Financial institutions
Energy
Infrastructure, mining and commodities
Transport
Technology and innovation
Life sciences and healthcare

NORTON ROSE FULBRIGHT

Sustainable Cities

Sustainable Cities

The future of energy

Renewable energy resources, the hydrogen economy, electric vehicles, smart transmission and distribution, changing supply and demand patterns, the growing demand for energy storage, and the decentralization of energy generation are all major contributors to smart, sustainable city objectives. Integrating clean energy into urban solutions and understanding government law and policy for the energy sector is complex and requires careful planning.

Climate change

Cities are major contributors of carbon emissions, and energy demand, utilizing green spaces, better building materials, sustainable construction and new, efficient modes of transport for people and jobs foster sustainable cities. Understanding the trends and the approaches taken by national, regional and local governments, city mayors and town planning authorities to climate change policy and regulation is key to developing successful and sustainable urban development projects.

Insurance

Building climate-resilient cities can contribute to lower risk and loss for insurers and insureds. Appropriately assessing and pricing climate-related risks in urban environments includes consideration of the response to a potential increase in weather-related events, such as floods and storms, as well as the liability risk if organisations are held accountable for climate change-related matters. Insuretech products will support a greater sharing economy such as pooled vehicles which help reduce congestion.

Attracting capital

Trillions of dollars need to be mobilized to support urbanization. Attracting capital into infrastructure and real estate will require regulatory and capital reform and creates an opportunity for new structured finance products.

Planning and environmental

Government and private sector parties will need to understand the application of environmental, waste and resources regulations as well as the process for environmental and infrastructure approvals and consents for major developments for smart city development plans that focus on connectivity and interoperability. Planners play an integral role in the future shape of our cities.

Integrated transport solutions

Integrated transport solutions combine mass rapid transit, electric vehicles, autonomous vehicles, driverless trains, ride-sharing, “as a service” models and first-and-last mile services. As well as the commercial complexities inherent in connected transport solutions, businesses must operate within a regulatory environment that continues to evolve in respect of transport, energy, digital technology and data requirements.

Procurement

Procurement of major urban infrastructure is increasingly complex in the smart, sustainable and connected city. Structuring projects that include technological innovation and “first of a kind” solutions will need to consider PPP, privatisations, operating contracts, joint ventures, value-capture, “in kind” capital and new strategic alliances and partnerships.

Financing

The integration of new technologies, and smart cities projects that are based on interconnectivity with other systems, present challenges to conventional financing structures and will require consideration of a full range of financing. These may include project finance, traditional loans and leases, vendor finance, consumption based financing, “as a service” financing, concession financing, revenue sharing and equity finance.

New business models

Innovation driven by non-traditional players, collaboration with a new, wider range of partners and the emergence of new business models will create a complex web of business relationships including alliances, joint ventures, and strategic reorganisations. These new business models and evolving technologies will require close attention to interface issues between multiple, connected businesses and services.

Interoperability of systems and devices

Understanding systems vulnerabilities across connected urban infrastructure is essential for businesses and city administrations looking to minimize their exposure to claims, including third party liability claims. Product liability, data reliability, cyber security, data privacy, climate change litigation, IP and patent protection and anti-trust claims are all potential risks that require consideration and mitigation strategies.

Cyber security

Smart city solutions are generally highly automated and disruption or failure of systems as a result of cyber-attacks or systems failures can pose significant risks. In a smart, connected city, such failures may affect entire city systems. Businesses and city administrations must protect against internal as well as external threats and maintain effective systems, training, audit and enforcement procedures.

IP and patent protection

The proliferation of new technologies (including blockchain applications) will make an IP and patent strategy essential. Businesses will want to take steps to entrench value via the protection of IP rights and to ensure that what they are developing does not infringe another’s IP rights. Thorough due diligence of the IP assets of counterparties and potential targets will be required. Understanding how IP law across several jurisdictions conceives of and deals with data is critical.

Privacy

The interconnected network of devices, sensors, cloud storage and data analytics to deliver public services, manage congestion, monitor pollution, and to plan and operate more effectively and efficiently presents obvious risks around data and privacy. Understanding regulatory requirements around data ownership, management, storage, and use is essential for all businesses participating in smart, sustainable cities, as is the establishment of effective training and compliance tools.

Emerging regulatory frameworks

Understanding and anticipating likely changes to regulatory frameworks is critical for strategic planning. Businesses must also consider the risk of current or future political events impacting day-to-day business operations and profitability. This includes public authorities pursuing climate mitigation strategies, such as new requirements regarding environmental and social impact assessment or proposed bans on new diesel and petrol cars.

Blockchain

Distributed ledger technology including blockchain will increasingly become the operational management system for all transactions in the city. Blockchain applications interface with regulatory frameworks governing specific sectors – energy, utilities and transport – as well as data privacy, corporate governance and fraud prevention, creating a complex regulatory matrix.

NORTON ROSE FULBRIGHT

Contacts

If you would like further information please contact:

Global and Asia

Nick Merritt
Global head of infrastructure, mining and commodities
Tel +65 6309 5318
nick.merritt@nortonrosefulbright.com

Australia

Joanne Crew
Partner and head of infrastructure
Tel +61 3 8686 6313
joanne.crew@nortonrosefulbright.com

Noni Shannon
Partner
Tel +61 2 9330 8346
noni.shannon@nortonrosefulbright.com

Rob White
Partner
Tel +61 2 9330 8277
rob.white@nortonrosefulbright.com

London

Chris Brown
Partner
Tel +44 20 7444 3822
chris.brown@nortonrosefulbright.com

Rob Marsh
Partner
Tel +44 20 7444 2278
rob.marsh@nortonrosefulbright.com

Europe

Dirk Trautmann
Partner
Tel +49 89 212148 447
dirk.trautmann@nortonrosefulbright.com

Middle East

Joanne Emerson Taqi
Head of Bahrain, Partner
Tel +973 16 500 214
joanne.emersontaqi@nortonrosefulbright.com

Louisa Lynch
Partner
Tel +971 4 369 6360
louisa.lynch@nortonrosefulbright.com

US

Douglas M. Fried
Head of infrastructure, mining and commodities
Tel +1 212 408 5124
douglas.fried@nortonrosefulbright.com

Chaim Wachsberger
Partner
Tel +1 212 408 5232
chaim.wachsberger@nortonrosefulbright.com

Canada

Greg Lewis
Head of Infrastructure, mining and commodities
Tel +1604 641 4923
greg.lewis@nortonrosefulbright.com

Norton Rose Fulbright

Norton Rose Fulbright is a global law firm. We provide the world's preeminent corporations and financial institutions with a full business law service. We have more than 4000 lawyers and other legal staff based in more than 50 cities across Europe, the United States, Canada, Latin America, Asia, Australia, the Middle East and Africa.

Recognized for our industry focus, we are strong across all the key industry sectors: financial institutions; energy; infrastructure, mining and commodities; transport; technology and innovation; and life sciences and healthcare. Through our global risk advisory group, we leverage our industry experience with our knowledge of legal, regulatory, compliance and governance issues to provide our clients with practical solutions to the legal and regulatory risks facing their businesses.

Wherever we are, we operate in accordance with our global business principles of quality, unity and integrity. We aim to provide the highest possible standard of legal service in each of our offices and to maintain that level of quality at every point of contact.