sole24Ore (2016), Regolamento edilizio. Argomenti, 26 febbraio 2016.

ISTAT (2014b), Edifici e abitazioni. 15° Censimento generale della popolazione e delle abitazioni 2011, 11 agosto 2014.

ISTAT (2014a), L'innovazione nelle imprese. Anni 2010-2012, Statistiche report, 4 dicembre 2014.

ISTAT (2016a), *Produzione nelle costruzioni e costi di costruzione. Aprile 2016*, Statistiche flash, 20 giugno 2016.

ISTAT (2016b), Rapporto annuale 2016. La situazione del paese.

Italia Lavoro (2015), Gli Enti Bilaterali in Italia. Rapporto 2015, Roma.

I-TOWN (2015), Analisi dello stato dell'arte, dei sistemi di valutazione della sostenibilità esistenti per l'individuazione delle macro-aree di formazione in edilizia, WP3.

I-TOWN (2016), Rapporto di ricerca sui fabbisogni formativi dei lavoratori nel campo dell'efficienza energetica degli edifici e della bioedilizia, WP2.

Legambiente (2016), Comuni rinnovabili.

Legambiente (2016), Materia rinnovata. Quanto è circolare l'economia: l'Italia alla sfida dei dati, Ed. Ambiente.

Legambiente/CNAPP (2016), Osservatorio e-Lab. L'innovazione nel'edilizia italiana. Dalle Direttive ai Regolamenti Edilizi Comunali, lo scenario dell'innovazione energetica e ambientale ne territorio italiano.

MATTM (2017a), Strategia Nazionale di Sviluppo Sostenibile. Bozza 2.0 (13 marzo 2017).

MATTM (2017b), Relazione sullo Stato dell'Ambiente 2016.

MATTM/MISE (2017), Verso un modello di l'economia circolare per l'Italia. Documento di inquadramento e di posizionamento strategico. Documento di consultazione pubblica (Luglio 2017).

MEF (2017), Documento di Economia e Finanza 2017. Sezione III Programma Nazionale di Riforma.

MISE (2016), Relazione annuale sul'efficienza energetica. Risultati conseguiti e obiettivi al 2020.

OISE (2014), Innovazione e sostenibilità nel settore edilizio. "Costruire il futuro", Terzo rapporto dell'Osservatorio congiunto.

OISE (2015), Innovazione e sostenibilità nel settore edilizio. "Costruire il futuro", Quarto rapporto dell'Osservatorio congiunto.

Pavan A. (2016), "INNOVance un progetto di filliera per a digitalizzazione (BIM) del settore costruzioni", in *Dedalo*, Numero Quarantatre, gennaio-febbraio 2016.

RSE (2015), Edifici energeticamente efficienti: un'opportunità, Editrice Alkes, San Giuliano Milanese.

Rugiero S. (2012), "L'efficienza energetica in Italia: competenze e figure professionali emergenti per la green economy", in *Argomenti*, n. 35, pp. 53-75.

Rugiero S., Di Nunzio D., Galossi E. (2014), *Nuovi modelli di abitare e di produrre. La trasformazione del lavoro, del cantiere e della* contrattazione nell'edilizia sostenibile, Ediesse, Roma.

Rugiero S., Notargiovanni S. (eds.) (2011), Lotta ai cambiamenti climatici, efficienza energetica e fonti rinnovabili: gli investimenti, le ricadute occupazionali e le nuove professionalità, Rapporto di Ricerca IRES.

Rustico L., Tiraboschi M. (2010), "Le prospettive occupazionali della green economy tra mito e realtà", in *Diritto delle Relazioni Industriali*, n. 4, Giuffré Editore.

Senato della Repubblica (2016), *Documento di economia e finanza 2016*, Doc. LVII, n.4, aprile 2016.

Tomassetti P. (2015), "Conversione ecologica degli ambienti di lavoro, sindacato e salari", in *Diritto delle Relazioni Industriali*, N.2/XXV, Giuffré Ed., Milano.