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Glass to Power’s successful crowdfunding campaign

Glass to Power’s successful crowdfunding campaign on CrowdFundMe.it was successfully completed last July! The investors’ response to our disruptive technology was immediate and enthusiastic, and in less than two weeks after the launch of the initiative, the target was reached: €183,750, the exact amount required by our capital increase, were raised by more than 50 new shareholders. This remarkable operation will give Glass to Power the energies to continue its march towards the product, investing in R&D and intensifying its marketing activities. In fact, plenty of events will await us during the Autumn: we will keep you up to date! Today, the company is evaluated at 1.5 M€ with a net capital of 600,000€. By mid-2018, an additional relevant capital increase is expected as well as the transformation of Glass to Power into a limited liability company.

Glass to Power at Key Energy 2017

Glass to Power will be part of Key Energy, the leading fair of Energy and Sustainable Mobility, to be held in Rimini Fiera from 7 to 10 November, together with Ecomondo, the large green economy and circular platform. Key Energy, following the broad theme of climate change, presents industrial solutions and urban applications of energy efficiency, renewable energies, mobility and sustainable cities. Come and visit us at Pavilion B7, where Key Solar, the new exhibition area, to be launched during this edition, will be dedicated to the most innovative solar technologies.

On November 9, at 2.30 pm, do not miss the seminar “The frontiers of innovation in the solar”, which will be attended by Professor Sergio Brovelli, chair of Glass to Power’s Scientific Committee. Join the crowd!
PANZEB: National Action Plan to boost nZEBs

Considerato che l'efficienza energetica rappresenta la prima priorità d'azione della Strategia energetica nazionale in Italia e che il settore dell'edilizia, in ambito nazionale, rappresenta un elemento dalle grandissime potenzialità al fine del raggiungimento degli obiettivi di risparmio energetico indicati dal Paese al 2020, nel 2011 il 19° Piano di sviluppo nazionale per incrementare il loro numero tramite gli strumenti edilizio, fondi strutturali 2014-2020); e tracciando gli orientamenti e le linee di azione su cui si intende puntare per il loro conseguimento, le criticità da superare e le possibili soluzioni strategiche. Panzeb chiara il significato di nZEB (nearly Zero Energy Building - Edificio a energia quasi zero) come ogni edificio, nuovo o esistente, che soddisfa i requisiti minimi vigenti dal 1° gennaio 2019 per gli edifici pubblici e dal 1° gennaio 2021 per tutti gli altri edifici, risultano inferiori ai valori dei corrispondenti indicizzazione dell'indice di prestazione energetica, che si intende citare come caso di studio per l'analisi delle prestazioni energetiche di edifici residenziali, dovuto in misura maggiore alle soluzioni impiantistiche associate con transparent photovoltaic systems, orizzontali, un aumento dei costi di investimento e pertanto il Panzeb analizza i costi di realizzazione, per gli edifici nuovi e per quelli esistenti, connessi al raggiungimento delle prestazioni energetiche minime. Si può notare in figura che l'aggregazione dei costi è, per gli edifici residenziali, dovuto in misura maggiore alle soluzioni impiantistiche adottate e che, infine, costi di realizzazione degli edifici adibiti ad uffici si rimarca, invece, un peso maggiore delle superfici vetrate (più costose rispetto all'involvere opaco), mentre soluzioni quali l'installazione di pannelli di calore possono già essere considerate come standard e non risultano, quindi, come un costo aggiuntivo. Una riflessione, che ad oggi si può fare alla luce delle ultime importanti innovazioni tecnologiche connesse con il fotovoltaico trasparsente, è che questi sistemi, se applicati, renderebbero gli edifici nZEB ancora più vincenti di altri modelli sulla voce costo. Panzeb fa anche una fotografia del parco immobiliare nazionale, anche detta Strepin, prevista dal decreto 4 luglio 2014, no. 102 e in corso di emanazione, indice altresì in particolare, gli obiettivi di raggiungimento di linee di azione su cui si intende puntare per il loro conseguimento, le criticità da superare e le possibili soluzioni strategiche. 

PANZEB: National Action Plan to boost nZEBs

Considering that energy efficiency is the first priority of the National Energy Strategy in Italy and that the construction sector in the country is an element of great potential in order to achieve the energy saving targets by 2020, the Ministry of Economic Development, in line with the European Directives on the energy performance of buildings, has recently published the Interministerial Decree of 19 June, approving the "National Action Plan to boost near-Zero Energy Buildings" pursuant to art. 4-bis-paragraph 2 of Legislative Decree no. 192 of 2005, together with the Plan itself (Official Gazette No. 187 of 11 August 2017). This plan (Panzeb) was elaborated by a working group composed of ENEA, RSE and CTI, with the coordination of the Ministry of Economic Development. To complement this plan, the Strategy for the energy renewal of the national real estate, also known as Strepin, provided for by the Legislative Decree of July 4, 2014, no. 102 and in the process of being provided. It also indicates in particular the objectives to be achieved, the lines of action to follow, the critical points to overcome and the possible strategies to be adopted. Panzeb clarifies the meaning of nZEB (near Zero Energy Building) as any building, either new built or already existing, where, on the other hand, the energy performance indices, calculated according to the minimum requirements effective from January 1, 2019 for public buildings and from January 1, 2021 for all other buildings, are lower than the values of the corresponding indices calculated for the reference building (a virtual building geometrically equivalent to the one designed but equipped with all current energy parameters and minimum thermal characteristics); and where, on the other hand, the obligations to integrate renewable resources are respected in compliance with the minimum principles set out in Annex 3 (1) (c) of Legislative Decree no. 28. The plan document contains an assessment of the energy performance index for some buildings of different categories and with different intended use and climatic zone chosen from those analyzed in previous studies. It should be noted that in order to meet the requirements of the nZEBs and in particular the requirement for renewable energy, it will be essential to assess the use of the heat pump (possibly centralized and combined for the production of thermal energy for heating, hot water and cooling) possibly associated with photovoltaic systems, if necessary to achieve the renewable share.

Realizing a building with elements and technologies that will allow high performance levels, obviously leads to an increase in investment costs and therefore Panzeb analyzes the overhead investment costs for new and existing buildings related to the achievement of the nZEB targets. The table shows that the cost increase for residential buildings is due more to the system solutions adopted rather than to measures related to the insulation of the building envelope. In office buildings, however, there is a greater burden on glazed surfaces (more expensive than opaque ones), while solutions such as heat pumps can already be considered as standard and therefore do not represent an additional cost. A reflection, which can now be done in light of the latest major technological innovations associated with transparent photovoltaic systems, is that these systems, if applied, would make nZEBs even more successful than other models on the cost variable. Panzeb also pictures the national real estate by identifying a possible scenario for nZEBs in Italy, highlighting the many tools for promoting energy efficiency in construction at the national level and based on incentives (heat account, tax deductions for energy renewal of buildings, structural fundings 2014-2020); mapping national guidelines to increase their number through existing regulatory and financial instruments and reporting a framework of programs promoted by the Regions to boost nZEBs. Panzeb is an important point of reference for all those professionals or entrepreneurs who want to introduce zero-energy buildings to the market and it also stimulates considerable reflections on the implementation of nZEBs not only in Italy but also in countries with a typical Mediterranean climate.

Francesco Paolo Lamachia
President of the first Italian Network of Zero-Energy Buildings

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**Level(s)**, pubblicato lo scorso agosto dalla Commissione Europea, rappresenta uno strumento strategico per le politiche dell’Unione che interessano il patrimonio immobiliare e costituisce un passaggio chiave per una moltitudine di portatori di interesse nell’evoluzione che dall’efficienza energetica conduce all’implementazione di strategie per l’economia circolare e la sostenibilità. **Level(s)** è infatti il primo *common framework* di indicatori e metriche per la misura delle prestazioni di sostenibilità degli edifici, residenti e aziendali, sviluppato con un piano di azione per l’economia circolare, formulato dal 2013, dai Direttori Generali Ambiente e Crescita della Commissione, con la collaborazione del Joint Research Center (JRC) e la partecipazione multi-setoriale di numerosi stakeholders, tra cui i distributori non governativi, associazioni settoriali europee della filiera dell’edilizia, pubbliche amministrazioni e aziende della filiera immobiliare e Saint Gobain. Hanno collaborato anche detentori di schemi di certificazione della sostenibilità degli edifici presenti sul mercato, la Sustainable Building Alliance e il World Green Building Council, con il coinvolgimento dei Green Building Council nazionali, tra i quali GBC Italia. Tra i riferimenti di chiave di **Level(s)** si concretamente indica la Commissione della Commissione COM(2012) 433, che ha identificato il roadmap per un Europa efficiente nell’impiego delle risorse; la COM(2014) 445, che ha approfondito le opportunità per migliorare l’efficienza delle risorse nell’edilizia, riducendo l’impatto degli edifici sull’ambiente incrementando ad uno tempo la resource-efficiency e la competitività del settore delle costruzioni in Europa; la COM(2014) 445 con la delineazione di una metodologia comune e di indicatori chiave per la misura delle prestazioni energetiche lungo il ciclo di vita degli edifici; la COM(2015) 614 ed il piano di azione per l’economia circolare, che sottolinea la necessità di significativi miglioramenti del settore che riducono gli impatti ambientali e incrementano la durabilità e la riciclabilità dei componenti edili. Più recentemente, la COM(2016) 860 presenta un’agenda che persegue l’obiettivo dell’acquisizione della “energia zero” edifici. Il rapporto della Commissione sull’implementazione del piano di azione per l’economia circolare, COM(2017) 33, conferma la necessità di proseguire speditamente con riferimenti certi per gli investitori, e in generale, per gli attori economici, onde poter beneficiare tutti i cittadini europei.

**Level(s)**, operates on an open source and freely available reporting framework, to serve as a voluntary, open source and freely available framework for real estate and stakeholders that for a number of reasons today are not in a position to look directly at sustainability certifications. Focusing on the most important aspects of a building’s performance, **Level(s)** provides access to those who intend to address *green buildings*, with a tool that allows to adapt to the specific needs and competencies necessary to build, buy or manage buildings that consume less energy, water and materials, are healthier and more comfortable, have lower operating costs and greater future financial value. **Level(s)** aims primarily at increasing awareness and demand for more sustainable buildings by public and private entities and at disseminating knowledge on resource efficiency to support decision making of all the actors along the construction chain (demand) and owners and investors. **Level(s)** allows three different degrees (or levels) in its application, with increasing complexity, accuracy and benefits, hence the name of the toolkit. These levels correspond to a baseline evaluation (L1), a comparative evaluation (L2), and an evaluation for optimization (L3). As the levels grow, the necessary technical capabilities, accuracy and reliability of the data also grow. The 9 indicators of **Level(s)** are designed in relation to 6 priorities (or macro-objectives), divided into 3 thematic areas: environmental performance in the life cycle; health and comfort; cost, value and risk. As anticipated, **Level(s)** has a considerably extended scope, new construction or major renovation of individual residential and office buildings, the development of multiple buildings with the same intended use, portfolio of office buildings and housing stocks and it addresses 6 categories of stakeholders, with reference to public and private projects and property owners, developers and investors, design teams, contractors, agents, property and facility managers, organizations that occupy buildings. The testing stage of **Level(s)** will start in Autumn 2017 and could be joined by public and private subjects. In the next articles, contractors, agents, stakeholders, partners (Level(s)) and what benefits they can get, we will describe in detail the structure of the reporting tool and consider its performance indicators. If you want to know more about how to adopt **Level(s)** during 2017-19, you can register your interest at EU Survey [https://ec.europa.eu/eusurvey/runner/level(s)] or contact CRISCON info@criscon.eu for more information.

Sebastiano Cristoforetti
Senior Advisor and Consultant
CRISCON III Construction Sustainability

**Level(s)**, published last August by the European Commission, is a strategic tool for EU policies affecting real estate and is a key step for a multitude of stakeholders in that from improving building energy efficiency and the implementation of strategies for *circular economy* and sustainability. **Level(s)** is the first *common framework* of indicators and metrics measuring sustainability performances of residential and office buildings. It has been developed, along a path whose preliminary steps date back to 2013, by the EU Commission General Directorate for Environment and Climate Action and the Joint Research Center (JRC) and the multisectoral participation of numerous stakeholders, including NGOs, European sectoral organizations of the building industry, public administrations and leading companies such as Skanska and Saint Gobain, Sustainability Certification Scheme owners, the Sustainable Building Alliance and the World Green Building Council, and co-operated with the involvement of national Green Building Councils, including GBC Italia. Among the key **Level(s)** references, are the Commission Communication COM(2012) 433, which identified the roadmap for a resource-efficient Europe; COM(2014) 445, which explored opportunities to improve the efficiency of resources in buildings by reducing their impact on environment, increasing at the same time the competitiveness of the construction sector in Europe; COM(2014) 445 with the delineation of a common methodology and key indicators for measuring environmental performance of buildings; COM(2015) 614 and the Action Plan for Circular Economy, which underlines the need for significant sectoral improvements that reduce environmental impacts and increase the durability and recyclability of building components. More recently, the COM(2016) 860 presented a sustainable buildings certification scheme, owners, the Sustainable Building Alliance and finally available, is a voluntary, open source and freely available framework for real estate and stakeholders that for a number of reasons today are not in a position to look directly at sustainability certifications. Focusing on the most important aspects of a building’s performance, **Level(s)** provides access to those who intend to address *green buildings*, with a tool that allows to adapt to the specific needs and competencies necessary to build, buy or manage buildings that consume less energy, water and materials, are healthier and more comfortable, have lower operating costs and greater future financial value. **Level(s)** aims primarily at increasing awareness and demand for more sustainable buildings by public and private entities and at disseminating knowledge on resource efficiency to support decision making of all the actors along the construction chain (demand) and owners and investors. **Level(s)** allows three different degrees (or levels) in its application, with increasing complexity, accuracy and benefits, hence the name of the toolkit. These levels correspond to a baseline evaluation (L1), a comparative evaluation (L2), and an evaluation for optimization (L3). As the levels grow, the necessary technical capabilities, accuracy and reliability of the data also grow. The 9 indicators of **Level(s)** are designed in relation to 6 priorities (or macro-objectives), divided into 3 thematic areas: environmental performance in the life cycle; health and comfort; cost, value and risk. As anticipated, **Level(s)** has a considerably extended scope, new construction or major renovation of individual residential and office buildings, the development of multiple buildings with the same intended use, portfolio of office buildings and housing stocks and it addresses 6 categories of stakeholders, with reference to public and private projects and property owners, developers and investors, design teams (architects and engineers), construction and demolition companies, construction managers, lead contractors, estate agents, property and facility managers, organizations that occupy buildings. The testing stage of **Level(s)** will start in Autumn 2017 and could be joined by public and private subjects. In the next articles, contractors, agents, stakeholders (Level(s)) and what benefits they can get, we will describe in detail the structure of the reporting tool and consider its performance indicators. If you want to know more about how to adopt **Level(s)** during 2017-19, you can register your interest at EU Survey [https://ec.europa.eu/eusurvey/runner/level(s)] or contact CRISCON info@criscon.eu for more information.
Glass to Power at Europe-Korea Conference in Stockholm

Dal 26 al 29 luglio Glass to Power ha partecipato alla decima edizione dell’Europe-Korea Conference on Science and Technology (EKC - http://www.ekc2017.org) evento annuale organizzato dai ricercatori coreani in Europa per mettere in contatto realtà scientifiche e industriali del loro paese di provenienza con quelle del vecchio continente. Glass to Power ha tenuto un invited talk dal titolo “Next generation quantum-dot nanocomposites for photon management and energy applications, towards building-integrated solutions for zero energy cities” nell’ambito del simposio “Nanomaterials for energy and medicine” organizzato dal Prof. Taeghwan Hyeon, presidente del “center for nanoparticle research, IBS” e professore all’università di Seoul. Alla conferenza hanno partecipato nomi di spicco della comunità scientifica europea e importanti aziende coreane di fama mondiale come Hyundai Motor Company e LG. L’evento si è rivelato un’ottima opportunità per Glass to Power per promuovere la propria tecnologia innovativa e stringere accordi con nuovi potenziali partner tecnologici e commerciali.

Glass to Power invited at WIRED Energy in London

Glass to Power è stata invitata a partecipare al primo evento WIRED Energy a Londra il 12 ottobre a Kings Place. WIRED Energy riunirà alcuni degli imprenditori e dei dirigenti più influenti che stanno cambiando il modo in cui il mondo accede e utilizza energia, in un evento di una giornata e un’ottima opportunità di networking. L’evento riunisce le start-up dinamiche e le imprese energetiche che rendono possibile vivere e lavorare in modo intelligente - è il luogo ideale per i principali pensatori, accademici, professionisti, imprenditori, investitori e responsabili politici. I temi chiave includeranno le soluzioni smart per la casa intelligente, trasporti e le soluzioni di storage energetico e le innovazioni di politiche e modelli di business. Sarà un evento di risonanza internazionale per Glass to Power. Per sapere di più: http://www.wired.co.uk/event/wired-energy

Energy Management Conference 2017

Glass to Power will be a sponsor of the 2017 Energy Management Conference, which will be held in Milan on October 27th. At the heart of the Energy Management Conference 2017 will be the theme of measuring and monitoring the energy consumption supporting the energetic tests required by art. 8 of Legislative Decree 102/2014. During the conference, the following topics will be covered: guidelines and systems for monitoring energy consumption; technologies and solutions for reducing energy consumption; technologies and solutions for low-impact energy production. The conference will be attended by the most important energy and renewable energy associations: ANIE, ANIE Rinnovabili and Asso Rinnovabili. During the conference, the CEO of Glass to Power, Emilio Sassone Corsi, will intervene presenting our innovative solution.