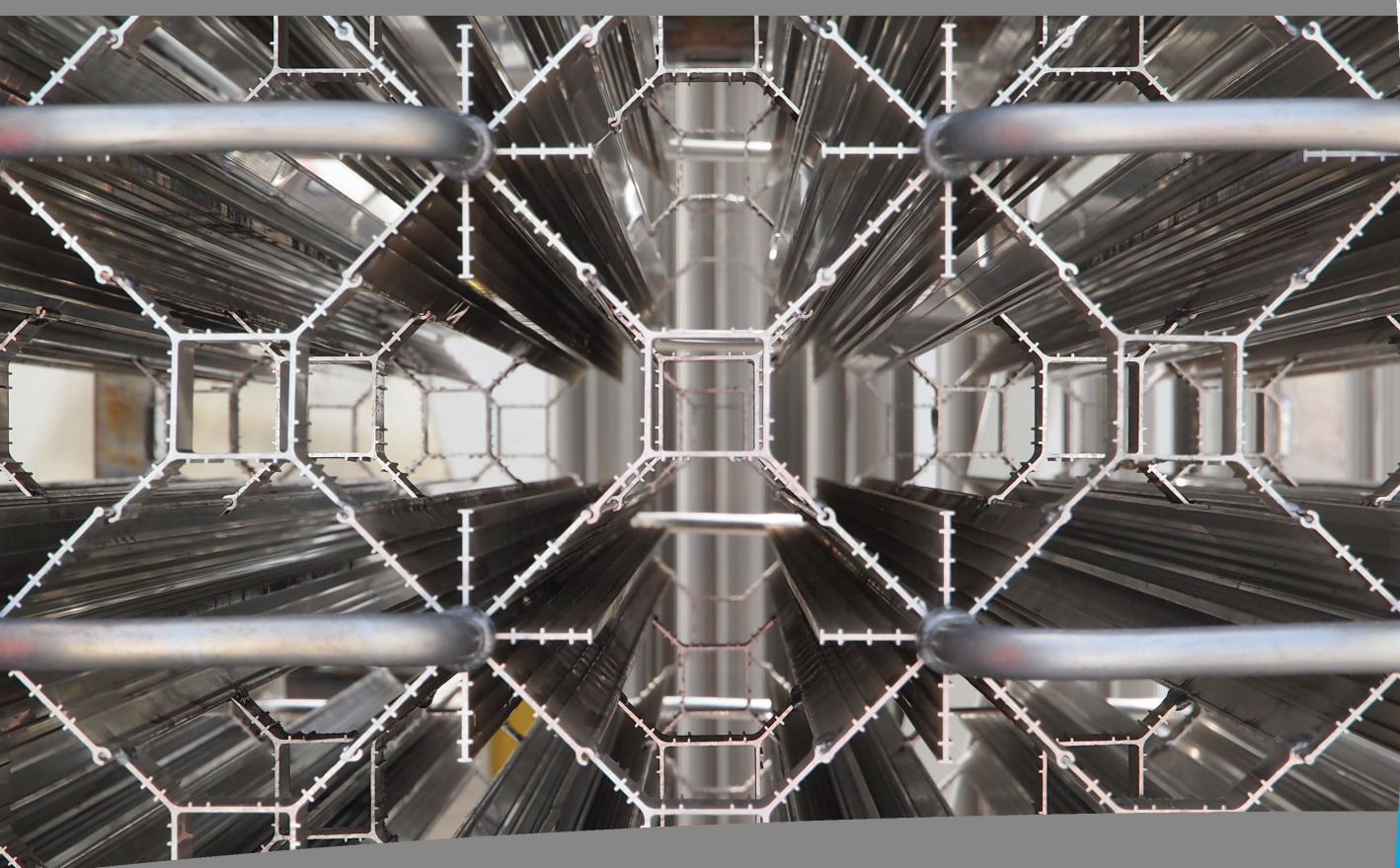




LNG-TECH

**OUR TECHNOLOGY IS
YOUR FUTURE**



CNG, LNG filling stations, industrial facilities

LNG-Tech Kft. provides full scale service in designing, verifying, implementing, operating and maintaining natural gas and biomethane filling stations. The company can facilitate smooth engineering work in both the R&D phase and during production by installing local industrial gas supply and filling systems.



Legislation, standardisation

LNG-Tech Kft. experts are delegated or invited to help legislative and standardisation processes both in Hungary and the European Union, contributing to the creation of a favourable legal environment, which in turn facilitates and simplifies the expansion of methane based transport and other related technologies.



LNG filling stations along the TEN-T corridor

LNG-Tech Kft. is the main technical partner in the Hungarian PAN-LNG Project which plays a focal role in preparing and implementing the studies securing the LNG supply of TEN-T corridors crossing Hungary. The company is using its proprietary technologies to develop further public uses for the LNG infrastructure thus created.

WE CAN HELP YOU SAVE THE PLANET - LNG-TECH

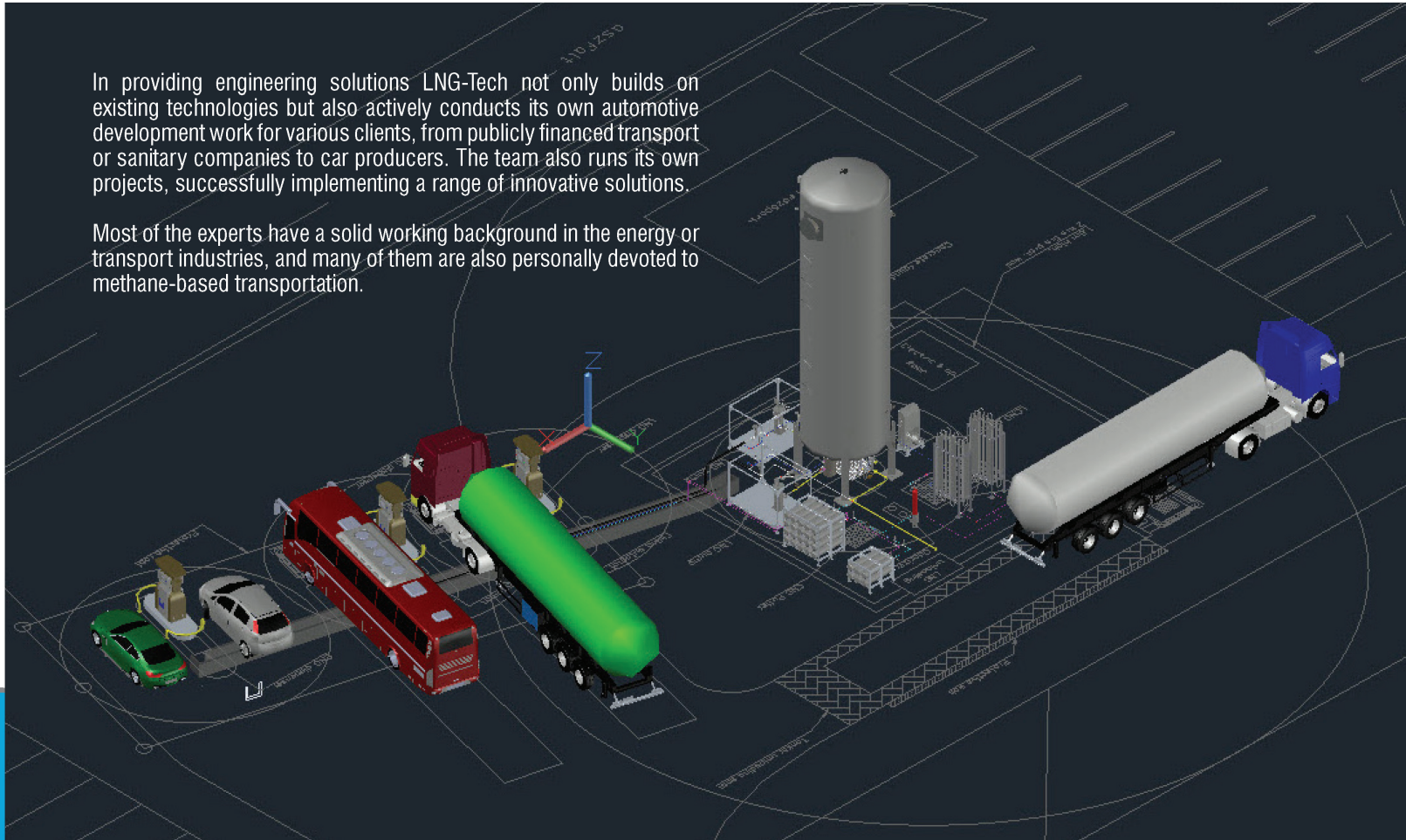


WE CAN HELP YOU SAVE THE PLANET

- LNG-TECH ENGINEERING

LNG-Tech Kft. was founded in late 2013 with the purpose of giving experts and specialists, hitherto working independently, a common platform where they could unite their skills and knowledge to design, engineer, build and operate filling stations dispensing liquefied or compressed natural gas and biomethane, as well as industrial, transport and storage systems. Another focal intention of the founders was to gain a better leverage in legislative and standardisation processes, thereby adding momentum to the successful realisation of their efforts in the field of sustainable mobility.

The company's launch coincided with a boom in the construction of fuel stations in Hungary, as well as the need for a renewal of existing stations and supply systems. Today the experts of LNG-Tech work on the design, installation, operation and maintenance (both scheduled and on-demand) of every single natural gas filling station and industrial facility in Hungary, and have become instrumental in running inspections and official procedures. The skills and expertise of the team is now indispensable for the launch of new projects, from preliminary financial calculations through validation to creating the protocols that enable smooth and secure operation.



In providing engineering solutions LNG-Tech not only builds on existing technologies but also actively conducts its own automotive development work for various clients, from publicly financed transport or sanitary companies to car producers. The team also runs its own projects, successfully implementing a range of innovative solutions.

Most of the experts have a solid working background in the energy or transport industries, and many of them are also personally devoted to methane-based transportation.

TOGETHER WITH THE BEST TEAM

OUR COLLEAGUES



Cert. Eng. Ferenc Major

**chartered mechanical engineer
general manager, owner**

He graduated from the Timisoara Technical University as a mechanical engineer, and developed an early interest in gas technologies.

Between 1992 and 2003 he was the general manager of Globimpex Kft., a full-scale player in the field of liquefied gas technologies. Their activities included systems design and installation, preparing gas engineering studies, converting vehicles and FLT's to dual fuel use, providing maintenance and repair services for such conversions, carrying out environmental auditing of gas-fuelled vehicles, and selling gas technological equipment.

Between 2003 and 2007 he was the general manager of Mebaterv Bt., a company specialising in engineering and building technology designs encompassing a comprehensive range of related technologies (such as gas, water, waste water, heating and air technologies, as well as climate control design) and acquiring licenses from all relevant service providers. Their range of activities also included system implementation, contracting, consultation, specialist translations, vocational education, technical management and technical monitoring.

Between 2007 and 2016 he worked for ACIS Benzinkúttechnika Kft. as the head of the technological construction department.

As of 2016 he is the owner and general manager of LNG-Tech Kft. where he actively leverages his extensive experience in designing, implementing and operating gas technological systems, both within the PAN-LNG Project and beyond.

In the above capacities Mr. Major has designed about half of all LPG filling stations (Prímagáz, MOL, ShellGas, Totalgáz, Flaga gáz as well as private stations) built in Hungary since 1992. He has also designed and implemented about 80% of all public and industrial CNG stations built since 2011 (supply system for the Audi factory; FŐGÁZ, MVK Zrt., BKV Zrt., Íris Energy filling station, ÉNYKK filling station in Zalaegerszeg, BGW filling station, as well as CNG supply systems for university laboratories, and various privately owned CNG filling stations.)

He has also designed and implemented compressed air systems and air containers for various clients including Hankook, MOL, Piroplan, NHK Spring or Ibsen.

Mr. Ferenc Major holds a number of required professional qualifications and licenses including:

- Senior technical manager fully qualified to carry out building technological activities;
- Senior technical manager fully qualified to install and maintain hydrocarbon pipelines, propane-butane supply units and related systems;
- Senior technical manager for buildings and facilities in the energy, chemical and hydrocarbon industries;
- Building engineer and designer;
- Gas and oil engineering consultant;
- Gas and oil engineering designer;
- Mechanical engineer designer (facilities and technologies).

Engineering also plays an important role in his private life. He is a member of several important professional bodies (MGKKE, MHTE, Container Association (Tartályszövetség)) and, through MGKKE, he has been delegated by the Hungarian Standards Institution (MSZT) to the European standardisation process.

Cert. Eng. Henrik Domanovszky

M.Sc. transport engineer founder and co-owner

Research work conducted in the past decade – with an ambition of completing a Ph.D. – lead him on the field of energy for transport as well as the pollution reduction possibilities thereof.

Since its foundation in 2011 he has been the president of MGKKE (Hungarian Natural Gas-powered Transport Cluster Association). He became a member of the NGVA-Europe in 2009.

As the most important task in his career, he held the Coordinator position for two CEF co-financed alternative infrastructure projects granted by the INEA.



Through his position at MGKKE he attended to the following tasks:

- Promoting gas powered clean transport solution in all related fields: public and goods transport, road and waterway solutions, as well as rail applications. Arising public interest, supporting governmental and municipal bodies with appropriate information.
- Participating in regulatory works, like safety regulation works related to pressure vessels for filling stations and vehicles.
- Participating in different policy framework developments: national roadmap for 2009/28/EC Renewable Energy Directive, Hungarian position for Alternative Fuel Infrastructure Directive Initiative, as well as other fuel and environmental related policy preparations like the PM emission reduction regulation, or supporting the purchasing of CNG fuelled buses.
- Developing TEN-T LNG infrastructure project proposals, of which three successful and granted CEF application was made: The PAN-LNG Project, the PAN-LNG-4-DANUBE Project and the Clean Fuel Box Project is contracted by the INEA (currently under evaluation).
- Developing CNG based vehicle projects.
- Developing CNG fuel infrastructure projects.
- Supporting procurements as a technical adviser in Budapest, Miskolc, Kaposvár, Zalaegerszeg and many other cities.
- Member of the ISO and CEN Standards development team on behalf of the Hungarian Standards Institute (MSZT). Working in all gas and alternative vehicle and fuel based standardization working groups like CEN TC326, ISO TC252, TC193, TC234, TC235, TC255, TC296, TC19, TC22.
- Organizing conferences, symposiums as well as other events like press conferences, presentations.
- Writing press releases, position papers, technical documents.
- Within the PAN-LNG Project, he was leading the development of a comprehensive study completed by over 50 scientists and experts around the future of bio and natural gas powered transport in Hungary.

Since 2007 he has been a technical advisor in many related fields. Results included:

- Technical advisor for an 18-month procurement procedure on behalf of the Municipality of Budapest. Purchased 60+3 waste

collector trucks powered by alternative propulsion. Persistent efforts finally enabled the legal option of signing the contract for the purchase of CNG powered vehicles with co-financing by the EU. The program received support until the delivery of the last vehicles and also included an extended test procedure.

- Supported the Miskolc public transport company in the purchasing of a CNG bus fleet, from the earliest idea up until the launch of the clean bus service. His tasks included developing the tender, contributing to the applications, providing advice on the development of the CNG fuel station with a capacity of 2500 Nm³/h, as well as the quality control of the construction process. He also lead the very first PEMS measurement in Hungary, comparing gas powered vehicles to similar diesel ones in real-life conditions.
- He elaborated and designer different vehicle development strategies and project proposals for developers within the segment of IWW navigation, light and heavy duty road vehicles as well as non-road machineries.
- He was a reference group member participating in the North-European LNG Infrastructure Project (2011-'12) co-financed by the EU.

Since 2008, his research activities in the field of emission reduction through energy have included:

- Participating in numerous leading European conferences within the fields of transport, vehicle technology and energy, both as a guest and often as a lecturer.
- Writing numerous articles, publications as well as a book on advanced biofuels.
- Guest lecturer at the vehicle engineering department of Budapest Technical University BME since 2008. Teaching on alternative fuels, alternative ICE and alternative powertrain technologies for B.Sc. vehicle engineering students.

Import agency, trading activities between 1996 and 2007:

- His company was the exclusive agent for several German building material producers in Hungary.
- Trading, importing, storing and distributing, as well as establishing a complete logistic chain (120 import trucks p.a.).

Cert. Eng. Gábor Bacsa

technical manager
mechanical engineer B.Sc., architect M.Sc.

He has been working in the field of fuel technology since 2011. Beginning with 2012, he cooperated with Mr. Ferenc Major on the preparation and full scale implementation of several CNG projects. He has participated in the design and installation of the filling stations serving CNG buses within the Hungarian public transport network (5 stations) as well as refuse trucks; he has also participated in installing several public CNG stations. He is also working on the development of the CNG supply system serving the engine test cabins in the Audi factory in Győr, Hungary.

Alongside the CNG projects he has also been responsible for implementing miscellaneous tank technological projects as well as additive mixing systems at the Budapest strategic distribution site of OMV. Between 2014 and 2016 he coordinated the maintenance and upgrading of the kerosene supply system serving the NATO certified Pápa Air Field of the Hungarian Defence Forces. In the period of 2011-2016 he also contributed to the installation of fuel supply and other systems at the Esztergom Suzuki plant. Apart from technological projects, in recent years he also coordinated preparation for the qualification and monitoring audits of various quality management and quality assurance systems (such as ISO, TÜV, AQAP, DNV).



B. Eng. Attila Hajnal

system technological manager
computer engineer

He graduated from the Budapest College of Technology as an IT engineer, working as an electronics technician and specialising in mobile information technology. He wrote his thesis on wireless data base management.

In 1990 he started working for the Budapest Transport Company as an electronics technician. His responsibilities included high and low voltage repairs of subway trains, repairing peripheries and control modules, carrying out and documenting periodic measurements, as well as upgrading lighting solutions. Between 1993 and 2004 he worked as a studio technician. He produced educational packages, master materials and provided support for computer tools and users.

Between 2007 and 2011 he worked for Wincor Nixdorf. He started as a help desk operator, then as a service technician, where his tasks included the introduction and testing of CRM systems, installing and repairing ATM cash vendor machines, providing data base development for Reverse Vending Machine systems, as well as installing and maintaining POS systems.

Starting in 2011 he was service engineer for Gilbarco ACIS where he was responsible for configuring, installing and running automated filling points, cashier systems and other technological systems (tank level gauge, filling dispenser, outdoor unit, and controller) at public filling stations.

Since 2016 Mr. Attila Hajnal has been with LNG-Tech Kft. where he is building on his extensive experience to provide IT organisation for technological tasks, to plan new designs, to design, control and install softwares, to provide facility automation, to plan remote access, and to manage projects.

He has expanded his competence at various trainings organised by manufacturers such as DOMS Fastrak, TLS4 (installing a tank level gauge), WSM (Wet Stock Management), Hectronic, RVM, CRM, ATM, Diebold ATM, Banking – Retail, HecFleetNt and Hecpoll.

Tech. István Heier

head of service department

He has been working in installing and maintaining fuel technological systems for over 20 years. He was part of the team that built the very first Hungarian CNG compressor unit and its supply system in 2009, in a reference project delivered to the Audi factory.

He has been a head installer since 2010, building industrial and public CNG filling stations in Hungary, carrying out and coordinating all technological work. Alongside new constructions, since 2011 he has also been providing scheduled maintenance and on-demand repair services for existing CNG stations.

Over the years he has gained extensive technological and maintenance knowledge about CNG supply systems, as well as about BRC and CUBOGAS compressor units. Apart from compressors he also carries out installation and maintenance work for CNG dispensers as well as official authentication of such dispenser systems. He is a certified stainless steel and plastic welder, and contributes widely to the implementation of fuel technological systems other than CNG.





Type approval certification inspection as the final stage of the purchase process of 63 CNG refuse collector trucks in Budapest



Bus filling station in Kaposvár



Emissions comparison of CNG and diesel powered buses using a PEMS instrument



CNG powered Iveco test bus in Budapest at a conference organised by LNG-Tech

LNG ***- CLEAN, COOL, CLEVER***



Service launch of the filling station serving the 75 CNG powered buses of Miskolc (MVK)



Service launch of the temporary filling station serving the 37 newly acquired CNG powered buses of the Budapest Transport Company



OUR TECHNOLOGY IS YOUR FUTURE

The plan of an LNG filling station before the start of construction



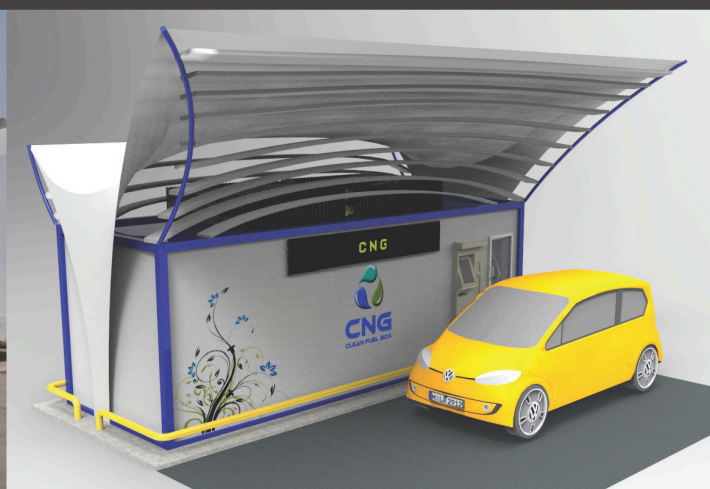
Manufacturing process of a double-wall LNG container. Phase shown: insertion of the inner container



Mr. Henrik Domanovszky, Mr. Ferenc Major and Mr. Dániel Láng attending a manufacturer's quality control process



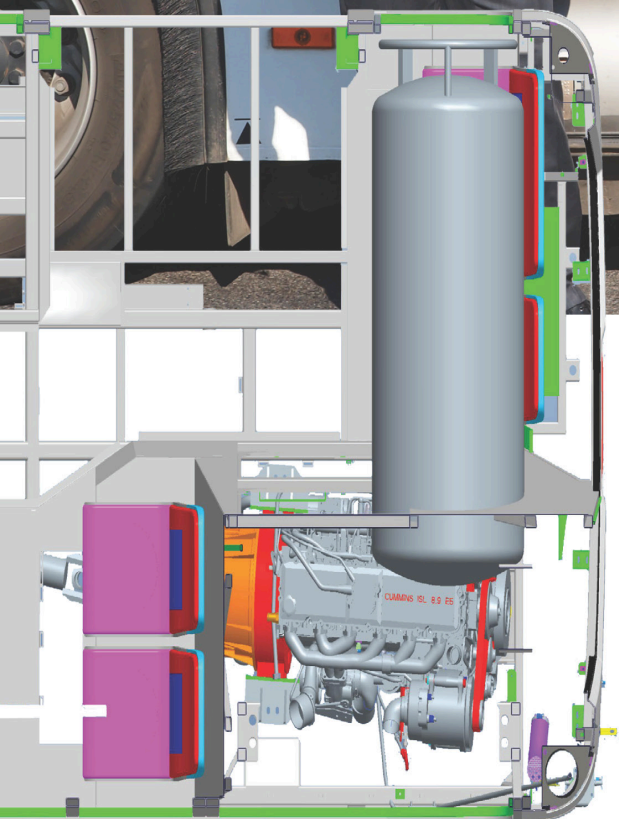
Integrable LNG containers waiting for delivery at the manufacturer's site



Easily mobilised, self-served CNG dispensing unit



Emissions comparison by Cert. Eng. Henrik Domanovszky



Developing LNG powered buses



PAN-LNG Project



Co-financed by the European Union
Connecting Europe Facility

LNG-TECH Kft.

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