14. ULUSLARARASI %100 YENİLENEBİLİR ENERJİ KONFERANSI

14th INTERNATIONAL 100% RENEWABLE ENERGY CONFERENCE

Energy Transition

What has been done and what needs to be done for the decarbonization of cities, countries and continents:

17-19 Nisan 2024 / 17-19 April 2024

YENİLENEBİLİR ENERJİ BİRLİĞİ

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EUROSOLAR Türkiye

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14. ULUSLARARASI %100 YENİLENEBİLİR ENERJİ KONFERANSI

14th INTERNATIONAL
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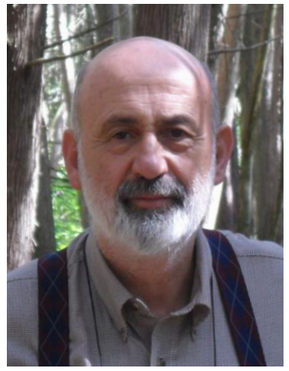

Tanay Sıdkı Uyar

EUROSOLAR Türkiye
Başkanı

YENİLENEBİLİR
ENERJİ BİRLİĞİ

EUROSOLAR Türkiye

Hoş geldiniz;

Bu sene Eski Yönetim Kurulu üyelerimizden Sayın Uğur Baş ve 14 yıldır IRENEC Konferanslarımızın İdari Müdürlüğünü yapan ve hepinizin yakından tanıdığı Sevgili Eşim Işıl Gürsoy Uyar'ı kaybettik.

Işıl Uyar benim için yaşamımın en büyük hediyesi idi. Işıl'ı tanımış olmak onunla birlikte yaklaşık 40 yıl yaşamı paylaşmak benim için bir şans ve büyük bir mutluluktu. Kendisi dünyanın en çalışkan, en iyi, en sevecen, en sabırlı, en dürüst, en şefkatli insanlarından biriydi. Sadece ben değil tüm arkadaşları ve birlikte çalıştıkları onu tanımanın mutluluğunu yaşıyorlardı.

Işıl ile birlikte planladığımız her şeyi gerçekleştirdik ve yaşamımızın geri kalan kısmını huzur içinde sürdürmek için gerekli koşulları oluşturduk. Ama artık sabahları uyandığımda Işıl yok, evden çıkarken yolcu eden Işıl yok ve eve döndüğümde karşılayan Işıl yok. Benim hayatımın en büyük üzüntüsü de bu oldu.

Işıl Gürsoy Uyar katkıda bulunmamış olsaydı IRENEC konferanslarımızı bugüne kadar sürdüremezdik. Kendisinin oluşturduğu sistematik, kurduğu altyapı ve uygulama sırasında bana öğrettikleri ile bu konferansımızı da gerçekleştirebildik.

Bugün gerçekleştirmekte olduğumuz 14. Uluslararası % 100 Yenilenebilir Enerji Konferansı, IRENEC 2024, konuları itibarıyla Birleşmiş Milletler 2030 Sürdürülebilir Kalkınma Hedefleri ve Avrupa Birliği'nin Avrupa Yeşil Mutabakatı kapsamında öngörülen 2050 yılında tüm Avrupa kıtasının ilk İklim Tarafsız kıta olma hedefiyle örtüşmüş durumdadır.

1996-2006 yılları arasında Muğla'nın Ortaca İlçesinde Sarıgerme İberotel Park Tesislerinde İberotel Genel Müdürü Sayın Heinz H. Fugger'in sağladığı çalışma ortamında düzenlediğimiz yaklaşık 20 Çalıştay sırasında katılanlarla geliştirdiğimiz yaklaşımların bugün tüm dünyada hayata geçirildiğini görmenin ve öngörülerimizin gerçekleşmiş olmasının mutluluğunu yaşıyoruz.

1997-2006 yıllarında gerçekleştirdiğimiz Uluslararası Sarıgerme Çalışma Grubu Toplantıları yenilenebilir enerjinin ülkemizde geliştirilmesinin önündeki engellerin tanımlandığı ve tanımlanan sorunlara uygulanabilir çözüm önerilerinin geliştirildiği bir platform haline dönüşmüştür. Çalışma Grubu Toplantılarına katılanlar bilgilerini yenileme ve diğer katılımcılarla ortaklıklar kurarak kendi çalışmalarını etkinleştirme fırsatı bulmuş ve daha da önemlisi diğer ülkelerde yaşanan hataların ülkemizde tekrarlanmaması için şart olan birlikte değerlendirme ortamını oluşturmuştur.

Şehirler dünya enerjisinin üçte ikisinden fazlasını tüketiyor ve CO2 emisyonunun yaklaşık yüzde 70'inden sorumludur. Şehirde yaşayanlar iklim değişikliğine katkıda bulunuyor ve etkilerinin kurbanı oluyorlar. Şehirler su baskınlarından, yükselen deniz seviyelerinden, heyelanlardan ve aşırı sıcak ve soğuktan zarar görüyor. Su kıtlığından, orman yangınlarından çıkan dumandan ve çevredeki kırsal alanlarda iklim değişikliğinin bir sonucu olarak kırsal kesimde yaşayanların göç etmesinden etkileniyorlar.

Şehirler sorunları tanımlayıp çözümleri geniş ölçekte deneyebilirler ve en iyi fikirler ulusal düzeye örnek teşkil edebilir. Hava ve su kirliliği ile atıkların bertaraf edilmesi gibi mevcut çevre sorunlarıyla karşı karşıya kalan şehirlerin iklim değişikliğiyle mücadele konusunda büyük teşvikleri var. Belediye yönetimleri çeşitli düzenleme ve teşvikler yoluyla inşaatçıların, bina sahiplerinin ve bina kullanıcılarının kararlarını etkileyebilir. Bunlar arasında kentsel planlama ve imar, inşaat mevzuatı ve izin süreçleri, enerji performansı düzenlemeleri, güneş enerjisi yönetmelikleri, teknik standartlar ve toplu konut programları gibi arazi kullanım politikaları yer almaktadır. Düzenlemeler, talimatlar, mali ve mali teşviklere ek olarak, bilgilendirme kampanyaları, paydaş forumları ve halkın katılımı yoluyla kamuoyunun bilinçlendirilmesi çok önemlidir. Enerji performansının izlenmesi ve raporlanması, kıyaslamaların oluşturulması ve hedeflerin belirlenmesi açısından önemlidir. Enerji denetimleri sorunları ve iyileştirme fırsatlarını tespit edebilir.

Yenilenebilir enerji ve enerji verimliliği çözümlerini entegre etme ihtiyacına işaret eden dört kritik eylem türü vardır: (1) standartların ve yönetmeliklerin belirlenmesi; (2) yenilenebilir enerji teknolojilerinin kullanımının ilerletilmesi ve binalarda altyapının etkinleştirilmesi; ısıtma ve soğutma enerjisi kullanımlarının elektrifikasyonu; (3) sosyal konut programları aracılığıyla sosyal eşitlik amaçları için yenilenebilir kaynaklardan yararlanmak ve (4) örneğin tabandan ve belediye düzeyindeki girişimleri destekleyerek etkinlik için ortaklık kurmak.

Tema Konuşmacılarımızdan Sayın Thomas Osdoba'nın Program Direktörü olduğu NetZeroCities ekibi AB Şehirleri Misyonu NetZeroCities Programı ile 112 İklim-Tarafsız ve Akıllı Şehir için 2030 yılı hedefiyle bu yaklaşımı geliştirip uygulamaya sokmaktadır. Seçilen 112 Şehir arasında olan İzmir Büyükşehir Belediye'si de İzmir'in Misyon İklim Şehri Sözleşmesi'ni (CCC) hazırlamış ve İzmir "İklim Tarafsızlığına yönelik çabalarından dolayı" 33 şehir ile birlikte AB Misyon Etiketi ile ödüllendirilmiştir.

Misyon İklim Şehri Sözleşmesi (CCC), şehirlerin her düzeyde işbirlikçi eylemleri hızlandırarak 2030 iklim tarafsızlığı hedefine ulaşmasını sağlamak için tasarlanmış bir yönetişim yenilik aracıdır. CCC, birbiriyle bağlantılı üç bileşenden oluşan hem yinelenen bir süreç hem de yaşayan bir belgedir: 2030 İklim Tarafsızlığı Taahhüdü, 2030 İklim Tarafsızlığı Eylem Planı ve 2030 İklim Tarafsızlığı Yatırım Planı. CCC, mevcut en iyi uygulamalara dayanmaktadır ve aynı zamanda NetZeroCities'in iklim eylemine yönelik sistem yeniliği yaklaşımının da temel bileşenidir.

AB Misyon Etiketi alan şehirlerde 2030 yılına kadar yapılacak uygulamaların diğer Avrupa Şehirlerine örnek olması ve tüm Avrupa şehirlerinin 2050 yılında Avrupa Yeşil Mutabakatının öngördüğü şekilde İklim Tarafsız olması beklenmektedir. Türkiye Cumhuriyeti'nin tüm kentleri de bu konuda Avrupa'nın bir parçası olarak zaman kaybetmeden gerekli adımları atmalıdır. Günümüzde artık kentlerin yaşanılır kılınması için yerel yönetimin sorumlusu olan Belediye Başkanı ve Belediye Meclislerinin, onları oylarıyla görevlendiren hemşerilerinin bilgi, beklenti ve taleplerini de içeren bir şehir mutabakatı ile 2050 yılını hedefleyen bir Şehir Kontratı hazırlayıp kentlerinin İklim tarafsız olmasını sağlayacak uygulamalara liderlik etmesi tek çözüm olarak ortaya çıkmıştır.

IRENEC 2024 programı, kentteki vatandaşların, paydaşların ve sivil toplum kuruluşlarının sorunların doğru tanımlanması ve uygulanabilecek çözümlerin üretilmesi konusunda sürece dahil edilmesi yoluyla yerel yönetimlere bu görevi yerine getirebilmeleri için ihtiyaç duydukları gerekli bilgileri ve kanıtlanmış yöntemleri sağlamak üzere tasarlanmıştır.

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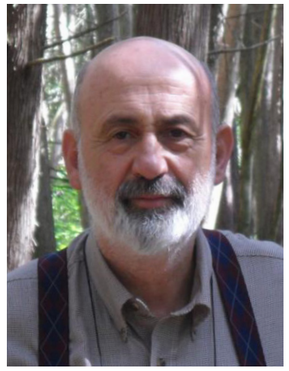

Tanay Sıdkı Uyar

EUROSOLAR Türkiye
President

RENEWABLE ENERGY ASSOCIATION

EUROSOLAR Türkiye

Welcome;

This year, we lost one of our former Board members, Mr. Uğur Baş, and my beloved wife, Işıl Gürsoy Uyar, who was the Administrative Director of our IRENEC Conferences for 14 years and whom you all know very well.

Işıl Uyar was the greatest gift of my life for me. It was a chance and a great happiness for me to have known Işıl and to have shared life with her for nearly 40 years. She was one of the hardest working, best, most loving, most patient, most honest and most compassionate people in the world. Not only me, but all her friends and co-workers were happy to know her.

Together with Işıl, we achieved everything we planned and created the necessary conditions to live the rest of our lives in peace. But now, when I wake up in the morning, there is no Işıl, there is no Işıl to see me off when I leave the house, and there is no Işıl to greet me when I return home. And that's the biggest regret of my life.

If Işıl Gürsoy Uyar had not contributed, we would not have been able to continue our IRENEC conferences until today. We were able to hold this conference with the system she created, the infrastructure she established and what she taught me during the application.

The 14th International 100% Renewable Energy Conference, IRENEC 2024, which we are holding today, coincides with the goal of the entire European continent to become the first Climate Neutral continent in 2050, which is envisaged within the scope of the United Nations 2030 Sustainable Development Goals and the European Union's European Green Deal.

We are happy to see that the approaches we developed with the participants during the approximately 20 Workshops we organized between 1996 and 2006 in Sarıgerme İberotel Park Facilities in Ortaca District of Muğla, in the working environment provided by İberotel General Manager Mr. Heinz H. Fugger, are being implemented all over the world today and that our predictions have come true.

The International Sarigerme Working Group Meetings, which we held between 1997 and 2006, turned into a platform where the obstacles to the development of renewable energy in our country were identified and applicable solutions to the identified problems were developed. Participants in the Working Group Meetings had the opportunity to refresh their knowledge and activate their own work by establishing partnerships with other participants, and more importantly, they created an environment of joint evaluation, which is essential to prevent the mistakes made in other countries from being repeated in our country.

Cities consume more than two-thirds of the world's energy and are responsible for approximately 70 percent of CO2 emissions. City dwellers contribute to climate change and become victims of its effects. Cities suffer from flooding, rising sea levels, landslides and extreme heat and cold. They are affected by water shortages, smoke from forest fires, and the migration of rural residents from surrounding rural areas as a result of climate change.

Cities can identify problems and test solutions at scale, and the best ideas can serve as examples to the national level. Faced with existing environmental problems such as air and water pollution and waste disposal, cities have great incentives to combat climate change. Municipal governments can influence the decisions of builders, building owners, and building users through various regulations and incentives. These include urban planning and zoning, building codes and permitting processes, energy performance regulations, solar energy regulations, technical standards, and land use policies such as public housing programs. In addition to regulations, instructions, financial and financial incentives, raising public awareness through information campaigns, stakeholder forums and public participation is crucial. Monitoring and reporting energy performance is important for establishing benchmarks and setting targets. Energy audits can detect problems and improvement opportunities.

There are four critical types of actions that point to the need to integrate renewable energy and energy efficiency solutions: (1) setting standards and regulations; (2) advancing the use of renewable energy technologies and activating infrastructure in buildings; electrification of heating and cooling energy uses; (3) harnessing renewable resources for social equity purposes through social housing programs and (4) partnering for effectiveness, for example by supporting grassroots and municipal-level initiatives.

The NetZeroCities team, of which our Keynote Speaker Mr. Thomas Osdoba is the Program Director, is developing and implementing this approach with the 2030 target of 112 Climate-Neutral and Smart Cities with the EU Cities Mission NetZeroCities Programme. Izmir Metropolitan Municipality, which was among the 112 selected cities, prepared Izmir's Mission Climate City Contract (CCC) and Izmir was awarded with the EU Mission Label along with 33 cities "for its efforts towards Climate Neutrality".

The Mission Climate City Contract (CCC) is a governance innovation tool designed to enable cities to achieve the 2030 climate neutrality target by accelerating collaborative action at all levels. The CCC is both an iterative process and a living document, consisting of three interconnected components: the 2030 Climate Neutrality Commitment, the 2030 Climate Neutrality Action Plan, and the 2030 Climate Neutrality Investment Plan. CCC is based on current best practices and is also a key component of NetZeroCities' systems innovation approach to climate action.

It is expected that the practices to be carried out in cities receiving the EU Mission Label by 2030 will be an example for other European Cities and that all European cities will be Climate Neutral in 2050, as predicted by the European Green Deal. All cities of the Republic of Turkey, as a part of Europe, should take the necessary steps on this issue without wasting time. Today, the only solution for making cities livable is for the Mayor and Municipal Councils, who are responsible for the local government, to prepare a City Contract targeting the year 2050 with a city agreement that includes the information, expectations and demands of the citizens who appoint them with their votes, and to lead the practices that will ensure that their cities are climate neutral. has come out.

IRENEC 2024 program is designed to provide the local governments with the necessary information and proven methods they need to carry out this duty by engaging the citizens, stakeholders and non-governmental organizations in the city to define the problems correctly and produce solutions that can be implemented.

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IRENEC 2024 PROGRAMI

17 Nisan 2024 Çarşamba			
09.00 - 10.00	**Açılış Oturumu**		
Moderatör	Doğancan BEŞİKCİ	Genel Sekreter, Yenilenebilir Enerji Birliği EUROSOLAR Türkiye	
Konuşmacılar	Tanay Sıdkı UYAR	Mühendislik ve Mimarlık Fakültesi, İstanbul Beykent Üniversitesi, Öğretim Üyesi	
	Kazım SARI	Rektör Yardımcısı, İstanbul Beykent Üniversitesi	
10.00 - 10.30	**Tema Konuşmacısı**		
Konuşmacı	Adrian GONZALEZ	Program Görevlisi - İnovasyon ve Son Kullanım Sektörleri, IRENA Uluslararası Yenilenebilir Enerji Ajansı	Akıllı Elektrifikasyon için İnovasyon
10.30 - 11.00	Ara		
11.00 - 12.30	**Özel Oturum: Yenilenebilir Enerji Birliği EUROSOLAR Türkiye**		
Moderatör	Tanay Sıdkı UYAR	Başkan, Yenilenebilir Enerji Birliği EUROSOLAR Türkiye	
Konuşmacılar	Wolfgang PALZ	AB Yetkilisi (emekli), Brüksel, Belçika	Yenilenebilir Enerjiler: 21. Yüzyılın Enerjileri
	Baha KUBAN	Kurucu, Yenilenebilir Enerji Birliği EUROSOLAR Türkiye	Avrupa Yeşil Anlaşması; Çobanyıldızı mı, İllüzyon mu?
	Yusuf BİÇER	Sürdürülebilir Kalkınma Bölümü, Bilim ve Mühendislik Fakültesi, Hamad Bin Khalifa Üniversitesi, Katar Vakfı, Eğitim Şehri, Doha, Katar	Hidrojen Geleceklerini Haritalamak: Rekabet Edebilirlik ve Eko-Ticaret Senaryoları
12.30 - 13.00	Ara		
13.00 - 13.30	**Tema Konuşmacısı**		
Konuşmacı	Doğancan BEŞİKCİ	Enerji Sistemi Modelleyicisi, ESMIA Kanada	Temiz Elektrik Yönetmeliği'nin (CER) Sektörler Arası Etkileri: Farklı Uygulamaların Teknoloji Oluşumunu, Maliyetleri ve Tüketici Enerji Faturalarını Nasıl Etkilediği
13.30 - 14.30	**Yenilenebilir Enerjinin Finansmanı ve Şebeke Entegrasyonu**		
Moderatör	Tanay Sıdkı UYAR	Başkan, Yenilenebilir Enerji Birliği EUROSOLAR Türkiye	
Konuşmacılar	Giray Oral	Rönesans Holding, Proje Finansmanı Direktörü	Türkiye'de Yenilenebilir Enerji Finansmanı
	Alper KALAYCI	Enerji Sanayicileri ve İş İnsanları Derneği Başkanı, İzmir	Türkiye Temiz Enerji Kümelenmesi
	Bilal GÜMÜŞ	Dicle Üniversitesi Yenilenebilir Enerji Kaynakları Uygulama ve Araştırma Merkezi Müdürü,Diyarbakır	Yenilenebilir Enerjinin Şebekeye Entegrasyonunda Karşılaşılan Zorluklar
14.30 - 15.00	**Tema Konuşmacısı**		
Konuşmacı	Tanay Sıdkı UYAR	Başkan, Yenilenebilir Enerji Birliği EUROSOLAR Türkiye	2050'ye Kadar İklim Nötr Olmayı Hedefleyen Kentlerin Yerel Yönetimlerinin Rol ve Sorumlulukları
15.00 - 15.15	Ara		
15.15 - 16.00	**Genel Oturum Konuşması**		
Konuşmacı	İbrahim DİNÇER	Ontario Tech. Üniversitesi, Kanada, Yıldız Teknik Üniversitesi, Türkiye, Ulusal Hidrojen Enerjisi Derneği Başkanı, TÜBA-Enerji Çalışma Grubu Başkanı	Sürdürülebilir Kalkınma için Yenilenebilir Kaynakların Kullanıldığı Hidrojen Enerjisi Teknolojileri
16.00 - 18.00	**Kamu Kurumları ve Belediyeler için Sürdürülebilirlik, Biyoçeşitlilik ve Karbon Ayak İzi Çalışmalarının Esasları**		
Moderatör	Eralp ÖZİL	CEO, ZETA Bilgi Teknolojileri, İstanbul	
Konuşmacılar	Alp KARGI	Mayor, Merzifon Municipalty	Yerel Yönetimlerde Sosyal, Ekonomik ve Çevresel Dönüşüm
	Alper OZPİNAR	ZETA Information Technologies, Istanbul	Kapsam 3 Emisyonlarının Akıllı Şehir Referans Mimarilerine Entegre Edilmesi: Sürdürülebilir Kentsel Ekosistemlere Giden Yol
	Alper OZPİNAR	ZETA Information Technologies, Istanbul	Jeotermal Akışkan Hatlarında Enerji İzleme için Hibrit Mimari Yaklaşım: Optimize Edilmiş Termal Akış Yönetimi için Yeni Nesil ICT'nin Entegrasyonu
	Cem ÇELİK	Marmara University, Turkey	Kamu Sektöründe Sürdürülebilirlik Raporlamasının Geliştirilmesi: Belediyeler Üzerine Bir Vaka Çalışması
	Sercan KIRIK	Merzifon Municipality, Turkey	Bir Kamu Kurumu için Sürdürülebilirlik Raporu Yazmanın Zorlukları: Merzifon Belediyesi Örneği
	Cem ÇELİK	Marmara University, Turkey	SWOT Analizinin Sürdürülebilirlik Standartlarına Katkısı: Merzifon Belediyesi Örneği

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IRENEC 2024 PROGRAM

17 April 2024 Wednesday			
09.00 - 10.00	**Opening Session**		
Moderator	Doğancan BEŞİKCİ	Secretary General, Renewable Energy Association EUROSOLAR Türkiye	
Speakers	Tanay Sıdkı UYAR	Lecturer, Faculty of Engineering and Architecture, Istanbul Beykent University	
	Kazım SARI	Vice Rector, Istanbul Beykent University	
10.00 - 10.30	**Keynote Speech**		
Speaker	Adrian GONZALEZ	Programme Officer- Innovation and End-use Sectors, IRENA International Renewable Energy Agency	Innovation for Smart Electrification
10.30 - 11.00	Break		
11.00 - 12.30	**Special Session: Renewable Energy Association EUROSOLAR Türkiye**		
Moderator	Tanay Sıdkı UYAR	President, Renewable Energy Association EUROSOLAR Türkiye	
Speakers	Wolfgang PALZ	EU Official (ret), Brussels,Belgium	The Renewable Energies: the Energies of the 21st Century
	Baha KUBAN	Founder, Renewable Energy Association EUROSOLAR Türkiye	The European Green Deal; Lodestar or Illusion ?
	Yusuf BİÇER	Division of Sustainable Development, College of Science and Engineering, Hamad Bin Khalifa University, Qatar Foundation, Education City, Doha, Qatar	Mapping Hydrogen Futures: Competitiveness and Eco-Trade Scenarios
12.30 - 13.00	Break		
13.00 - 13.30	**Keynote Speech**		
Speaker	Doğancan BEŞİKCİ	Energy System Modeler, ESMIA Canada	Cross-sector Impacts of the Clean Electricity Regulation (CER): How Different Applications Affect Technology Buildout, Costs, and Consumer Energy Bills
13.30 - 14.30	**Finance and Grid Integration of Renewable Energy**		
Moderator	Tanay Sıdkı UYAR	President, Renewable Energy Association EUROSOLAR Türkiye	
Speakers	Giray Oral	Project Finance Director, Rönesans Holding	Financing Renewable Energy in Türkiye
	Alper KALAYCI	President of Energy Industrialists and Business People's Association, İzmir	Clean Energy Cluster of Türkiye
	Bilal GÜMÜŞ	Director of Dicle University Renewable Energy Resources Application and Research Centre,Diyarbakır	Challenges in Integrating Renewable Energy Into the Grid
14.30 - 15.00	**Keynote Speech**		
Speaker	Tanay Sıdkı UYAR	President, Renewable Energy Association EUROSOLAR Türkiye	Role and Responsibilities of Local Governments of Cities Targeting to be Climate Neutral by 2050
15.00 - 15.15	Break		
15.15 - 16.00	**Plenary Talk**		
Speaker	İbrahim DİNÇER	Ontario Tech. University, Canada, Yildiz Technical University, Türkiye, President of National Hydrogen Energy Association, Chair of TUBA-Energy Working Group	Hydrogen Energy Technologies Using Renewables for Sustainable Development
16.00 - 18.00	**Principles of Sustainability, Biodiversity and Carbon Footprint Studies for Public Institutions and Municipalities**		
Moderator	Eralp ÖZİL	CEO, ZETA Information Technologies, İstanbul	
Speakers	Alp KARGI	Mayor, Merzifon Municipalty	Social, Economic and Environmental Transformation in Local Governments
	Alper ÖZPINAR	ZETA Information Technologies, İstanbul	Integrating Scope 3 Emissions into Smart City Reference Architectures: A Pathway to Sustainable Urban Ecosystems
	Alper ÖZPINAR	ZETA Information Technologies, İstanbul	Hybrid Architectural Approach for Energy Monitoring in Geothermal Fluid Lines: Integrating Next-Generation ICT for Optimized Thermal Flow Management
	Cem ÇELİK	Marmara University, Türkiye	Advancing Sustainability Reporting in the Public Sector: A Case Study of Municipalities
	Sercan KIRIK	Merzifon Municipality, Türkiye	Challenges in Writing a Sustainability Report for a Public Institution: Merzifon Municipality Case
	Cem ÇELIK	Marmara University, Türkiye	The Contribution of SWOT Analysis to Sustainability Standards: A Case Study of Merzifon Municipality

14. ULUSLARARASI %100 YENİLENEBİLİR ENERJİ KONFERANSI

18 Nisan 2024 Perşembe

09.00 - 10.15	**Kariyer Fırsatları, Düzenlemeler, İzleme ve Sürdürülebilirlik**		
Konuşmacılar	Evren AKTAŞ	Genel Müdür Yardımcısı, Borusan EnBW Enerji, İstanbul	Türkiye'de Yenilenebilir Enerji Sektörünün Geleceği, Gençler için Kariyer Fırsatları
	Murat Ali ÇELEBİOĞLU	Rönesans Enerji İş Geliştirme Direktörü, Ankara	Lisanssız Elektrik Üretimine İlişkin Yönetmeliğin 5.1.h Maddesi ve Yönetmelik Değişikliğinin Etkileri
	Baki TUNCER	Ürün Grup Müdürü, ENTES, İstanbul	Enerji Verimliliği ve Yenilenebilir Enerjide Akıllı İzleme
	Nicolas ZARAK	Kalite Yönetimi Başkanı, CHIRON Group SE Tuttlingen, Almanya	Makine Aletlerinde Sürdürülebilirlik
10.15 - 10.30	Break		
10.30 - 11.00	**Tema Konuşmacısı**		
Konuşmacı	Peter DROEGE	Direktör, Lihtenştayn Stratejik Kalkınma Enstitüsü	%100 Yenilenebilir Enerji Yeterli Değil
11.00 - 11.30	**Tema Konuşmacısı**		
Konuşmacı	Thomas OSDOBA	Program Direktörü, NetZeroCities Şehirler Ekip Lideri	2030'a Doğru Yolculuk: AB Şehirleri Misyonu NetZeroCities Programı ile 100 İklim-Nötr ve Akıllı Şehir
11.30 - 12.30	**Yenilenebilir Enerji Entegrasyonu için Yenilenebilir Enerji Yatırımları, İletim Sistemi ve Hizmet Gereksinimleri**		
Konuşmacılar	Oğuzhan HAZNEDAR	Genel Müdür, Şule Enerji A.Ş., İstanbul	Sanayi Kuruluşlarının Yenilenebilir Enerji Yatırımları
	Necip Fazıl BAKIR	Halkla İlişkiler Direktörü, Kıvanç Enerji Üretim A.Ş., Mersin	Yenilenebilir Enerjinin Türkiye'nin İletim Sistemine Entegrasyonu ve Bakanlığın 2035 Hedeflerinin Değerlendirilmesi
	Ali KİNDAP	Genel Müdür, ZORLU Enerji, İstanbul	Yenilenebilir Enerjinin Görünümü- Günümüz ve Gelecek Trendleri
	Alp Arslan KARDIÇALI	Hizmet Hesabı ve Sözleşme Müdürü, VESTAS Türkiye, İstanbul	VESTAS ve VESTAS Türkiye'nin Genel Durumu, Sürdürülebilirlik Adına Atılan Adımlar, Hizmetin Önemi ve Yatırımcının Seçenekleri
12.30 - 13.00	**Tema Konuşmacısı**		
Konuşmacı	Nıkos FINTIKAKIS	Profesör Uluslararası Mimarlık Akademisi, Geçmiş UIA Başkan Yardımcısı, FINTIKAKI ARCHITECTS PC Baş Mimarı	Yenilenen Biyoklimatik Mimarı Rüzgar ve Güneş Caddeleri - Sıfır Emisyon ve İklimsel Restorasyon için Mimarların Rolü-UIA COP28'de
13.00 - 13.30	Ara		
13.30 - 14.00	**Tema Konuşmacısı**		
Konuşmacı	Şeyma Özkara AYDINOĞLU	İstanbul Galata Üniversitesi Rektörü	Sürdürülebilir Enerji Teknolojilerinde Gelişen Trendler: Karbon Nötrlüğüne Giden Yolda Power-to-X
14.00 - 15.15	**Avrupa Yeşil Anlaşması ve İlgili AB Misyonları, Enerji Geçişi, FrontAg Nexus.**		
Konuşmacı	Tanay Sıdkı UYAR	Başkan, Yenilenebilir Enerji Birliği EUROSOLAR Türkiye Kalite Müdürü, FrontAg Nexus Projesi	FrontAg Nexus: Kurak Akdeniz Bölgelerinde İklim-Akıllı ve Su Tasarruflu Öncü Tarımın WEFE Nexus'a Etkisi
15.15 - 15.45	Ara		
15.45 - 16.15	**Tema Konuşmacısı**		
Konuşmacı	Eberhard WAFFENSCHMIDT	Başkan, Solarenergie-Förderverein Deutschland, Almanya	Vatandaş Topluluklarında Enerji Paylaşımı
16.15 - 18.00			
Konuşmacılar	Emine Ertane BAŞ	Atatürk Üniversitesi	Erzurum İlinin Enerji Planlamasında Yenilenebilir Enerji Yaklaşımı
	Hatice KORKMAZ	Yıldız Teknik Üniversitesi	Tersinir Katı Oksit Hücrelerin Performansını Etkileyen Parametrelerin İncelenmesi

14th INTERNATIONAL 100% RENEWABLE ENERGY CONFERENCE

18 April 2024 Thursday

09.00 - 10.15	**Career Opportunities, Regulations, Monitoring and Sustainability**		
Speakers	Evren AKTAŞ	Assistant General Manager, Borusan EnBW Energy, İstanbul	The Future of the Renewable Energy Sector in Turkey and Career Opportunities for Young People
	Murat Ali ÇELEBİOĞLU	Ronesans Enerji Business Development Director, Ankara	Article 5.1.h of the Regulation on Unlicensed Electricity Generation and the Effects of the Change of the Regulation
	Baki TUNCER	Product Group Manager, ENTES, İstanbul	Energy Efficiency and Smart Monitoring on Renewable Energy
	Nicolas ZARAK	Head of Quality Management, CHIRON Group SE Tuttlingen, Germany	Sustainability in Machine Tools
10.15 - 10.30	Break		
10.30 - 11.00	**Keynote Speech**		
Speaker	Peter DROEGE	Director, Liechtenstein Institute for Strategic Development	100% Renewable Energy is not Enough
11.00 - 11.30	**Keynote Speech**		
Speaker	Thomas OSDOBA	Programme Director, NetZeroCities Cities Team Lead	Journey Toward 2030: EU Cities Mission 100 Climate-Neutral and Smart Cities with NetZeroCities Programme
11.30 - 12.30	**Renewable Energy Investments, Transmission System and Service Requirements for Renewable Energy Integration**		
Speakers	Oğuzhan HAZNEDAR	General Manager, Şule Energy Inc., İstanbul	Renewable Energy Investments of Industrial Organizations
	Necip Fazıl BAKIR	Public Relations Director, Kıvanç Energy Production Inc., Mersin	Integration of Renewable Energy into Türkiye's Transmission System and Evaluation of the Ministry's 2035 Goals
	Ali KİNDAP	General Manager, ZORLU Energy, İstanbul	Renewable Energy Outlook - Current and Future Trends
	Alp Arslan KARDIÇALI	Service Account & Contract Manager, VESTAS Türkiye, İstanbul	The General Situation of VESTAS and VESTAS Türkiye, Developments Taken in the Name of Sustainability, Service Importance and Investor's Options
12.30 - 13.00	**Keynote Speech**		
Speaker	Nıkos FINTIKAKIS	Professor International Academy of Architecture, Past UIA Vice President, Senior Architect of the FINTIKAKI ARCHITECTS PC	Regenerating Bioclimatic Architecture Wind and Solar Streets-the Role of Architects Towards Zero Emissions and Climatic Restoration-UIA at COP28
13.00 - 13.30	Break		
13.30 - 14.00	**Keynote Speech**		
Speaker	Şeyma Özkara AYDINOĞLU	Rector of Istanbul Galata University	Emerging Trends in Sustainable Energy Technologies: Power-to-X on the Path to Carbon Neutrality
14.00 - 15.15	**European Green Deal and Related EU Missions, Energy Transition, FrontAg Nexus.**		
Speaker	Tanay Sıdkı UYAR	President, Renewable Energy Association EUROSOLAR Türkiye Quality Manager FrontAg Nexus Project	FrontAg Nexus: Impact of Climate-Smart and Water-Saving Frontier Agriculture on the WEFE Nexus in Arid Mediterranean Regions
15.15 - 15.45	Break		
15.45 - 16.15	**Keynote Speech**		
Speaker	Eberhard WAFFENSCHMIDT	Chairman, Solarenergie-Förderverein Deutschland, Germany	Energy Sharing in Citizens Communities
16.15 - 18.00	**Conference Presentations**		
Speaker	Emine Ertane BAŞ	Atatürk University	Renewable Energy Approach in Energy Planning of Erzurum Province
	Hatice KORKMAZ	Yıldız Technical University	Investigation of the Parameters Affecting the Performance of Reversible Solid Oxide Cells

14. ULUSLARARASI %100 YENİLENEBİLİR ENERJİ KONFERANSI

IRENEC

19 Nisan 2024 Cuma

09.00 - 09.30	**Tema Konuşmacısı**		
Konuşmacı	Ali Ercan TÜRKOĞLU	Yönetim Kurulu Başkanı, İZENERJİ, İzmir	Yerel Yönetimlerde İklim ve Enerji Politikaları ve Uygulamaları
09.30 - 11.00	**İZENERJİ Özel Oturumu: İklime Dirençli Kentler ve Enerji Uygulamaları**		
Moderatör	Aytuğ Berkay YILMAZ	AB Projeleri Birim Şefi, İZENERJİ A.Ş., İzmir	
Konuşmacılar	Kadriye AVCÜ	Enerji Hizmetleri Birim Şefi, İZENERJİ A.Ş., İzmir	Enerji Performans Sözleşmesi: Kamu ve Özel Sektör İşbirliğiyle Yeşil Enerji
	Halime TURAN BABACAN	Finans Sorumlusu, İzmir Elektrik Tedarik Anonim Şirketi (İZETAŞ),, İzmir	Yenilenebilir Elektrik Arzı ve Gelecekteki Rolü
	Giray BUTUR	AB Projeleri Sorumlusu, İZENERJİ A.Ş., İzmir	Küresel İklim Topluluğu İzmir: İklim Nötrlüğü Hedefinde Tüm Şehri Paydaş Yapmak
	Şefika Çağla GÜNDOĞAN	Enerji Mühendisi, İZENERJİ A.Ş., İzmir	Kamu Binalarında Enerji Verimliliği ve ISO 50001 Enerji Yönetim Sistemi
11.00 - 11.30	**İklim Paneli: İklim Eylemleri için Çok Düzeyli Yönetişim Platformu ve Türkiye'de %100 Yenilenebilir Enerji Uygulamasına Doğru**		
Moderatör	Daiva MATONIENE	Türkiye'de Proje Lideri, EU4ETTR Projesi	İklim Eylemleri için Çok Düzeyli Yönetişim Platformu ve Türkiye'de %100 Yenilenebilir Enerji Uygulamasına Doğru
Konuşmacılar	Arif KÜNAR	Enerji Uzmanı	Kentsel Enerji Dönüşümünün Güçlendirilmesi: Belediye Enerji Masaları Enerji Yoksulluğu ile Mücadele ve 2050'ye Kadar Kaynak Verimli Binalara Giden Yol
	Ertuğrul Selçuk GÜLDÜLER	Başkan Yardımcısı, Bağcılar Belediyesi	İklim Azaltımı için Yenilenebilir Uygulama;Bağcılar Belediyesi Enerji Temelli Azaltım Projesi
11.30 - 12.00	**Tema Konuşmacısı**		
Konuşmacı	Harry LEHMANN	Direktör PTX Lab Lausitz - Cottbus, Almanya	Sera Gazı Nötrlüğüne Doğru %100 Yenilenebilir Kaynaklarla Kaynak Verimli Yollar Antroposen'i KURTARIN
12.00 - 12.30	Ara		
12.30 - 13.00	**Tema Konuşmacısı**		
Konuşmacı	Hasan HEPERKAN	Öğretim Görevlisi, İstanbul Aydın Üniversitesi Mühendislik Fakültesi	Karbon Nötr Bir Gelecek için Sürdürülebilir Soğutma
13.00 - 14.30	**Enerji Geçişlerinde ve Sürdürülebilirlikte Enerji Verimliliğinin Rolü**		
Moderatör	Hasan HEPERKAN	Öğretim Görevlisi, İstanbul Aydın Üniversitesi Mühendislik Fakültesi	
Konuşmacılar	Eray KARAASLAN	Öğretim Üyesi, İstanbul Aydın Üniversitesi Uygulamalı Bilimler Fakültesi	Yenilenebilir Enerji ve Sürdürülebilirlik Kapsamında Bina Yapı Malzemeleri ve Enerji Sertifikasyon Türlerinin İncelenmesi
	Burçin KAPLAN	Öğretim Üyesi, İstanbul Aydın Üniversitesi Mühendislik Fakültesi	Avrupa Bölgesinde Yenilenebilir Enerji Bağlamında Türkiye'nin İncelenmesi.
	Alpay AKGÜÇ	Öğretim Üyesi, İstanbul Aydın Üniversitesi Mühendislik Fakültesi	Pencerelerin Termofiziksel Özelliklerine Bağlı Sera Gazı Emisyonlarının 2030 SKH'ye Doğru Azaltılması
	Ayşegül AKAYDIN AYDIN	Öğretim Üyesi, İstanbul Aydın Üniversitesi, İletişim Fakültesi	Türkiye'de İklim Krizleri Konusunda Ana Akım ve Alternatif Medya Arasında Karşılaştırmalı Analizle
14.30 - 15.00	**Tema Konuşmacısı**		
Konuşmacı	Şener OKTİK	Maltepe Üniversitesi Mühendislik ve Doğa Bilimleri Fakültesi, İstanbul	Fotovoltaik Dönüşüm için Nanoteknoloji
15.00 - 15.30	Ara		
15.30 - 17.00	**Enerji Dönüşümünde Karar Destek Araçlarının Rolü ve Uygulanması**		
Moderatör	Egemen SULUKAN	Öğretim Üyesi, İstanbul Gedik Üniversitesi, Makine Mühendisliği Bölümü	
Konuşmacılar	Alperen SARI	Doktora Adayı, Makine Mühendisliği, Marmara Üniversitesi, İstanbul	Ardahan Belediyesinin Kapsamlı Envanter Değerlendirmesi: Sürdürülebilir Kentsel Kalkınma ve Kaynak Yönetiminin Kolaylaştırılması
	Egemen SULUKAN	Öğretim Üyesi, İstanbul Gedik Üniversitesi, Makine Mühendisliği Bölümü	Sürdürülebilir Enerji ve İklim Eylem Planı Kapsamında Risk ve Kırılganlık Analizi ve Enerji Modellemesi Uygulamaları: Bodrum Vaka Çalışması
	Utku KÖKER	İl Afet ve Acil Durum Müdürlüğü, Uşak	Doğrudan Hava Yakalama Dahil Yerel Ölçekte Enerji Optimizasyonunun Modellenmesi
	Alperen SARI	Doktora Adayı, Makine Mühendisliği, Marmara Üniversitesi, İstanbul	Enerji Dönüşümü Çağında Gemiler için Enerji Sistemi Analizi ve Modellemesinin Rolü
17.00 - 17.30	**Kapanış Oturumu - IRENEC 2024**		
Moderatör	Tanay Sıdkı UYAR	Başkan, Yenilenebilir Enerji Birliği EUROSOLAR Türkiye	
Konuşmacılar	Alper SAYDAM	Makine Mühendisi, IRENEC Bilim Komitesi Üyesi	
	Doğancan BEŞİKCİ	Genel Sekreter, Yenilenebilir Enerji Birliği EUROSOLAR Türkiye	

IRENEC

14th INTERNATIONAL 100% RENEWABLE ENERGY CONFERENCE

19 April 2024 Friday

09.00 - 09.30	**Keynote Speech**		
Speaker	Ali Ercan TÜRKOĞLU	Chairman, İZENERJİ, İzmir	Climate and Energy Policies and Practices in Local Governments
09.30 - 11.00	**IZENERJİ Special Session: Climate-Resilient Cities and Energy Applications**		
Moderator	Aytuğ Berkay YILMAZ	Chief of EU Projects Unit, İZENERJİ A.Ş., İzmir	
Speakers	Kadriye AVCÜ	Energy Services Unit Chief, İZENERJİ A.Ş., İzmir	Energy Performance Contract: Green Energy with the Collaboration of Public and Private Sector
	Halime TURAN BABACAN	Finance Officer, Izmir Electricity Supply Joint Stock Company (İZETAŞ), İzmir	Renewable Electricity Supply and Its Role in the Future
	Giray BUTUR	EU Projects Associate, İZENERJİ A.Ş., İzmir	Global Climate Community Izmir: Making the Whole City a Stakeholder in the Goal of Climate Neutra
	Şefika Çağla GÜNDOĞAN	Energy Engineer, İZENERJİ A.Ş., İzmir	Energy Efficiency in Public Buildings and ISO 50001 Energy Management System
11.00 - 11.30	**Climate Panel: Multi-Level Governance Platform for Climate Actions and Towards 100% Renewables Implementation in Türkiye**		
Moderator	Daiva MATONIENE	Project Leader in Türkiye, EU4ETTR Project	Multi-Level Governance Platform for Climate Actions and Towards 100% Renewables Implementation in Türkiye
Speakers	Arif KÜNAR	Energy Expert	Empowering Urban Energy Transformation: Municipal Energy Desks Combating Energy Poverty and the Path to Resource-Efficient Buildings by 2050
	Ertuğrul Selçuk GÜLDÜLER	Vice Mayor, Bağcılar Municipality	Renewable Implementation for Climate Mitigation: Bağcılar Municipality Energy Based Mitigation Project
11.30 - 12.00	**Keynote Speech**		
Speaker	Harry LEHMANN	Director PTX Lab Lausitz - Cottbus, Germany	Resource Efficient Pathways Towards Greenhouse Gas Neutrality with 100% Renewables RESCUE The Anthropocene
12.00 - 12.30	Break		
12.30 - 13.00	**Keynote Speech**		
Speaker	Hasan HEPERKAN	Lecturer, Istanbul Aydın University Faculty of Engineering, İstanbul	Sustainable Cooling for a Carbon Neutral Future
13.00 - 14.30	**Role of Energy Efficiency in Energy Transitions and Sustainability**		
Moderator	Hasan HEPERKAN	Lecturer, Istanbul Aydın University Faculty of Engineering	
Speakers	Eray KARAASLAN	Faculty Member, Istanbul Aydın University Faculty of Applied Sciences	Review of Building Construction Materials and Energy Certification Types within the Scope of Renewable Energy and Sustainability
	Burçin KAPLAN	Faculty Member, Istanbul Aydın University Faculty of Engineering	Examining Türkiye in the Context of Renewable Energy in the European Region.
	Alpay AKGÜÇ	Faculty Member, Istanbul Aydın University Faculty of Engineering	Decreasing Greenhouse Gas Emissions related to Thermophysical Properties of Windows Towards 2030 SDG
	Ayşegül AKAYDIN AYDIN	Faculty Member, Istanbul Aydın University, Faculty of Communication	Comparative Analyses between Mainstream and Alternative Media in Turkey on Climate Crises
14.30 - 15.00	**Keynote Speech**		
Speaker	Şener OKTİK	Maltepe University Faculty of Engineering and Natural Sciences	Nanotechnology for Photovoltaic Conversion
15.00 - 15.30	Break		
15.30 - 17.00	**Role and Implementation of Decision Support Tools in Energy Transition**		
Moderator	Egemen SULUKAN	Faculty Memeber, İstanbul Gedik University, Mechanical Engineering Department	
Speakers	Alperen SARI	PhD Candidate, Mechanical Engineering, Marmara University, İstanbul	Comprehensive Inventory Assessment of Ardahan Municipality: Facilitating Sustainable Urban Development and Resource Management
	Egemen SULUKAN	Faculty Memeber, İstanbul Gedik University, Mechanical Engineering Department	Risk and Vulnerability Analysis and Energy Modelling Practices as Part of "Sustainable Energy and Climate Action Plan": Bodrum Case Study
	Utku KÖKER	Provincial Disaster and Emergency Management Authority, Uşak	Modelling Energy Optimization At Local Scale Including Direct-Air-Capture
	Alperen SARI	PhD Candidate, Mechanical Engineering, Marmara University, İstanbul	The Role of Energy System Analysis and Modeling for Ships in Energy Transition Era
17.00 - 17.30	**Closing Session - IRENEC 2024**		
Moderator	Tanay Sıdkı UYAR	President, Renewable Energy Association EUROSOLAR Türkiye	
Speakers	Alper SAYDAM	Mechanical Engineer, Member of IRENEC Science Committee	
	Doğancan BEŞİKCİ	Secretary General, Renewable Energy Association EUROSOLAR Türkiye	

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Işıl Uyar
Tanay Sıdkı Uyar
Serdar Tan

The European Green Deal; Lodestar or Illusion?

Baha KUBAN Dr., Tanay Sıdkı Uyar Prof. Dr.

On the verge of critical European Parliamentary elections this summer, the European Green Deal, allegedly the world's first public led commitment to climate neutrality, is in for severe political bashing. After the "months of farmer discontent" that has shaken both society and the European political classes, the Green Deal is being cut to pieces by the political right despite the legacy of at least 4 years of successful policy and implementation for climate and energy, in very difficult times spanning the pandemic and war in Ukraine. Are the ambitious climate targets and accompanying wave of legislation in jeopardy due to the shifting political landscape? And what of the "energy transition" "made in Europe" ? Was the 1 trillion euro Green Deal destined to be a Eurocentric lodestar from the start and what are the political hopes of wedding social transition to the energy transition?

Mapping Hydrogen Futures: Competitiveness and Eco-Trade Scenarios

Dr. Yusuf BIÇER

This study introduces a novel hydrogen export competitiveness index to assess the potential of countries in the evolving hydrogen market. By integrating 21 indicators across four key areas—resource availability, economic and financial potential, political and regulatory framework, and industrial expertise—this comprehensive index was crafted through extensive expert consultations and surveys to ensure accuracy and relevance. The analysis identifies the United States, Australia, Canada, the United Kingdom, China, Norway, India, Russia, the Netherlands, and Germany as leaders, positioning them as pivotal players in hydrogen export. The paper ranks countries and provides policy recommendations to enhance their hydrogen economy.

Furthermore, the paper delves into the dynamics of global hydrogen trade through an agent-based model, illustrating various scenarios, including clean hydrogen transition and the strategic selection of trade partners based on environmental criteria. The results underline the delicate balance between economic, environmental, and geopolitical factors in the hydrogen market's development, projecting a significant rise in hydrogen demand and production by 2050. This anticipated growth underscores the need for innovation and policy adjustments to mitigate challenges like production costs and demand fulfillment, fostering a sustainable and secure energy transition.

The Renewable Energies: the Energies of the 21st Century

Dr. Wolfgang PALZ

The author is a German physicist since 60 years continuously active in the field of Renewable Energies. In 1973 he organised the PV section of the UNESCO Congress « The Sun in the Service of Mankind » in Paris. Later he was for over 20 years in charge of the development of all Renewable Energies in the EU, the European Union, and their promotion in Africa and Central America. Wolfgang is the author of a series of books on the Renewable Energies ; the latest « Solar Euphoria, the Rise of Photovoltaics to the Top » was published in 2023.

The big bang came exactly with the start of our century in the year 2000 : that year the world had installed for the first time ever 1 GW of solar photovoltaics, PV, that by now, since 2022, became the front runner of all the world's sources of electricity. Eventually by now it passed the world's other clean energy on course of development this century, wind energy. In the year 2000 the world had already installed more of it than PV, a total of 17 GW; both, the first PV and wind power markets came under the leadership of German incentive: it had been Hermann Scheer from the German Parliament, a good friend of mine and of Prof. Tanay in Turkey, too, who had forged the early successes.

From thereon wind power and PV started together their explosive growth in the world's energy markets, wind power markets until now always keeping a bit ahead of solar PV.

It is a desirable development: the clean Renewable Energies provide the best tool there is to alleviate climate change, the biggest danger facing the world today. And the market growth of the Renewables comes with some desirable side effects, too, i.e. the stimulation of innovation and a new, clean industry, the creation of jobs. But not only, the Renewables foster international cooperation and peace.

As a result we could note with satisfaction that in the course of the year 2022, so just 2 years ago, the world had eventually achieved the installation of a cumulated 1000 GW (=1 TW) of PV, now under the leadership of China and spread over virtually all countries and climates.

And only a year later, in 2023, also led by China, the world achieved eventually a total of 1000 GW of wind power installed, too.

And this is not the end of the story: the explosive growth is even accelerating: it is expected that it will take until 2030 to install the next 1000 GW of wind power throughout the world, 7 years to get the 2nd TW installed while it took decades to install its first TW. And the growth is even more dramatic for PV: the second TW of PV is already installed later this year in 2024, just 2 years after the first!

PV passed the global hydropower capacity in size in 2023. All the 3 clean Renewable Energy power capacities, PV, hydro, and wind power together passed that year also at last the global power of all fossil fuels counted together. In conclusion, today half of the world's electric power is already Renewable with PV coming on top, leaving alone a small contribution of nuclear power (more on it later).

Things look still a bit different when one looks at the electricity generated from these different sources of power. Running time of the clean power providers over the year is highest for hydro that comes today still on top of generation with PV draining behind. And generation is what counts for the consumers. But still, electricity generated from all the Renewables' power capacity has already reached today in 2024 a third of the world's total electricity supply.

For decarbonising the world's power sector the future needs are clear: we have to go from a third of green electricity supply today towards a 100%. PV is already playing its role in the needed growth, wind power could still do a bit better, more hydro is welcome wherever possible, we need more bio-power that stood too much neglected in the past. We got also to develop green Hydrogen, a new challenge.

What we don't need more of is nuclear.

In the 1970s started in earnest the development of nuclear power, in general with public support. Technology was available from the atomic bomb business and the industrial countries with the US as usual in the lead, looking desperately for a way out of dependence from Middle East oil. Hundreds of big nuclear plants were built until public opinion got negative and brought all programmes to a halt following some severe plant accidents and a lot of open questions.

Later in the course of the new century came a little revival of interest in nuclear. This time for its quality of low emissions of carbon dioxide that is endangering the climate. As it is well known the highest emissions originate from the combustion of coal, to a lesser extend from hydrocarbons, and still less from nuclear power, from its fuel cycle.

Today however not many, but some influential politicians still advocate the revival of nuclear power despite its many obvious drawbacks, for example cost and construction time where it comes far behind PV or wind power for instance.

"The World Nuclear Industry" report, 549 pages thick, the last in a series, was published in 2023 and presented in Paris by Mycle Schneider, a friend. The contribution of nuclear electricity to global supply was, in the last 30 years, never as low as it is today and its price is twice the price of the Renewables it says. Just in 2022 global supply from nuclear sources declined by 4%.

That makes the difference with the markets of the Renewables: despite all financial disasters associated with nuclear, governments make new announcements of support while people, all over the world, millions of them by now, invest quietly in the Renewables because they are profitable.

Turkey as far as it is concerned was and is a big player in the field of the Renewable Energies. The country was early on a pioneer of solar water heaters and the use of geothermal sources. Turkey provides 20% of its electricity supply from hydro. With the new century it took part in the arising global interest in wind power, PV, biogas, and the solar heating programmes: It has by now over 200 wind farms running. PV provides already like wind over 12 GW of power. Over half of its total installed power is renewable. And the future of the Renewables looks bright in Turkey. It is estimated that PV alone has a potential of 42 GW by 2035, in particular on rooftops.

An interesting IRENEC 2024 in sight.

Financing Renewable Energy in Turkey

Giray ORAL

- Yenilenebilir Enerji Sektörü'nde Proje Finansmanı'nın rolü
- Yenilenebilir Enerji Projeleri'nin finansmanının önündeki önemli zorluklar
- Finansman zorluklarını aşmak için Alternatif Finansman Modelleri

Challenges In Integrating Renewable Energy Into The Grid

Bilal GÜMÜŞ Prof. Dr.

One of the key factors in controlling global climate change is the production of energy from renewable sources. The use of renewable energy sources is increasing rapidly worldwide, especially wind and solar energy. The use of renewables in electricity generation is the most important area of development. In 2022, 30 percent of the electricity generated came from renewable sources. This development is leading to the rapid growth of distributed energy systems. As a result, distribution and transmission grids will have to adapt to this structure. As digitalisation makes electricity networks more intelligent, managing microgrids, including renewable energy, has become an important issue. The intermittency of electricity from renewable sources and structural differences create some difficulties in grid integration.

One of the main problems in integrating renewable energy sources into the grid is the connection of these sources to the grid through power converters. Due to their structure, power converters generate harmonics that affect the power quality of the grid. It is necessary to control some parameters related to the stability and quality of the grid in order to integrate renewable energy sources into the grid at different levels. The most important of these parameters are voltage, frequency, and reactive power control. In addition, the uncontrollability of renewable energy sources has led to demand-side control. The on-line control systems used for these systems also require cyber security measures. All these factors should be considered as areas to be studied and solutions to be developed when integrating renewable energy sources into the grid.

The presence of energy storage systems is very important to ensure stability and power quality in grids with high penetration of renewable energy sources. In addition, the management of microgrids is also important for system stability.

In this presentation, in addition to voltage and frequency stability, which are the main issues in the integration of microgrids and distributed generation sources into the electricity grid, energy storage and smart grid management systems will be presented.

Clean Energy Cluster of Türkiye

Alper KALAYCI

Energy Industrialists and Business Association (ENSİA) was established in 2016 to strengthen the capacity of the companies and create a cluster in the clean energy field. It has 131 corporate members and with the academics and individual members it has more than 170 members.

ENSİA has been implementing international and national projects to build a network between the companies working in the field of wind, solar, biomass, green hydrogen, hydroelectric and energy efficiency, strengthen their capacities, increase the competitiveness of them in the international field. ENSİA aims to increase the share of domestic production in meeting the needs of the clean energy sector, the mission is to carry our innovative projects, together with national and international stakeholders, to develop the clean energy and clean technology value chain in Türkiye. ENSİA is the biggest clean energy cluster in Turkey, be the member of WindEurope, European Cluster Collaboration Platform and has a Bronze Label from the European Secretariat for Cluster Analysis (ESCA).

The Inter Cluster Collaboration for Carbon Management Project is aiming to transfer best practices and sharing experiences with European Union on carbon order adjustment mechanism, strengthen the capacities of the exporter companies working in the field of iron and steel and clean energy. Also, one of the aims is to prepare a strategy and recommendation document with the collaboration of public authorities on carbon order adjustment mechanism. The coordinator of the Project is ENSİA and the partners of the Project are CoSvig which is an Italian cluster and Ferrous and Non Ferrous Exporters Association.

The other Project of the association is a town twinning Project with the partnership of Bornova Municipality, Yaşar University and Heidelberg Municipality. The aim is to prepare a SECAP for Bornova municipality with the support and best practices from Germany.

The national Project that is implementing by ENSİA is UR-GE Clean Energy Project which is funded by Ministry of Trade. The aim is to increase the competitiveness and capacities of the clean energy companies in the international field and increase their export. 27 companies has been supported within the Project and all of them are ENSİA members.

Social, Economic And Environmental Transformation In Local Governments

Alp KARGI

Local governments are comprised of institutions such as municipalities, provincial special administrations, institutions affiliated with municipalities, local government unions, and development agencies. When we refer to local government, municipalities are the first institutions that come to mind. According to Law No. 5393 on Municipalities, municipalities are defined as "public legal entities with administrative and financial autonomy, established to meet the local common needs of the residents of the town and formed by the voters through elections." The local common needs mentioned in this law vary depending on the environmental, social, and economic conditions of the area.

In today's societies, a governance approach primarily focused on humans should be adopted. Services should be provided impartially without making any distinctions based on language, religion, belief, political thought, race, age, disability, or gender. Individuals should be evaluated as a whole, and governance should be provided equally. Especially, care should be taken to protect the fundamental rights of children, disabled individuals, and women, and gender equality should be supported. In this context, Merzifon Municipality has prepared its "Local Equality Action Plan" and conducts its practices within this framework.

Changing climate conditions affect the entire world, and they also affect Merzifon. Irregularities in rainfall patterns, sudden floods, increasing drought, decreasing water sources, and seasonal changes are observed changes in Merzifon. While local governments combat the current needs and challenges of the people, they also need to prepare their cities for the future. Merzifon Municipality, prioritizing environmental sensitivity, has taken strict measures and prepared a "Carbon Footprint Report" to leave a more livable world for future generations.

Ensuring the sustainability of the expanding vision through the Carbon Footprint Report is also important. Preparing the city for the future begins with redefining the city's strategic plan. Taking measures related to climate change and acting in accordance with the zero-emission target has revealed the necessity of preparing a sustainability report. In this regard, the recommendations of the Merzifon Carbon Footprint Report have been developed to create the "Merzifon Municipality Sustainability Report."

Anticipating the fact that the European Union will not provide any funding or grants to municipalities without local equality action plans, carbon footprint reports, and sustainability reports within a few years, Merzifon Municipality sets an example for local governments as one of the few and pioneering municipalities that have already met these criteria with real calculations and completed these criteria now.

Integrating Scope 3 Emissions into Smart City Reference Architectures: A Pathway to Sustainable Urban Ecosystems

Alper OZPINAR Assoc. Prof. Dr. (Presenting) , Tanay Sıdkı UYAR Prof. Dr. , Eralp OZIL Prof. Dr.

The growth of technology and cities has made it crucial to focus on reducing environmental harm. There's a big push to lower all types of carbon emissions, especially the indirect ones that businesses influence but don't directly produce. These are known as Scope3 emissions and include activities like how a company's products are used, how employees travel, and how waste is managed.

The paper focus how we can better understand and manage these emissions by categorizing them into three groups. While the first two groups cover direct emissions from company operations (Scope 1) and indirect emissions from the energy they use Scope2, the third group, Scope3, includes a wider range of indirect emissions related to a company's activities. As cities grow, including Scope 3 emissions in city planning is very important to ensure development is environmentally friendly.

The paper investigates how smart cities can keep an eye on and manage these Scope 3 emissions, using Turkey's smart city model, RUMI to find ways to reduce these emissions to make city development more sustainable worldwide.

The study gives a detailed plan on how to include these Scope 3 emissions in smart city planning. It highlights how smart planning can help align technological advances with caring for the environment. The paper also compares different smart city designs to find the best ways to include environmental considerations in city planning and suggests that combining smart city technology with environmental rules can help cities deal with climate change and urban growth effectively.

Hybrid Architectural Approach for Energy Monitoring in Geothermal Fluid Lines: Integrating Next-Generation ICT for Optimized Thermal Flow Management

Alper OZPINAR Assoc. Prof. Dr. (Presenting), Tayfun Yalcinkaya PhD Student

The global energy landscape is undergoing a significant transformation, with renewable energy sources at the forefront of efforts to achieve sustainable development and reduce carbon emissions. The efficiency of energy transmission lines, especially in geothermal energy systems, is critical to maximizing the utilization of renewables and minimizing energy losses. For cleaner and more efficient energy solutions grows, the development of advanced monitoring and optimization systems becomes imperative.

This paper presents and propose a comprehensive architecture designed to monitor and optimize the thermal management of geothermal fluid lines. The study delves into the analytical methodologies, approaches, and the implementation of a suitable architecture that facilitates the convergence of Cloud, IT, and Operational Technology (OT) within the framework of renewable energy systems. Arhitecture integrates advanced data acquisition, AI-driven analytics, and sophisticated visualization technologies to provide a holistic view of thermal processes across industrial sectors. The system's hybrid architecture merges traditional SQL databases with NoSQL elements, enabling a robust data warehousing solution that supports extensive energy production analysis. This paper highlights the significance of IoT and machine learning algorithms in dynamic risk assessment and maintenance optimization, enhancing the operational efficiency and sustainability of geothermal energy systems. The integration of digital twin technology within SmartThermoMIOS offers a simulated environment that mirrors physical processes, enriched by real-time data analytics for continuous performance evaluation. The proposed architecture ensures seamless data flow and decision-making across different system layers, establishing a resilient network infrastructure optimized for low-power, long-range communication essential in IoT device management. By exploring the system's design, prototyping, and field implementation phases, the paper provides insights into developing a scalable, secure, and adaptable platform for energy monitoring. This research underlines the potential of merging ICT with OT in the energy sector, showcasing a model for future advancements in renewable energy monitoring and management.

Advancing Sustainability Reporting in the Public Sector: A Case Study of Municipalities

Özlem YURTSEVER Dr. , Cem ÇELIK Dr. (Presenting)

The global energy landscape is undergoing a significant transformation, with renewable energy sources at the forefront of efforts to achieve sustainable development and reduce carbon emissions. The efficiency of energy transmission lines, especially in geothermal energy systems, is critical to maximizing the utilization of renewables and minimizing energy losses. For cleaner and more efficient energy solutions grows, the development of advanced monitoring and optimization systems becomes imperative.

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Challenges in Writing a Sustainability Report for a Public Institution: Merzifon Municipality Case

Sercan Kırık (Presenting), Sertaç Öztürk, Özlem Yurtsever Dr., Cem Çelik Dr., Eralp Özil Prof.Dr

This study examines the challenges encountered in writing a sustainability report for municipalities which have the duty to establish sustainability goals and devise strategies to attain these objectives, considering environmental, social, and economic aspects. Nevertheless, numerous substantial obstacles are encountered throughout this procedure.

Firstly, the procedure of gathering and examining data is exceedingly intricate. Municipalities must analyze comprehensive datasets from various sources, including financial data, suppliers, human resources and employees, energy consumption, waste management and water usage, which must be interpreted accurately.

Secondly, how municipality top management handles the global sustainability goals and biodiversity related protocols and issues and interpretation of international, national and local laws and regulations.

Thirdly, sustainability reports often need to balance the interests of different stakeholders. Municipalities must manage different expectations among local communities, businesses, civil society organizations, and other stakeholders. This complexity makes it challenging to determine the scope of the report and communicate accurate information effectively.

Lastly, limited financial resources pose a challenge. Sustainability projects are often costly, and municipalities may struggle to allocate sufficient funds for these projects.

In conclusion, writing a sustainability report for a municipality involves navigating through complex data, balancing stakeholder interests, ensuring regular updates, and managing limited financial resources. Effectively addressing these difficulties is of utmost importance for municipalities to showcase their dedication to sustainability and attain significant advancements in their sustainability endeavors.

The Contribution of SWOT Analysis to Sustainability Standards: A Case Study of Merzifon Municipality

Cem Çelik Dr. (Presenting), Özlem Yurtsever Dr., Eralp Özil Prof. Dr.

Sustainability standards have significant importance in providing guidance to various organizations, including municipalities, in their efforts to adopt practices that are environmentally sustainable, socially responsible, and economically feasible. Nonetheless, the successful implementation of these standards necessitates a thorough comprehension of the internal and external variables that could influence sustainability endeavors. of Global Reporting Initiative (GRI) Standards (2021) and SWOT analysis (Strengths, Weaknesses, Opportunities, Threats) can be used together to overcome the lack of available sustainability standards for public institutions such as municipalities.

Based on a study conducted in Merzifon Municipality, the purpose of this paper is to demonstrate the impact of SWOT analysis on sustainability reporting process. By identifying strengths and weaknesses within the organization, Merzifon Municipality can capitalize on its strengths while addressing areas for improvement. Additionally, analyzing external opportunities and threats enables the municipality to proactively adapt and respond to changing circumstances.

Through a detailed examination of Merzifon Municipality's sustainability practices and policies, this study aims to highlight the benefits of integrating SWOT analysis into sustainability standards. The research findings have the potential to offer significant insights for municipalities and organizations aiming to improve their sustainability initiatives by implementing strategic planning and making well-informed decisions.

In summary, this study emphasizes the significance of SWOT analysis as a strategic instrument for identifying crucial variables for success, reducing risks, and capitalizing on opportunities in the quest for sustainable development. By leveraging SWOT analysis within the context of sustainability standards, Merzifon Municipality can strengthen its commitment to environmental responsibility, social equity, and economic resilience, serving as a model for other municipalities striving for sustainability excellence.

The Future of the Renewable Energy Sector in Turkey and Career Opportunities for Young People

Evren AKTAŞ

Our country is very rich in renewable energy resources, but these resources are not used enough yet. Nearly 60% of Türkiye's Electrical Energy needs are currently produced from coal and natural gas. This situation will change rapidly in the coming years, because it is for the benefit of our country to reduce both the import of energy resources and the use of environmentally harmful resources. Wind and solar power plants will be established, equipment will be manufactured, supporting storage and network investments will be made, and environmental and social processes and communication will need to be managed sensitively. In short, the renewable energy ecosystem will gradually grow. These developments will offer opportunities in many different branches to young people who grow up and have a profession in our country. Young people who follow the development of the sector in a focused manner while continuing their vocational education will benefit from the career opportunities provided by the renewable energy sector and will be able to establish a long and successful working life in this sector.

Energy Efficiency and Smart Monitoring on Renewable Energy

Baki TUNCER

With advancing technology and increasing device usage, our energy needs are growing rapidly. However, it is becoming more and more difficult to meet this need with limited resources. Considering the increasing energy costs, it becomes inevitable to use the available energy more efficiently. ENTES Elektronik offers the necessary solutions to increase energy efficiency with hardware and software developed in its field of expertise.

Article 5.1.h of the Regulation on Unlicensed Electricity Generation and the Effects of the Change of the Regulation

Murat Ali ÇELEBİOĞLU

The definition, advantages, and drawbacks of unlicensed electricity generation will be mentioned.

- The effects of article 5.1.h of the regulation on unlicensed electricity generation on the various sectors will be discussed.
- Up-to-date information on legislative changes in unlicensed electricity generation will be provided.
- It will be discussed how new regulatory changes shape the opportunities and challenges in the sector.
- Finally, the efforts of other industry players regarding unlicensed electricity production and the investment model developed by Rönesans Enerji will be discussed.

Sustainability in Machine Tools

Nicolas ZARAK

We would like to give you a brief overview of our sustainability journey in machine tools.

What is our motivation and what methods have we used to overcome the challenges?

What are our goals and where are we right now?

Renewable Energy Investments of Industrial Organizations

Oğuzhan HAZNEDAR

Renewable Energy Outlook – Current and Future Trends

Ali KİNDAP

Renewable energy resources and the efficient use of these resources, which are of critical importance in the journey of achieving Carbon Neutral and Net Zero targets, are the top agenda items of Turkey and the World energy sector.

While the steps and innovations to be taken in the fields of geothermal, wind, solar, hydro energy and biomass, which are environmentally friendly clean energy sources, are followed with great interest; in order to create a sustainable and continuous energy mix meeting the increasing energy demand, studies focusing on resource diversity and storage technologies are gaining momentum.

Renewable Energy Approach in Energy Planning of Erzurum Province

Emine Ertane BAŞ

The use of fossil resources has disturbed the natural balance of the world and caused environmental pollution. The most important precautionary measure to eliminate these negative effects is to increase the use of renewable energy resources that do not harm the environment instead of fossil energy resources. In this context, this study aims to prepare a roadmap for the use of 100% renewable energy to meet the electricity needs of Erzurum province. For this purpose, different scenarios for the transition to renewable energy were prepared using the EnergyPLAN program, an energy simulation program. In the program, the program was first verified using the current energy data of Erzurum for the year 2021 and a reference scenario was created with this data. Subsequently, various alternative scenarios were prepared in 5-year periods, starting from 2025 until the use of fossil resources is reduced to zero. The demand for electrical energy required to create these scenarios was generated using the Artificial Neural Networks model. First, the network was trained using historical data and it was found that the trained network made predictions with an accuracy of 98%. Then the demand for electrical energy was estimated for the scenarios. The results of the scenarios show that use of fossil resources will decrease to zero in 2045. At the same time, it was found that the amount of CO2, which was 0.07 million tons in the reference year 2021, was found to be 0.05 million tons, 0.03 million tons, 0.02 million tons, 0.01 million tons and 0.00 million tons 2025, 2030, 2035, 2040 and 2045, respectively.

Integration of Renewable Energy into Türkiye's Transmission System and Evaluation of the Ministry's 2035 Goals

Necip Fazıl BAKIR

- About Kıvanç Energy
- Türkiye Renewable Energy Current Outlook
- Ministry of Energy and Natural Resources 2035 Renewable Targets
- The role of TEİAŞ in Renewable Energy Integration
- Challenges and Solution Suggestions in the Transmission Network in Renewable Energy Integration
- Difficulties Encountered by Investors Within the Scope of Renewable Targets

Vestas ve Vestas Türkiye'nin genel durumu, sürdürülebilirlik adına atılmış gelişmeler, Servis önemi ve yatırımcının seçenekleri

Alp Arslan KARDIÇALI

Investigation of the Parameters Affecting the Performance of Reversible Solid Oxide Cells

Hatice KORKMAZ, Ali Volkan AKKAYA Prof. Dr

Solutions to the economic and climatic constraints of renewable energy sources such as wind and solar can be produced using reversible solid oxide cell technologies. Reversible Solid Oxide Cells (RSOCs) are systems that can produce both energy and fuel. By integrating RSOCs into renewable energy systems, energy storage can be achieved. Storing energy produced during low-demand periods and producing and storing fuel during high-demand periods provides flexibility to renewable energy sources. RSOC operates in two modes: fuel cell and electrolyzer. In the fuel cell mode, fuels such as hydrogen, natural gas, biofuels, or synthesis gas enter the system from the fuel electrode, while oxygen enters from the oxygen electrode, releasing water and electrical energy. In the electrolyzer mode, electricity and water enter the system from the fuel electrode, releasing hydrogen and oxygen. A model for RSOC has been developed to determine the performance of a YSZ electrolyte-supported planar reversible solid oxide cell under different operating conditions. Electrochemical modeling of a cell with an active area of 16 cm2 was performed using computer software. The electrolyte of the cell consists of YSZ (Yitria Stabilized Zirconia), the fuel electrode consists of porous Ni-YSZ (Nickel), and the oxygen electrode consists of porous LSM-YSZ (Lanthanum Strantium Manganet). Reversible solid oxide cells typically operate at temperatures between 500°C and 1000°C. In this study, the relationship between the performance of RSOC and pressure and temperature was examined. The effects of polarizations occurring in the three-phase region on the cell performance of SOFC have been investigated, and a parametric analysis has been conducted. It was observed that increasing pressure and temperature improved cell performance in RSOC systems.

Energy Performance Contract: Green Energy with the Collaboration of Public and Private Sector

Kadriye AVCÜ

Global Climate Community Izmir: Making the Whole City a Stakeholder in the Goal of Climate Neutral

Giray BUTUR

Global Climate Community Izmir platform established within the scope of "Climate Neutral and Smart Cities", one of the 5 missions determined by the European Commission. The platform embraces the whole city and reduces the barriers to making Izmir a more sustainable city. The aim of the platform's work that covers the city cumulatively is; To make Izmir a more livable and sustainable city, especially carbon neutral, and to give the right to speak to all local initiatives, organizations and citizens, not just one party. The platform, which aims to maximize citizen participation, plans to reach the carbon zero commitments made to the European Commission as a city by increasing awareness, and to achieve other EU Missions and non-mission goals.

Energy Efficiency in Public Buildings and ISO 50001 Energy Management System

Şefika Çağla GÜNDOĞAN

In the fight against climate change, the efficient use of energy as well as the production of electricity from renewable energy sources is considered as an issue that needs attention. With increasing energy costs, energy saving practices have begun to be implemented, especially in public institutions. At this point, the Regulation on Increasing Efficiency in the Use of Energy Resources and Energy published by the Ministry of Energy and Natural Resources defines the duties and obligations of public institutions regarding energy efficiency. Particularly for public sector buildings with a total construction area of at least ten thousand square meters or a total annual energy consumption of two hundred and fifty TEP and above, it has introduced obligations such as energy audit, appointment of an energy manager and installation of ISO 50001 Energy Management System.

Another legal document is the "Saving Target and Implementation Guide in Public Buildings" published by the Presidency on November 3. With this guide, energy saving, which was previously given as 15%, was increased to 30%, and it was stated that those who could not achieve this target by 2030 would be considered unsuccessful and a reasoned report would be requested.

Similarly, a climate neutral target has been set for the city of Izmir by 2030, depending on the Climate Neutral and Smart Cities Mission, which is carried out under the coordination of Izenerji Inc. To achieve these goals, it is essential to disseminate energy efficiency practices throughout the city. In addition, the issue of energy efficiency is also addressed in the SECAP action plans prepared by Izmir Metropolitan Municipality.

Considering both the legal regulations and the presidential vision, ISO 50001 Energy Management System becomes very important for the city of Izmir. The standard has been prepared to ensure that organizations can create the necessary systems and processes to continuously improve energy performance, including energy efficiency, energy use and energy consumption. While providing guidance to institutions in managing energy, it enables them to be competitive and manage energy-related risks and opportunities more systematically and efficiently.

Renewable Electricity Supply and Its Role in the Future

Halime TURAN BABACAN

Renewable energy sources are increasingly gaining significance worldwide in meeting the demands of energy consumption. Emerging as an environmentally friendly and sustainable option, renewable energy plays a pivotal role in the realm of electricity supply. In this article, we will focus on the current status of renewable electricity supply and its prospective role in the future.

Renewable energy sources encompass energy derived from natural resources such as solar, wind, hydroelectric, biomass, and geothermal. These sources have a lower environmental impact compared to fossil fuels and are infinitely replenishable. Consequently, renewable energy is becoming more integrated into the electricity supply system, aligning with goals to reduce carbon emissions and enhance energy security.

Electricity trading involves the purchase, sale, and distribution of electrical energy, comprising various transactions among producers, distributors, consumers, and intermediaries. This sector is a crucial component of the energy industry, exerting significant influence on energy market regulations, energy security, and sustainability.

One fundamental element in electricity trading is energy markets. These markets provide a platform for electricity producers to generate energy from various sources and deliver it to consumers. The aim is to create a competitive environment among buyers, sellers, and intermediaries, ensuring the determination of prices and maintaining the balance between energy supply and demand.

The predominant preference in electricity supply is the utilization of energy derived from renewable sources. To substantiate this choice, we employ International Renewable Energy Certificates (I-REC) to certify that the energy we supply originates from renewable sources. This certification validates our commitment to sustainable energy usage, contributing to the reduction of environmental impacts and fostering the transition to renewable energy.

Another crucial concept, widely utilized in energy markets, is the "spot market." The spot market is where electrical energy is bought and sold instantly. Prices in this market are typically determined based on supply and demand conditions, allowing electricity consumers to either buy or sell electricity.

Yet another vital aspect in electricity trading is energy derivative products. These products serve purposes such as hedging against future electricity prices, risk management, or speculative trading. Futures contracts, options, and other derivative instruments are used as financial tools in electricity trading.

Additionally, renewable energy sources are gaining increasing importance in energy trading. Renewable energy projects contribute to diversity in electricity trading, supporting environmental sustainability. These projects are often supported by government incentives, green certificates, and various financial mechanisms.

In the future, renewable electricity supply will continue to be a key element in the energy sector. More countries and companies will turn to renewable energy sources to reduce carbon footprints, enhance energy security, and build a sustainable energy future. In this process, policy support, technological innovations, and global collaborations will play crucial roles.

Multi-Level Governance Platform for Climate Actions and Towards 100% Renewables Implementation in Türkiye

Daiva MATONIENE, İpek TAŞGIN

The Multi-Level Governance Platform (MLGP) for Climate Actions and Towards 100% Renewables Implementation in Türkiye stands as a groundbreaking initiative designed to propel Türkiye towards a sustainable and resilient future amidst the challenges of climate change. This paper offers a comprehensive analysis of the MLGP, spanning its conceptualization, implementation, achievements, obstacles, and future trajectory. At its core, the MLGP embodies a collaborative approach to climate governance, fostering vertical and horizontal partnerships among local, national, and international stakeholders. Through a series of capacity building trainings, SECAP sub-project assessments, communication strategies, and the development of essential resources like the SECAP handbook and IT tools, the MLGP aims to empower municipalities and institutions to drive meaningful climate action. The testing phase of the MLGP in the dynamic Marmara Region served as a proving ground for its efficacy, highlighting the importance of stakeholder engagement, capacity building, and innovative problem-solving. Challenges such as data availability, technical expertise, and inter-institutional coordination emerged, spurring the platform to develop adaptive solutions and strategic recommendations for future scalability. Looking ahead, the paper outlines a strategic roadmap for the nationwide expansion of the MLGP, emphasizing dialogue with key stakeholders like the Union of Municipalities of Türkiye (UMT), knowledge transfer, funding mobilization, and stakeholder engagement. Recommendations for sustainable scaling up include phased regional expansion, integration with national climate laws, and robust monitoring and evaluation mechanisms. In conclusion, the MLGP represents a transformative model for climate governance in Türkiye, offering a framework for collaboration, innovation, and the transition towards 100% renewable energy. By leveraging the lessons learned from its testing phase and embracing a forward-looking approach, the MLGP has the potential to shape Türkiye's climate and energy agenda, driving progress towards a sustainable, low-carbon future.

Empowering Urban Energy Transformation: Municipal Energy Desks Combating Energy Poverty and the Path to Resource-Efficient Buildings by 2050

Arif KÜNAR, Daiva MATONIENE

This article developed by the project scope "EU4 Energy Transition: Covenant of Mayors in the Western Balkans and Türkiye" and implemented by Lithuanian Central Project Management Agency in Türkiye. This Multi Donor Action is jointly co-financed by the European Union and the German Federal Ministry for Economic Cooperation and Development. Energy poverty presents a significant challenge in urban environments, affecting the health, finances, and social equality of vulnerable populations. This paper explores the initiatives undertaken by the İstanbul Metropolitan Municipality (IMM) to address energy poverty, focusing on the proposal for the creation of Municipal Energy Desks (BEM). These desks aim to provide information, technical support, and project management services to households seeking energy efficiency improvements and renewable energy adoption. The paper outlines the project proposal, including the establishment of "Alo Energy Advisory Desk" (AEDM) and the training of personnel for effective desk operations. Additionally, it discusses the operational framework, community engagement strategies, and potential impacts on vulnerable households. Through a collaborative ap-proach involving stakeholders, volunteers, and academic institutions, the paper seeks to contribute to the alleviation of energy poverty in urban areas and pave the way for sustainable energy transitions.

Renewable Implementation for Climate Mitigation: Bağcılar Municipality Energy Based Mitigation Project

Ertuğrul Selçuk GÜLDÜLER, Faruk ŞİT

Amidst the global imperative to combat climate change, this project proposes the establishment of Solar Power Plants in Istanbul's Bağcılar Municipality as a pivotal measure for mitigation and sustainable energy transition. Through rigorous needs assessments and analysis of local conditions, solar energy emerged as the optimal renewable resource for reducing carbon emissions and meeting electricity demands. The project's primary objective aligns with Bağcılar Municipality's Sustainable Energy and Climate Action Plan (SECAP), aiming to install a 171.72 kWp Solar Power Plant to generate 203.9 MWh of electricity and prevent 100,318 kg of carbon emissions. Funded by the Central Project Management Agency of Lithuania, in collaboration with Bağcılar Municipality, this initiative targets Bağcılar residents as indirect beneficiaries, offering cleaner energy and environmental benefits. Additionally, the municipality stands to gain from reduced costs and enhanced sustainability. The project's relevance extends beyond local objectives, contributing to broader themes of climate change mitigation and sustainable development. Through knowledge dissemination and capacity building, it synergizes with existing initiatives while avoiding duplication. This project represents a scholarly approach to energy transition, promising significant contributions to regional priorities and positioning solar energy as a key element in future energy strategies.

Review of Building Construction Materials and Energy Certification Types within the Scope of Renewable Energy and Sustainability

Eray KARAASLAN

Energy consumption and its effects on the environment have increased significantly with the rapidly increasing population and urbanization, and for the sake of sustainability, urbanization and buildings must be managed within the scope of sustainable energy. In this context, the concept of green buildings comes to the fore. In that case following topics will be discuss;

- Evolution of buildings
- Energy save materials in buildings
- Energy certification systems
- Environmental, social, and economic benefits of buildings which have energy certification
- Existing challenges and potential solutions

Decreasing Greenhouse Gas Emissions related to Thermophysical Properties of Windows Towards 2030 SDG

Alpay AKGÜÇ PhD Degree,
Mustafa GÜVEN Graduate Student

Today, it is aimed to design buildings as both zero carbon and high thermal comfort by focusing on passive system strategies in accordance with climate region. The building envelope, which provides dynamic interaction between the building and the environment, has a crucial role on heat gain and loss in buildings. Therefore, the determining thermo-physical properties of building materials are one of the most important design decisions in both new and existing buildings to decrease the greenhouse gas emissions. Especially, the improvement of existing building standards comes into prominence for reducing of buildings greenhouse gas emissions to achieve 13th goal of 2030 Sustainable Development Goals (SDG)

In this study, the reference thermo-physical property (U-value) of windows in Thermal Insulation Requirements in Buildings (TS825) was reassessed based on three separate thermo-physical categories (U-value, SHGC, and T-vis) to suggest optimum window options to reduce CO2 emissions of residential buildings in Turkey. By using the DesignBuilder building energy simulation tool, the energy performances of different glazing and frame types were tested for the sample residential building in 2nd degree day region of TS825. In the conclusion of performance tests, three window options (W07, W17 and W19) which were low-e and polymer glazing types with 16mm air-filled, drew the attention. W07 (U-value: 1.89 W/m2.K, SHGC: 0.40, T-vis: 0.61), W17 (U-value: 1.37 W/m2.K, SHGC: 0.47, T-vis: 0.59) and W19 (U-value: 1.29 W/m2.K, SHGC: 0.35, T-vis: 0.47) provided 10.45%, 9.81% and 19.56% reduction, respectively, in annual CO2 emissions of the sample building.

Examining Türkiye in the Context of Renewable Energy in the European Region.

Burçin KAPLAN Assoc. Prof. Dr.,
Zafer Çakmak PhD Candidate

Europe's advanced industrial sector makes it one of the most energy-intensive regions in the world. Over the last 20 years, the importance of renewable energy in this region has increased in terms of meeting energy needs, ensuring the region's energy security, supporting sustainable development and combating climate change. Located in the European region, Turkey plays a key role between energy-supplying and energy-demanding areas. Thanks to its strategic geographical location, it has taken significant steps in the field of renewable energy, especially in the last decade. Thanks to its clean energy potential, Turkey's rapid progress has enabled it to rise rapidly within the European region. According to projections, Turkey is expected to be among the top three countries in the European region in the field of renewable energy in the medium term. The primary objective of this research is to examine the renewable energy sector in the European region and to investigate the importance of Turkey within this region. In this context, the scope of the study is defined by the following research questions What is the current status of the renewable energy sector in the European region? What is the market structure of the renewable energy sector in the European region and how is it expected to develop in the future? What is the current status of the renewable energy sector in Turkey? What is the significance of Turkey for the renewable energy sector in the European region? In order to achieve the objectives of this study, the authors reviewed different types of resources including literature, national energy plans, European Union reports and international reports, and preapered a comparative review based on the data contained in these sources.

Comparative Analyses between Mainstream and Alternative Media in Turkey on Climate Crises

Ayşegül AKAYDIN AYDIN Assoc.Prof.

The transformation of the media in Turkey began in the 1990s with global neoliberal policies. This led to changes in the ownership structure of the media and brought about ideological and structural differences in news discourse. However, with the widespread use of new media in journalism, new platforms have been discovered. These platforms, called alternative media, constitute a resource for journalists who have difficulty making their voices heard in the mainstream media. On the other hand, issues that cannot be discussed in the mainstream media find more coverage in alternative media. The climate issue receives more coverage in alternative media. Based on this premise, this study analyzes the coverage of the climate crisis by alternative and mainstream media in Turkey. The news on the landslide accident that occurred in İliç district of Erzincan on February 13, 2024 was analyzed in both mainstream and alternative media through discourse analysis method.

Comprehensive Inventory Assessment of Ardahan Municipality: Facilitating Sustainable Urban Development and Resource Management

Alperen SARI (Presenting), Egemen SULUKAN Assoc. Prof., Doğuş ÖZKAN Assoc.Prof., Tanay Sıdkı UYAR Prof.Dr.

Ardahan inventory report provides a detailed assessment of the tangible and intangible assets within the jurisdiction of the Ardahan Municipality. The aim of the report is to evaluate the current state of the municipality's resources, infrastructure, and services, serving as a foundation for strategic planning, policy-making, and sustainability initiatives. The inventory encompasses a wide range of sectors, including urban infrastructure, transportation networks, public buildings, cultural heritage sites, green spaces, and environmental resources. In addition, it incorporates a thorough evaluation of the municipality's financial assets, human resources, and institutional capacities. Data were collected through a combination of field surveys, geospatial mapping, stakeholder consultations, and the analysis of municipal records. Key findings indicate a need for investment in critical infrastructure renewal, more efficient resource allocation, the integration of sustainable practices, and enhanced community engagement. Recommendations are provided to address issues such as energy efficiency, waste management, water conservation, and public transportation system improvements, fostering resilience against climate change impacts. It calls for a participatory approach involving local communities, businesses, and policymakers in the decision-making process. By documenting the current state of assets and highlighting areas for enhancement, the report serves as an instrumental tool for driving Ardahan's sustainable development agenda forward.

Modelling Energy Optimization at Local Scale Including Direct-Air-Capture

Utku KÖKER, Halil İbrahim KORUCA, Egemen Sulukan Assoc. Prof., Tanay Sıdkı UYAR Prof.Dr.

Following the devastation of the World Wars, nations quickly began implementing industrialization and economic expansion policies. An unprecedented level of environmental degradation has resulted from these measures. The environmental factor, which was underlined for the first time with the Stockholm Conference convened within the United Nations in 1972, was reinforced with structures such as the United Nations Framework Convention and the Paris Agreement in the following period. Since the 1973 oil shock, environmental consciousness has bolstered the need to find a fossil fuel substitute, and the idea of renewable energy has begun to emerge in practical applications. As their unit costs decrease globally, wind and solar power plants are becoming the most essential sources of energy needed to maintain a sustainable environment, accounting for a sizable portion of the global energy supply. This study models the sustainable energy output of Manisa, a significant province in the TR33 region of Turkey, for the 2031 timespan. Technically and environmentally sustainable energy production is considered within the given constraints and modeling the use of direct air capture in compliance with CO2 upper limits is shown within the scope of the alternative scenario. By comparing BAU and alternative scenarios economically and environmentally, the outlook for sustainable Manisa energy production for 2031 is presented.

Risk and Vulnerability Analysis and Energy Modelling Practices as Part of "Sustainable Energy and Climate Action Plan": Bodrum Case Study

Doğancan BEŞİKCİ, Egemen SULUKAN Assoc. Prof., Tanay Sıdkı UYAR Prof.Dr.

As of 2024, many countries have set carbon neutrality targets for 2050 in order to eliminate harmful emissions for the climate. To achieve this goal, both industries and local governments need to have ambisions and intentions towards carbon neutrality. While the emission reduction of industries is the subject of another study, this study focuses on the methods applied by municipalities (local governments). One of the most common methods applied at the municipal level is the practice of Sustainable Energy and Climate Action Plan (SECAP). In this study, an example of how energy modeling studies can be integrated with Risk and Vulnerability Analysis (RVA), which is a sub-part of the SECAP process initiated by Bodrum Municipality, Türkiye against climate change, will be examined as a case study. In the RVA step, the city was analyzed in terms of temperature, river flooding, sea level inundation, flooding, water scarcity, wildfire, and vector-borne diseases, and their risk levels were revealed. The results show that the primary climate risks that Bodrum Municipality should focus on in order of priority are floods, forest fires and temperature in order of importance.

The Role of Energy System Analysis and Modeling for Ships in Energy Transition Era

Alperen SARI (Presenting), Egemen SULUKAN Assoc. Prof., Doğuş ÖZKAN Assoc. Prof., Tanay Sıdkı UYAR Prof.Dr., Bülent EKİCİ Prof.Dr.

The fight against global climate change continues at a great pace in the maritime sector, as in all sectors around the world. It adopted its first strategy for Greenhouse Gas (GHG) Emission Reduction in the maritime sector, titled "The Initial International Maritime Organization (IMO) Strategy on GHG emissions reduction from ships", in the Maritime Environment Protection Committee (MEPC-72) in 2018. Today, reshaping our maritime transport and reducing GHG emissions Efforts to further tighten the rates determined to reduce the risk continue under the leadership of IMO. In this study, we will explain the importance of using the Reference Energy System (RES) concept and Decision Support Tools, which are widely used in the energy sector around the world, to see the applicability of the measures to be taken in the maritime sector in the coming years. In this context, RES of "An Oil Product Tanker Ship" is developed.

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Türkiye'nin orta kuzeyinde yer alan Amasya İlinin Merkez ilçe dahil yedi ilçesi bulunmaktadır. Merkez ilçeden sonra en büyük yerleşim yeri olan Merzifon, Karadeniz Bölgesi'nin orta bölümünde ve Kuzey Anadolu Dağları'nın alçalarak güneydeki İç Anadolu'ya geçit verdiği kesimde yer almaktadır.

Strabon'un "Bin köy"; olarak belirttiği bölgede yapılan arkeolojik araştırmalarda yüzlerce höyük ve yerleşim yerinin varlığı saptanmıştır. Bu höyüklerden elde edilen seramik ve buluntulara göre Merzifon tarihinin M.Ö. 5500'lere kadar uzandığı anlaşılmıştır. Merzifon bölgesinin Hitit döneminde de başkent Hattusaş'a sınır olması nedeni ile önemli bir merkez ve yerleşim yeri olduğu bilinmektedir.

Osmanlı döneminde Sivas eyaletine bağlı Amasya Sancağının kazası olan Merzifon önemli bir kültür merkezi olmaya devam etmiştir. 1402 yılında Yıldırım Beyazid ile Timur arasındaki savaşta dağılan Osmanlı birliğini Amasya şehzadesi Çelebi Sultan Mehmet yeniden sağlayarak Osmanlı tahtına çıkmıştır. Bölgede sükunetin sağlanması ile Merzifon şehri de eski önemine kavuşmuştur.

70 köyü ve 20 mahallesi olan ilçenin, 2022 yılı verilerine göre merkez nüfusu 62.536, köy nüfusu 12.810, toplam nüfusu ise 75.346 kişidir. İlçenin yüz ölçümü 971 km2'dir. İklimi ise Karadeniz ve İç Anadolu bölgesinin ikliminden etkilenmektedir. Yazlar kurak ve yağışsız, kışlar ve baharlar yağışlı geçmektedir. Yıllık yağış miktarı ortalama 350 kg/m2 olmaktadır.

İlçe ekonomisinde tarım ve hayvancılık önemlidir. Merzifon merkezi konumu, gelişmiş Organize Sanayi Bölgesi (OSB) ile sanayi alanında gelişme potansiyeli yüksek bir ilçe konumundadır. OSB, 1987 yılında kurulmuş olup tekstil ve elektrikli makine sektörleri ağırlıklıdır. 2023 verilerine göre; 94 parselin 92'si tahsis edilmiştir. 69 firma üretimde, 19 firma inşaat halinde, 4 firma ise proje safhasındadır. Merzifon OSB'de yaklaşık 8 bin kişi istihdam edilmektedir. Bu firmalar Avrupa ve diğer ülkelere önemli ölçüde ihracat yapmaktadırlar. Ayrıca ilçede 5. Ana Jet Üssü, Polis Meslek Eğitim Merkezi ve Amasya Üniversitesi'ne bağlı İktisadi ve İdari Bilimler Fakültesi ile Meslek Yüksekokulu da bulunmaktadır.

Amasya Province, located in the central north of Turkey, has seven districts including the central district. Merzifon, the largest settlement after the central district, is located in the central part of the Black Sea Region and in the section where the Northern Anatolian Mountains descend and pass into Central Anatolia in the south.

Archaeological research in the region, which Strabon described as "a thousand villages", has revealed the existence of hundreds of mounds and settlements. According to the ceramics and finds obtained from these mounds, it was understood that the history of Merzifon dates back to 5500 BC. It is known that Merzifon region was an important center and settlement in the Hittite period as it was bordering the capital Hattusas.

During the Ottoman period, Merzifon, which was the accident of Amasya Sanjak of Sivas province, continued to be an important cultural center. In 1402, Çelebi Sultan Mehmet, the sultan's son of Amasya, re-established the Ottoman unity that disintegrated in the war between Yıldırım Beyazid and Timur and ascended the Ottoman throne. With the establishment of peace in the region, the city of Merzifon regained its former importance.

The district, which has 70 villages and 20 neighborhoods, has a central population of 62,536, a village population of 12,810, and a total population of 75,346 according to 2022 data. The land area of the district is 971 km2. Its climate is influenced by the climate of the Black Sea and Central Anatolia regions. Summers are dry and rainy, winters and springs are rainy. The average annual rainfall is 350 kg/m2.

Agriculture and animal husbandry are important in the district economy. Merzifon is a district with a high potential for development in the field of industry with its central location and developed Organized Industrial Zone (OIZ). The OIZ was established in 1987 and the textile and electrical machinery sectors are predominant. According to 2023 data; 92 of 94 parcels have been allocated. 69 companies are in production, 19 companies are under construction and 4 companies are in the project phase. Approximately 8 thousand people are employed in Merzifon OIZ. These companies export significantly to Europe and other countries. There is also the 5th Main Jet Base, Police Vocational Training Center, Faculty of Economics and Administrative Sciences and Vocational School of Amasya University.

CPMA, barışı sağlamayı, dünyada ekonomik büyümeyi ve sosyal istikrarı teşvik etmeyi, ülkeler arasındaki farklılıkları azaltmayı ve ortak ülkeleri dünya ekonomisine entegre etmeyi amaçlayan projeler uygulayarak uluslararası kalkınma işbirliği politikasına katkıda bulunmaktadır. 1999 yılı, CPMA'nın uluslararası kalkınma işbirliği faaliyetlerine katılımının başlangıcı olarak kabul edilebilir. 1999'dan 2009'a kadar, Litvanya'nın Avrupa Birliği (AB) desteğinin bir alıcısı olduğu dönemde, CPMA, Litvanya'daki AB Eşleştirme programının yöneticisi işlevini yerine getirmiştir. Litvanya'nın AB üye devleti olmasının ardından CPMA, Litvanya kamu sektörü kurumlarının Avrupa entegrasyon deneyimini ve diğer birikmiş uzmanlık bilgilerini İkiz Program formatında sürdürülebilir kalkınma reformları uygulayan ortak ülkelere aktararak uluslararası kalkınma işbirliği faaliyetlerini sürdürmektedir. 2018'den itibaren CPMA, dolaylı yönetim yoluyla AB tarafından finanse edilen uluslararası kalkınma işbirliği programlarını uygulamaktadır, diğer bir ifadeyle Avrupa Komisyonu (EC) tarafından delege edilen programları yönetir / ortak ülkelerde AB bütçesini (sözleşme ve idare dahil) uygular, programın uygulanması için sorumluluk alır (sonuçların elde edilmesi, bütçenin uygun kullanımı vb.). CPMA'ya, EC akreditasyonu - ex ante Pillar Assessment ile dolaylı yönetim programlarını uygulama hakkı verilir.

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CPMA contributes to the policy of international development cooperation by implementing projects aimed at ensuring peace, promoting economic growth and social stability in the world, reducing differences between countries and integrating partner countries into the world's economy. The year 1999 can be considered the beginning of CPMA's involvement in international development cooperation activities. Since 1999 until 2009, when Lithuania was a recipient of the European Union (EU) support, CPMA performed the functions of the administrator of the EU Twinning program in Lithuania. After Lithuania became an EU member state, CPMA continues its international development cooperation activities by transferring the European integration experience of Lithuanian public sector institutions and other accumulated expert knowledge to partner countries that implement sustainable development reforms in the format of the Twin Program. From 2018 CPMA implements EU-funded international development cooperation programs through indirect management, i.e., manages the programs delegated by the European Commission (EC)/implements the EU budget (including contracting and administration) in partner countries, taking responsibility for the implementation of the program (achieving results, proper use of the budget, etc.). CPMA is granted the right to implement indirect management programs by EC accreditation - ex ante Pillar Assessment.

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Borusan EnBW Enerji, 12 enerji santralinden oluşan yenilenebilir enerji kaynaklarına dayalı kurulu gücü ve portföyü ile Türkiye'nin ve dünyanın sürdürülebilirliğine doğrudan katkı sağlıyor. Rüzgâr enerjisi alanında lider üretim şirketlerinden olan Borusan EnBW Enerji'nin sürdürülebilirliğe temel yaklaşımı, faaliyetlerinde dünyanın sürdürülebilirliğine katkı sağlamak ve paydaşları için sürdürülebilir değer yaratmak.

Türkiye'nin ve dünyanın sürdürülebilirliğine doğrudan katkıda bulunmayı ve paydaşları için değer yaratmayı temel bir öncelik haline getiren Borusan EnBW Enerji'nin tamamı yenilenebilir enerji tesislerinden oluşan kurulu gücü 725 MW olurken Saros RES'e kurulacak 94 MWp gücündeki Saros GES ve sahip olunan RES ve depolamalı RES lisansları ile toplam portföyün 1343 MW'a ulaştı.

Mevcut Balabanlı RES tesisinin 36 MW kapasite artışı projesi ve 80 MW Pelit RES projeleri ile Saros RES içerisinde devreye alınacak tesisi hibrit santrale dönüştürecek güneş enerji santralinin geliştirme çalışmaları ise devam ediyor.

Bandırma Rüzgâr Enerji Santrali, Yedigöl-Aksu Hidroelektrik Santrali, Balabanlı Rüzgâr Enerji Santrali, Koru Rüzgâr Enerji Santrali (55,2 MW), Mut Rüzgâr Enerji Santrali (55,2 MW MW) ve Harmanlık Rüzgâr Enerji Santrali (55,2 MW MW), Fuatres Rüzgâr Enerji Santrali (33,9 MW), Dayıcık Güneş Enerji Santrali (6,6 MW), Kartaldağı Rüzgâr Enerji Santrali (65,55 MW), Pamuklu Güneş Enerji Santrali (2,2 MW) ve Kıyıköy Rüzgar Enerji Santrali (100 MW) ve Saros Rüzgâr Enerji Santrali (148 MW) ile Borusan EnBW Enerji Türkiye'nin yenilenebilir ve temiz enerji talebini karşılamak için çalışmalarını hız kesmeden sürdürüyor.

Temiz enerji ve sürdürülebilirlik konusundaki yatırımlarına devam eden Borusan EnBW Enerji, kuracağı hızlı şarj ağı ile müşterilerine tamamen temiz, hızlı ve son teknolojik standartlarda yapılandırılmış, kullanıcı dostu nitelikte kusursuz bir şarj deneyimi yaşatmayı amaçlıyor. Başlangıç olarak 500'ü aşkın noktada elektrikli araç hızlı şarj hizmeti verecek olan Borusan EnBW Enerji, bu alanda yapacağı yatırımlar ile bu sayıyı 7.000 noktaya çıkarmayı hedefliyor.

Sürdürülebilirlik alanında iklim, insan ve inovasyon başlıklarında kapsayıcı çalışmalar yürüten Borusan EnBW Enerji, yenilenebilir enerji kapasitesiyle yılda 1.400.000 ton karbon salımını önlüyor. Biyoçeşitlilik kaybını azaltma ve ormansızlaşma ile mücadele için sürdürülebilir çalışmalara imza atan Borusan EnBW Enerji, yıllık ağaçlandırma çalışmalarına devam ediyor. Biyoçeşitliliğin korunmasına yönelik farklı özgün katkı projeleri yürüten şirket, Lilium Martagon (Sultan Zambağı) türünün korunması ve rejenerasyonu, genç orman ekosisteminin korunmasına ve kuş ve yarasa türlerinin çoğaltılmasına yönelik, kuş evleri ve yarasa tünekleri yerleşimi; Bandırma Karadağ bölgesinde kestane ağaçlarına zarar veren böcekle organik mücadele etmeyi amaçlayan Karadağ Kestanesinin Geleceği ve tarımın ilk kez yapıldığı kadim Anadolu topraklarında ata tohumlarının çoğaltılması ve yaygınlaştırılması gibi birçok projeyi eş zamanlı olarak birbirinden farklı coğrafyalarda yürütüyor.

Tüm faaliyetlerinde temiz ve yenilenebilir enerjiyi, sürdürülebilirliği ve toplumsal faydayı gözeten Borusan EnBW Enerji, gelecek nesillere yaşanabilir bir dünya bırakmak için çalışmalarını hız kesmeden sürdürüyor.

Borusan EnBW Enerji directly contributes to the sustainability of Türkiye and the world with its installed capacity and portfolio based on renewable energy sources, consisting of 12 power plants. As a leading production company in wind energy, Borusan EnBW Enerji's fundamental approach to sustainability is to contribute to the sustainability of the world in its activities and to create sustainable value for its stakeholders.

Borusan EnBW Enerji, which prioritizes making a direct contribution to the sustainability of Türkiye and the world and creating value for its stakeholders, has an installed capacity consisting entirely of renewable energy facilities, which is 725 MW. With the Saros GEPP, a 94 MWp power plant to be installed in Saros WEPP, and the owned WEPP licenses and storage WEPP, the total portfolio is 1343 MW.

The development work continues for the solar power plant that will convert the existing Balabanlı RES facility into a hybrid power plant, along with the 36 MW capacity increase project for the Balabanlı WEPP and the 80 MW Pelit WEPP project to be commissioned within Saros WEPP.

Borusan EnBW Enerji is continuing its efforts without slowing down to meet Turkey's demand for renewable and clean energy with Bandırma Wind Power Plant, Yedigöl-Aksu Hydroelectric Power Plant, Balabanlı Wind Power Plant, Koru Wind Power Plant (55.2 MW), Mut Wind Power Plant (55.2 MW), Harmanlık Wind Power Plant (55.2 MW), Fuatres Wind Power Plant (33.9 MW), Dayıcık Solar Power Plant (6.6 MW), Kartaldağı Wind Power Plant (65.55 MW), Pamuklu Solar Power Plant (2.2 MW), Kıyıköy Wind Power Plant (100 MW), and Saros Wind Power Plant (148 MW).

Continuing its investments in clean energy and sustainability, Borusan EnBW Enerji aims to provide its customers with a flawless clean charging experience that is fast, and structured with the latest technological standards through its planned fast charging network. Initially, Borusan EnBW Enerji will provide electric vehicle fast charging services at over 500 points, and aims to increase this number to 7,000 with its investments in the field. The company aims to offer a user-friendly charging experience to its customers.

Borusan EnBW Enerji, which carries out inclusive work in the areas of climate, people and innovation in the field of sustainability, prevents the emission of 1.4 million tons of carbon per year with its renewable energy capacity. The company, which signs sustainable practices to reduce biodiversity loss and deforestation, continues its annual afforestation efforts. The company, which carries out different unique contribution projects for the protection of biodiversity, aims to protect and regenerate the Lilium Martagon (Turkish Lily) species, protect the young forest ecosystem and increase bird and bat species through the installation of bird houses and bat roosts, and combat pests damaging chestnut trees in the Bandırma Karadağ region with organic methods, as well as propagate and spread ancestral seeds in ancient Anatolian lands where agriculture was first performed, and carries out many projects simultaneously in different geographies.

Borusan EnBW Enerji, which prioritizes clean and renewable energy, sustainability and social benefit in all its activities, continues its efforts without slowing down to leave a livable world for future generations.

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Otomotiv, Medikal, Havacılık, Hassas Teknoloji, Takım İmalatı, Makine Mühendisliği: CHIRON Group işleme merkezleri, bu endüstrilerde hassas, verimli ve esnek işleme sağlar. Bu uzmanlık bir tesadüf değil, makine mühendisliğindeki süreklilğin ve teknoloji ve ürün yelpazesindeki güçlü değişimin sonucudur.

Değişim biçimlendirici ilkedir; 1921'den beri şirkette akmaya devam eden ve CHIRON Grubu'nun DNA'sına sıkı sıkıya örülmüş ortak bir çizgidir. Şirket, müşterilerin ve pazarların taleplerini karşılamak, potansiyeli hızla fark etmek ve sistematik olarak kullanmak için değişmeye istekli olmuştur.

Yenilikçi ürün ve hizmetleriyle CHIRON Group artık birçok farklı endüstride hassas, üretken ve esnek işlemeyi kolaylaştırıyor. Tüm çalışanları ile birlikte tek bir hedefin peşinden gidiyor: Dünyanın dört bir yanındaki tüm müşteriler için kalite, teknoloji ve hizmet açısından referans noktası olarak kalmak ve onların avantajlarını geliştirmek. Bir şey, gelecekteki olumlu gelişme için her zaman olduğu kadar önemli olmaya devam ediyor: Hassasiyet tutkusu.

Automotive, Medical Technology, Aerospace, Precision Technology, Tool Manufacturing, Mechanical Engineering: The CHIRON Group machining centers ensure precise, productive, and flexible machining in these industries. This expertise is no accident, but the result of continuity in mechanical engineering, and a strong change in technology and product range.

Change is the formative principle; it is the common thread that has continued to run through the company since 1921 and is firmly woven into the DNA of the CHIRON Group. The company has been willing to change to meet the demands of the customers and markets, to quickly recognize potential, and to systematically exploit it.

With its innovative products and services, the CHIRON Group now facilitates precise, productive, and flexible machining in many different industries. Together, all employees are pursuing one goal: Remaining the benchmark for quality, technology, and service for all customers around the world and building on their advantage. One thing remains as important for future positive development as it ever has been: The passion for precision.

ENTES

ENTES ELEKTRONİK

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ENTES, 1980 yılından bu yana enerjinin verimliliği ve kalitesi alanlarında çözümler sunan lider teknoloji şirketidir.

ENTES, enerjinin değerli ve yüksek maliyetli olduğu ülkemizde, enerji kalitesi ve verimliliği için tutkuyla çalışan büyük bir aile. ENTES kurumların kullandıkları enerjiye kolaylıkla hakim olmasını sağlamak amacıyla 1980 yılından beri müşterilerinin özel ihtiyaçlarını karşılayan değerli çözümler üretiyor. İş yapışı şekillendiren lider işletmelerden biri olan ENTES, işin en düşük maliyetle yapabilmesi için enerjiyi kontrol edilebilir bir kavrama dönüştürüyor ve bu sayede ekonomiye yeni olanaklar sunuyor. ENTES, kendi öz kaynaklarından yola çıkarak beyin gücünü değerlendiriyor, dünyadaki teknolojik gelişmelere açık ve faydacı olmak için emek veriyor. Her yeni gün yüzbinlerce noktadan başlayıp, dünyada 100'den fazla ülkenin enerjisini kontrol altına alıyor.

Güçlü Kurumsal Yapı

- **%100 yerli sermaye**
- **Kurulduğu 1980 yılından bu yana istikrarlı büyüme**
- **Dünya klasmanında yüksek kalite standartları ve uluslararası sertifikasyonlar**
- **Yurt dışı pazarlarda 107 farklı ülkede pazar tecrübesi ve Yunanistan, Almanya ve Hindistan ofisleri ile sektöründe dünyaca tanınan marka**
- **Türkiye'nin Enerji Verimliliği ve Kalitesi alanlarındaki en güçlü ve akredite "Özel Sektör Ar-Ge Merkezi"**

ENTES is a technology brand, developing solutions Wherever Energy Is.

ENTES is an European technology company that works ardently since 1980 to manage the energy where energy is valuable and overcosting. As one of the leading enterprises in shaping the way of conducting business, ENTES transforms energy into a manageable concept so that business can be conducted at the lowest cost, thus providing new economical opportunities.Based on its own resources, ENTES takes advantages of qualified brain power and hard work with an aim of being pragmatic and also open to technological developments in the world. Hundreds of thousands of companies around the world manage the energy by using ENTES solutions.

- ***Consistent growth since 1980 the year it was founded***
- ***High quality standards and international certificates in world classification***
- ***Experience for overseas markets over 107 countries and a worldwide-recognized brand in the industry with office in Germany, Greece and India***
- ***Powerful and accrediated "Research and Development Centre" in the fields of Energy Efficiency and Quality***

IRENEC

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EnConIQ Enerji Danışmanlık firması, temiz enerji sektöründeki 26 yıllık tecrübesi sonrası Alper Kalaycı tarafından Eylül 2023'de kurulmuştur. EnConIQ firmasının sadece Türkiye'de değil, Almanya, Danimarka, İspanya, Hollanda, Orta Asya ülkeleri gibi birçok ülkede kuvvetli bağları vardır. Firma, temiz enerji sektöründeki tedarik zinciri, proje yatırımları, firma birleşme ve satınalmaları, özellikle yabancı yatırımcının Türkiye'deki çalışmalarına destek verilmesi gibi konulara odaklanmaktadır.

ENCON IQ ENERJİ
DANIŞMANLIK LTD ŞTİ

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EnConIQ Energy Consultancy has been founded at September 2023 by Alper Kalaycı, after 26 years experience in the clean energy sector. EnConIQ has a huge network not just in Türkiye but also in many other countries, such as Germany, Denmark, Spain, Belgium, Netherlands, Central Asia etc... Company is focusing on supply change, project

2006 yılında Kıvanç Enerji Elektrik Üretim AŞ'nin (Kıvanç Enerji) kuruluşuyla temelleri atılan Kıvanç Enerji Grubu, enerji sektörünün farklı alanlarında hizmet sunan bir şirketler topluluğudur. Kıvanç Enerji Grubu, Kıvanç Enerji tarafından yürütülen elektrik üretimi ve satışı başta olmak üzere enerji sektörünün farklı alanlardaki faaliyetleri ile entegre bir hizmet karması sunmaktadır.

KIVANÇ ENERJİ ÜRETİM

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Kıvanç Enerji Grubu; "Elektrik Üretimi", "Elektrik Satışı ve Ticareti", "Enerji Santrallerinin İnşası ve İşletmesi" olmak üzere üç farklı alanda faaliyet göstermektedir. Kıvanç Enerji sürdürülebilirliğe her yönüyle katkı sağlayan projeler gerçekleştirme ilkesiyle hareket etmekte, elektrik üretim portföyünde yenilenebilir kaynak payını artırarak kaynak çeşitlendirmesine gitme hedefi ve vizyonu doğrultusunda yatırımlarına devam etmektedir.

Kıvanç Enerji, Türkiye'nin yerli ve yenilenebilir enerji kaynaklarının en verimli düzeyde kullanılarak ekonomimize kazandırılabilmesi için çalışmalarımızı sürdürmektedir. Şirketimiz, ülkemizin yüksek potansiyele sahip olduğu alanlardan Güneş, Rüzgâr ve Hidroelektrik enerjisi alanında yatırım yapmaktadır.

Kıvanç Enerji Grubu bünyesinde hâlihazırda işletmede üç adet Hidroelektrik Enerji Santrali, iki adet, Rüzgâr Enerjisi Santrali ve bir adet Güneş Enerjisi Santrali Projesi bulunmaktadır. Toplam lisans gücümüz 188,15 MWe 230,40 MWm olup, 145,47 MWe 118,20 MWm'lik kısmı üretime devem etmektedir. Ayrıca grup bünyesinde işletmede 19.840 MWp Lisanssız Güneş Enerjisi Santrali bulunmaktadır. Projelerin tamamı işletmeye geçtiğinde grubumuz toplamda 230,40 MW Kurulu güce ulaşacaktır.

Ayrıca Kivanc Enerji 2022 yılında 1,2 GW kapasiteli Monokristal Güneş Paneli üretim tesisi yatırımı yapmış olup bunun 600 MW lık kısmını Aralık 2022 de devreye almış, geri kalan 600 MW lık kısım için de Mayıs 2023 hedefi koymuştur.

Kıvanç Energy Group, whose foundations were laid in 2006 with the establishment of Kıvanç Enerji Elektrik Üretim AŞ (Kıvanç Energy), is a group of companies providing services in different areas of the energy sector. Kıvanç Energy Group offers an integrated service mix with the activities of the energy sector in different fields, especially electricity production and sales carried out by Kıvanç Energy.

Kıvanç Energy Group operates in three different fields: "Electricity Production", "Electricity Sales and Trade", "Construction and Operation of Power Plants". Kıvanç Energy acts with the principle of realizing projects that contribute to sustainability in all aspects and continues its investments in line with its target and vision to increase resource share in the electricity generation portfolio and go to resource diversification.

Kıvanc Energy continues its efforts to bring domestic and renewable energy resources to our economy by using the most efficient level. Our company invests in the fields of Solar, Wind and Hydroelectric energy, among the areas where our country has high potential.

Within the structure of Kıvanç Energy Group, there are currently three Hydroelectric Power Plants, one Wind Power Plant which is under construction and one Licensed Solar Energy Project which is waiting for necessary permissions. In addition, there are 17,5 MWh Unlicensed Solar Power Plants in the group. When all of the projects go into operation, our group will reach a total installed power capacity of 139,00 MWh.

In addition, Kivanc Energy invested a 1.2 GW Monocrystalline Solar Panel production facility in 2022 and commissioned 600 MW of it in December 2022, and set a target for May 2023 for the remaining 600 MW.

Rönesans Enerji, Rönesans Holding'in bağlı şirketlerinden biridir ve enerji sektöründe yatırım yapmaktadır. Rönesans Enerji, faaliyetlerini yürütürken, Holding'in inşaat alanında kazandığı deneyimlerden büyük ölçüde yararlanmakta ve bu deneyimleri, stratejik hedeflerine ulaşabilmek amacıyla kullanmaktadır.

Rönesans Enerji, hızla büyüyen Türk enerji piyasasındaki yatırım olanaklarını değerlendirebilmek amacıyla 2007 yılında kurulmuştur. Enerji sektöründe oldukça deneyimli bir ekibe sahip olan Rönesans Enerji, faaliyetlerine öncelikle, yenilenebilir enerji üretimi alanında yatırım yaparak ve özellikle de hidroelektrik santralleri inşa ederek başlamıştır.

İşletmede toplam 166 MW kurulu güce sahip 6 Hidroelektrik santral yatırımı olan şirket, son dönemde toplam gücü 480 MW'a ulaşan bir çok rüzgar ve güneş santrali ile ilgili geliştirme çalışmaları yapmakta ve yenilenebilir enerji sektöründe yerini sağlamlaştırmak istemektedir.

RÖNESANS ENERJİ

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Rönesans Energy is a subsidiary of Rönesans Holding and invests in the energy sector. While conducting its operations, Rönesans Energy benefits greatly from the Holding's experience in the construction sector and utilizes this experience to achieve its strategic goals.

Rönesans Energy was established in 2007 to capitalize on investment opportunities in the rapidly growing Turkish energy market. Rönesans Energy, which has a highly experienced team in the energy sector, started its operations primarily by investing in renewable energy generation, particularly in the construction of hydroelectric power plants.

The company, which has 6 hydroelectric power plants with a total installed capacity of 166 MW in operation, has recently been working on the development of several wind and solar power plants with a total capacity of 480 MW and wants to consolidate its position in the renewable energy sector.

Tatmetal, Türkiye'nin lider yassı sac üreticilerinden biri olarak Tatçelik markası altında; sıcak haddelenmiş asitlenmiş, soğuk haddelenmiş, galvanizli ve boyalı yassı çelik üretimi gerçekleştirmektedir. Hizmet verdiği sektörlerin başında; Otomotiv, Dayanıklı Tüketim, İnşaat, Enerji, Ambalaj ve Makine-Ekipman gelmektedir. 1,5 milyon tonu aşan kapasitesiyle sektörde global bir oyuncu olarak 6 kıtada 70'ten fazla ülkeye ihracat gerçekleştirmekte, Türkiye'nin en büyük ilk 500 sanayi şirketi arasında 31'inci sırada yer almaktadır.

Tatmetal Çelik Sanayi ve
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Tatmetal produces hot-rolled pickled, cold-rolled, galvanized, and prepainted flat steel through the Tatçelik brand as one of Turkey's leading flat steel producers. Automotive, White Goods, Construction, Energy, and Machinery-Equipment are the leading industries Tatmetal serves. As a global player in the sector, Tatmetal exports to more than 70 countries on 6 continents, and it is ranked 31st among the first 500 largest industrial companies in Turkey.

14. ULUSLARARASI %100 YENİLENEBİLİR ENERJİ KONFERANSI

IRENEC

Vestas

VESTAS

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Vestas, sürdürülebilir enerji çözümlerinde enerji sektörünün global bir ortağıdır. Vestas, dünya çapında rüzgar türbinleri tasarlayarak, üreten ve ürettiren, aynı zamanda kurulum ve servisini gerçekleştiren, 88 ülkede 164 GW'tan fazla kurulu gücü ile dünyada en çok rüzgar santrali kurmuş şirkettir. Endüstride 40 yılı aşkın tecrübesi ile Vestas, toplamda 164 GW'ın üzerinde kurulum gerçekleştirmiştir. Bu emsalsiz başarı geçmişi, Vestas'ın alanındaki uzmanlığının ve sürekli ürün ve performans iyileştirmesini destekleyen rakipsiz deneyiminin belkemiğidir. Yüksek rakımdan aşırı hava koşullarına kadar her türlü sahada faaliyet gösteren Vestas türbinleri, dünya genelinde 88 ülkede hizmet vermektedir.Şirket, ürünlerini üç ana türbin platformu altında sunmaktadır. EnVentus ™, 4 MW ve 2 MW isimli bu platformlar, projelerin özel koşullarına ve gereksinimlerine uygun ve kapsamlı bir türbin portföyü sağlar. Sektör lideri akıllı veri yönetim kabiliyeti ve servis kapsamında yer alan 144 GW'den fazla rüzgar türbini ile Vestas, elindeki verileri rüzgar kaynaklarını en iyi şekilde yorumlayıp en verimli çözümlerini sunmak için kullanır ve bu sayede atmosferden her yıl 1,5 milyon tondan fazla CO2 temizlenir. Vestas'ın 29.000'den fazla çalışanı, müşterileriyle birlikte parlak bir geleceğe güç sağlamak için dünyaya sürdürülebilir enerji çözümleri getirmektedir. Vestas, 55.000'den fazla rüzgar türbini ile dünyanın en büyük rüzgar türbini filosunun bakımını yapmak için kararlı bir şekilde çalışan 76 ülkede yaklaşık 15.000 servis çalışanıyla, dünyanın hizmet altındaki en büyük rüzgar türbini servis organizasyonuna güvenmektedir. Vestas, ülkemizde temiz ve sürdürülebilir enerjinin ilk temelleri atılırken sektörün öncülerinden biri olarak 1998 yılında Türkiye pazarına girmiştir. Vestas o zamandan beri Türkiye'de yaklaşık 2 GW üzerinde rüzgar santrali kurmuş son 25 yılda her biri İstanbul, Sivas, Hatay ve Bandırma'da olmak üzere 4 adet bakım ve servis merkezi oluşturmuştur. Bandırma Operasyon Merkezi 2018 yılında hizmete girmiş olup, Türkiye ve komşu ülkelerde görev yapan teknisyenler için hizmet, eğitim ve lojistik üssü görevi görmektedir. Vestas, dünyada diğer birçok gelişmenin yanında sadece 2020 yılında, 2014 yılından beri ortak yürüttüğü offshore rüzgar şirketinin tamamını bünyesine katmış, servis tarafında önemli 100 GW eşiğini aşmış, iddialı bir sürdürülebilirlik stratejisi başlatmış ve ürün portföyünü optimize edip genişletmiştir. Vestas, Türkiye'nin yenilenebilir enerji hedeflerine ulaşmasına yenilikçi, verimli ve rekabetçi rüzgar santralleri kurmakla katkı sağlamakta, aynı zamanda ana Classification: Restricted Classification: Restricted komponentlerin Türkiye'de üretilmesi ve böylece yerli katma değer yaratılması yönünde de önemli çalışmalarda bulunmaktadır. Öyle ki bugün rüzgar türbinlerimizin kanatları, çelik kuleleri, jeneratörleri, kule bağlantı elemanları yerli tedarikçilerimiz tarafından Türkiye'de üretilebilmektedir. Vestas yerli üretim için know-how, süpervizörlük ve eğitim desteğini Türkiye'deki tedarikçilerine vermeye devam etmektedir. Yerli rüzgar türbini aksam üreticilerimizin başarıları, gelişen ihracat kabiliyetleri ve bu sayede Türkiye'de yaratılan ek iş imkanlarıyla gurur duymaktayız.

Vestas is the energy industry's global partner on sustainable energy solutions. The company designs, manufactures, installs, and services wind turbines across the globe, and with more than 164 GW of wind turbines in 88 countries, Vestas has installed more wind power than anyone else.

With more than 40 years in the wind industry, Vestas has more experience than anyone else in making wind work. Together with their customers, Vestas has installed more than 164 GW of wind power capacity. This unmatched track record is the backbone of Vestas' expertise and unrivalled experience powering continuous product improvement and performance optimization.

Vestas turbines have been installed in 88 countries around the world, operating on every kind of site, from high altitude to extreme weather conditions.

The company offers a range of products across three turbine platforms. The EnVentus™, 4 MW and 2 MW platforms provides an extensive portfolio of turbines which are each suited to specific conditions and requirements of its customers' wind projects.

Through its industry-leading smart data capabilities and unparalleled more than 144 GW of wind turbines under service, the company uses data to interpret, forecast, and exploit wind resources and deliver best-in-class wind power solutions, helping to remove over 1,5 million tons of CO2 every year from the atmosphere. Together with their customers, Vestas' more than 29,000 employees are bringing the world sustainable energy solutions to power a bright future.

Vestas counts on the largest fleet of wind turbines under service in the world, with more than 55,000 wind turbines under service and around 15,000 dedicated service colleagues across 76 countries working committedly to maintain and support the biggest wind turbine fleet in the world.

Vestas entered the Turkish Wind Market in 1998, being amongst the pioneers in the industry during the first foundations of clean and sustainable energy in the country. Since then, the company have installed almost 2 GW of wind capacity and have extended its footprint in the last 25 years to establish 4 service and maintenance centers located in Istanbul, Sivas, Hatay and Bandırma. The Operation Center in Bandirma was inaugurated in 2018 and acts as a service, training and logistics hub for the technicians working in Turkey and in other neighboring countries.

Just in 2020, Vestas acquired the entire stake in its offshore wind business which it has been jointly running since 2014, crossed the 100 GW milestone in Service, launched an ambitious sustainability strategy or optimized and expanded its product portfolio, among many other milestones.

Vestas contributes to achievement of Turkey's renewable energy goals by establishing innovative, efficient and competitive wind farms, along with a focus of production of main components in Turkey to create domestic added value. Today, the blades, steel towers, generators and tower connecting elements of our wind turbines can be produced by our local suppliers in Turkey. Vestas is continuously providing know-how, supervisory and educational support to its suppliers in Turkey for the domestic production. We are proud of the success of our local wind turbine component manufacturers, the export capability and the additional job opportunities created in Turkey by this way.

14th INTERNATIONAL 100% RENEWABLE ENERGY CONFERENCE

IRENEC

ZORLUENERJİ

ZORLU ENERJİ

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Enerji sektörünün farklı alanlarında faaliyet göstermek amacıyla 1993 yılında temeli atılan Zorlu Enerji küresel ölçekte entegre hizmet sunan bir enerji şirketidir.

Zorlu Enerji şirketleri bünyesinde yer alan ve halka açık tek şirketi olan Zorlu Enerji tarafından yürütülen elektrik ve buhar üretimi ile bunların satışı başta olmak üzere elektrik ticareti, elektrik dağıtımı, solar panel satışı ve kurulumu, doğal gaz ticareti ve dağıtımı, santrallerin inşası ve işletim-bakımı, elektrikli araç şarj istasyonları ağı gibi enerji sektörünün farklı alanlardaki faaliyetleri ile bütünleşmiş bir hizmet karmasına sahiptir.

Güneş enerjisinden elektrikli araçlara, şarj ünitelerinden elektrik santrallerine, proje geliştirmeden işletmeye kadar her alanda enerji çözümleri sunduğu çalışmalar, aşağıdaki faaliyet alanlarında gerçekleşmektedir:

- Elektrik Üretimi
- Elektrik Dağıtımı
- Elektrik Satışı ve Ticareti
- Doğal Gaz Dağıtımı
- Doğal Gaz Ticaret
- Enerji Santralleri Yapımı (Mühendislik, Satın Alma, Yapım - EPC)
- İşletme ve Bakım (O&M)
- Güneş Panelleri Ticareti (Solar)
- Akıllı Sistemler
- Elektrikli Araç Şarj İstasyonları

Yüksek kapasiteli üretim gücü, nitelikli insan kaynağı, dengeli portföyü, kaynak çeşitliliği ve yenilikçi çözümler çerçevesinde sürdürdüğü faaliyetlerini, küresel enerji dönüşümünün kalıcı ve öncü bir parçası olmak amacıyla dijitalleşme alanında odaklamaktadır.

Established in 1993, Zorlu Enerji is an energy company that aims to operate on different fields of energy sector providing a global scale integrated service.

Zorlu Enerji, which is a subsidiary of Zorlu Enerji companies and the only publicly open company operates on various fields of the sector with an integrated corporate combination including electricity and steam generation and their retail, electricity sales, electricity distribution, solar panel sales and installation, natural gas sales and distribution, construction, management and maintenance of power plants and EV charging stations network.

ON WHAT FIELDS DO WE OPERATE?

Zorlu Enerji operates on various fields of the sector with its experience of 25 years. In our fields of operation, we are combining our well established experience with our corporate values and make a difference among other players of the sector in engineering, supply, construction, management, maintenance and repair.

We are providing alternative energy solutions on every field from solar energy to electricity vehicles, electricity power plants to charging units, from project development to management in fields listed below:

- *Electricity Generation*
- *Electricity Distribution*
- *Electricity Sales and Trade*
- *Natural Gas Distribution*
- *Natural Gas Trade*
- *Construction Of Power Plants (Engineering, Procurement, Construction - EPC)*
- *Operation and Maintenance*
- *Solar Panels Trade*
- *Smart Systems*
- *EV Charging Stations*

We are utilizing our high capacity production power, qualified human resources, well balanced portfolio, diversity of sources and capability of creating innovative solutions to be a perpetual and leading part of the global energy transformation.

IRENEC

14. ULUSLARARASI %100 YENİLENEBİLİR ENERJİ KONFERANSI

ÖZLEM KRİSTAL®

Firmamız ÖZLEM KRİSTAL, 35 yıldan bu yana kristal ödül, plaket ve hediyelik eşya alanında kurumlara ve en prestijli organizasyonlara hizmet vererek kendi sektörünün öncü bir markası olarak faaliyet göstermektedir.

Kurumsal iletişiminizde, ürün ve proje tanıtımlarınızda, toplantı, ziyaret, ağırlama faaliyetlerinizde ihtiyacınız olan size özel tasarımlarımızla en yakın çözüm ortağınız olarak çalışmaktayız.

Teknolojik alt yapımız ve üretim metodlarındaki uzmanlığımız ile başta kristal olmak üzere geniş bir ürün yelpazesi sunmaktayız.

ÖZLEM KRİSTAL SAN. VE TİC. A.Ş.

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ÖZLEM KRİSTAL specializes in customized crystal and glass recognition awards, business gifts, premiums and promotional products.

We have gained our reputation as being the leader manufacturer of our field since last 35 years with a continuing commitment to innovative techniques, quality and service.

We provide our customers with innovative products and services that will enhance their recognition by combining creative design, multiple types of materials and processes to create personalized awards and gifts for their individual needs in their corporate communications, product launchs and special events.

The company has large production facility covering multi layer in-house services include screen printing, laser engraving, etching, full color imprinting and more.

Many types of products are on display in our impressive showroom.

ETİ

Köklü geçmişi ve kurumsal yapısıyla güvenilir, yenilikçi, öncü ve sektöründe lider bir oyuncu olan Eti, 1961 yılında Eskişehir'de kuruldu.

Kurucumuz Firuz Kanatlı "İnsanlığın mutluluğundan daha yüce bir amaç yoktur" sözü ile Eti'nin kurumsal varoluş amacını ortaya koymuş, kurum kültürü ve değerlerini bu varlık sebebi üzerine inşa etmiştir.

Bugün kurucu vizyonumuz ve kurum değerlerimizi temel alan bir yaklaşımla 7 bini aşkın çalışanımız, 9 üretim tesisimiz, 50 markamız ve 300'den fazla ürünümüzle dünyanın dört bir yanında insanların hayatına dokunuyoruz. Güçlü satış ve ihracat ağımızla ülkemizi global pazarlarda başarı ile temsil ediyoruz.

Tüm paydaşlarımız için sürdürülebilir değer yaratma hedefimiz doğrultusunda, Eti'nin ekosisteminde birçok işletmeye ve üreticiye iş, on binlerce kişiye istihdam sağlıyoruz. Toplamda 430 bin metrekarelik alana yayılan ve dünyaya örnek olan tesislerimizde ileri teknolojiyle en yüksek kalitede; bisküvi, kek, çikolata, tuzlu atıştırmalık, gofret, fonksiyonel ve lifli ürünler, kahvaltılık ürünler, dondurulmuş ürünler, soğuk atıştırmalıklar, glütensiz ve bebeklere özel ürünler olmak üzere çok geniş bir yelpazede üretim yapıyoruz. Ar-Ge merkezlerimizin sahip olduğu üstün yetkinlikler sayesinde sektörümüzde standartları belirliyor ve teknoloji yatırımlarımızla öne çıkıyoruz.

Benzersiz lezzetleriyle hayata mutluluk katan kaliteli ve yenilikçi bir dünya markası olma misyonuyla çalışırken mutluluğu sadece ürünlerimizin yaşattığı keyif anları ile sınırlı tutmuyor, toplumsal fayda yaratmayı amaçlayan, çevreye duyarlı ve sağlıklı yaşamın önemine dikkat çeken sosyal sorumluluk projelerimizle hayata değer katıyoruz.

ETİ ŞİRKETLER GRUBU MERKEZİ

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Eti, founded in 1961 in Turkey, is a reliable, innovative, pioneering and leading player in the food industry with its deep-rooted history and corporate structure.

Our founder Firuz Kanatlı set out the corporate purpose at the establishment stage with his saying, "There is no higher purpose than the happiness of humanity", and grounded our corporate culture and values on this cause of existence.

Today, empowered by a business approach based on our founding vision and corporate values, we touch the lives of people around the world with than 7,000 employees, 9 manufacturing facilities, 50 brands and more than 300 products. With our robust sales and export network, we successfully operate globally.

In line with our goal to create sustainable value for all our stakeholders, we provide sustenance for various companies and manufacturers within Eti's eco-system, as well as creating jobs for tens of thousands of people. At our 430,000 square metered facilities that earned global recognition, we manufacture a wide range of high-quality products, including cookies, muffins, chocolate, salty snacks, waffles, functional and fiber products, breakfast foods, frozen products, cold snacks, gluten-free and baby products using advanced technology. Thanks to our highly advanced R&D centers, we are setting standards in the industry and differentiating ourselves from competitors with our investments in technology.

While we are committed to becoming an innovative global brand that creates happiness with our range of tasty products, happiness is not just moments of palate pleasures that our products provide; we add value to people's lives by initiating social responsibility projects to generate social benefits and raise awareness about the importance of protecting the environment and healthy lifestyle.

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