

3.9	By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination	As 3.1 and 3.2	LPG, as a substitute, removes risk of accidental ingestion of kerosene. LPG, as a substitute, removes risk of physical hazards from kerosene. Reduces the physical hazards from kerosene. Reduces the risk of incorrect handling and storage of LPG can cause leaking. Kerosene can cause health problems on health in informal settlements (Environment and Sustainable Development by Energy Research and Social Science Center, University of Cape Town)	(1) GNESD. 2014. Country report (South Africa). Energy poverty in developing countries: urban poor communities: assessments and recommendations. Urban and Per-urban energy access III. (2) Sverdrup. 2014. The political economy of energy poverty: A review of key challenges (Energy for Sustainable Development)	Strengthen Enablers Limit Inhibitor	Strengthening Supply Chain Community Engagement Financial Incentives	Introduction of Renewable Energy Sources in electricity generation Promoting awareness on safe and efficient use of electricity Financial incentives that increase electricity consumption do not take source into account.	Increased electricity consumption must consider energy sources to reduce overall air pollution.	(1) GNESD. 2014. Country report (Kenya). Energy poverty in developing countries: urban poor communities: assessments and recommendations. Urban and Per-urban energy access III. (2) GNESD. 2014. Energy Strategy Key Highlights. (3) GNESD. 2014. ESMAP. 2016. Fossil Fuel Subsidy Reform in Sub-Saharan Africa: From Rhetoric to Reality. New Climate Economy, London and Washington, DC	Overcome Inhibitors	Strengthen LPG Supply Chain Community Engagement	Standardize LPG cylinders and appliances and enforcement of national policies, laws, regulations and monitoring to reduce safety risk of LPG	Programmes to raise awareness to be more responsive and consider the challenges of households	(1) Kojima. 2011. The Role of Liquidated Petroleum Gas in Reducing Energy Poverty (World Bank)		
3.a	Strengthen the implementation of the World Health Organization Framework Convention on Tobacco Control in all countries, as appropriate															
3.b	Support the research and development of vaccines and medicines for the communicable and non-communicable diseases, that prevent and treat diseases, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affords the right of developing countries to use to the maximum extent provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all															
3.c	Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States															
3.d	Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks	Electricity access supports ICT.	(1) Arora, S. & Horwitz. 2014. The centrality of electricity to ICT use in low-income countries. (Telecommunications Policy)			Interlinkages Stand	Community Engagement	Awareness programmes can educate households on the safe and efficient use of electricity.	(1) GNESD. 2014. Country report (Kenya). Energy poverty in developing countries: urban poor communities: assessments and recommendations. Urban and Per-urban energy access III							
Goal 4. Ensure inclusive and equitable quality education and promote life-long learning opportunities for all																
4.1	By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes	Electricity access reduces household burden on children, reducing school attendance and allowing for study at home.	(1) UNDP. 2011. Towards an 'Energy Plus' Approach For The Poor: A review of good practices and lessons learned from Asia and the Pacific (United Nations Development Programme)	(2) Sverdrup. 2012. The political economy of energy poverty: A review of key challenges (Energy for Sustainable Development)		Interlinkages Stand				Interlinkages Stand					UNDP. 2011. Towards an 'Energy Plus' Approach For The Poor: A review of good practices and lessons learned from Asia and the Pacific (United Nations Development Programme)	
4.2	By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education	Reduced IAP alleviates acute respiratory infections in children, reducing school absences.	(1) UNDP. 2011. Towards an 'Energy Plus' Approach For The Poor: A review of good practices and lessons learned from Asia and the Pacific (United Nations Development Programme)	Reduced IAP alleviates acute respiratory infections in children, reducing school absences.		Interlinkages Stand				Interlinkages Stand					UNDP. 2011. Towards an 'Energy Plus' Approach For The Poor: A review of good practices and lessons learned from Asia and the Pacific (United Nations Development Programme)	
4.3	By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university	Electricity access reduces household burden on women and children, allowing them to be employed productively.	(1) UNDP. 2011. Towards an 'Energy Plus' Approach For The Poor: A review of good practices and lessons learned from Asia and the Pacific (United Nations Development Programme)	LPG access reduces household burden on women and children allowing them to be employed productively.	(1) UNDP. 2011. Towards an Energy Plus Approach For The Poor: A review of good practices and lessons learned from Asia and the Pacific (United Nations Development Programme)		Strengthen Enablers	Expansion of distribution grid networks and community engagement can lead to the creation of new jobs			Strengthen Enablers					(1) GNESD. 2014. Country report (Kenya). Energy poverty in developing countries: urban poor communities: assessments and recommendations. Urban and Per-urban energy access III. (2) Sverdrup. 2012. The political economy of energy poverty: A review of key challenges (Energy for Sustainable Development)
4.4	By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship	Electricity enables productive employment in SMEs and within the supply chain for the fuel	(1) de Borja & Monstad. 2016. The Kenya Skills Certification Program: Local politics of electricity networks in Kibera (Energy Research & Social Science Center, University of Cape Town)	(2) World Bank. 2015. Bringing global best practices to transform Kenya's skills education program.	As 4.1. LPG enables productive employment in SMEs and within the supply chain for the fuel	As 4.1. LPG enables productive employment in SMEs and within the supply chain for the fuel	Strengthen Enablers	Strengthening Supply Chain Community Engagement	Expansion of distribution grid networks and community engagement can lead to the creation of new jobs		Strengthen Enablers					(1) GNESD. 2014. Country report (Kenya). Energy poverty in developing countries: urban poor communities: assessments and recommendations. Urban and Per-urban energy access III. (2) GNESD. 2014. ESMAP. 2015. Bringing global best practices to transform Kenya's skills identification program.
4.5	By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations	As 4.3 Access to clean energy sources imperative to achieve gender equality.	(1) Sverdrup. 2012. The political economy of energy poverty: A review of key challenges (Energy for Sustainable Development)	As 4.3 Access to clean energy sources imperative to achieve gender equality.	(1) Sverdrup. 2012. The political economy of energy poverty: A review of key challenges (Energy for Sustainable Development)		Strengthen Enablers	Expansion of distribution grid networks and community engagement can lead to the creation of new jobs			Strengthen Enablers					(1) GNESD. 2014. Country report (Kenya). Energy poverty in developing countries: urban poor communities: assessments and recommendations. Urban and Per-urban energy access III. (2) GNESD. 2014. ESMAP. 2015. Bringing global best practices to transform Kenya's skills identification program.
4.6	By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy	As 4.1 and 4.3		As 4.1 and 4.3		Interlinkages Stand				Interlinkages Stand						(1) GNESD. 2014. Country report (Kenya). Energy poverty in developing countries: urban poor communities: assessments and recommendations. Urban and Per-urban energy access III. (2) GNESD. 2014. ESMAP. 2015. Bringing global best practices to transform Kenya's skills identification program.

5.a	Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws			As 5.1		As 5.1		As 5.1		Strengthen Enablers	Political Recognition	Financial Incentives	Political recognition of Kenya means consideration of informal settlements in national policy and decision-making and inclusion of their gender and energy needs of households.	Policy must be context responsive and gender aware, appropriately implemented and monitored to ensure they reach targeted households and achieve policy goals.	(1) GNEED 2014. Country report (Kenya). Energy poverty in developing countries' urban poor communities: assessments and recommendations. Urban and Petroleum energy access III. (2) ENERGIA 2019. Gender in the transition to sustainable energy for all: From evidence to inclusive policies (International Network on Gender & Energy)		Strengthen Enablers	Political Recognition	Strengthening Supply Chain	Financial Incentives	LPG outlets and local enterprises must be established to empower youth and increase the number of outlets and enterprises in developing economies: assessments: urban and petroleum energy access III.	(1) GNEED 2014. Country report (Kenya). Energy poverty in developing countries' urban poor communities: assessments and recommendations. Urban and Petroleum energy access III. (2) ENERGIA 2019. Gender in the transition to sustainable energy for all: From evidence to inclusive policies (International Network on Gender & Energy)	
5.b	Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women			Electricity access allows for the use of ICT.	(1) Army & Hosman. 2016. The centrality of electricity to ICT use in low-income countries. (Telecommunications Policy)					Interlinkages Stand	Political Recognition	Financial Incentives	Political recognition of Kenya means consideration of informal settlements in national policy and decision-making and inclusion of their gender and energy needs of households.	Flexible paying require mobile payment methods.	(1) GNEED 2014. Country report (Kenya). Energy poverty in developing countries' urban poor communities: assessments and recommendations. Urban and Petroleum energy access III. (2) ENERGIA 2019. Gender in the transition to sustainable energy for all: From evidence to inclusive policies (International Network on Gender & Energy)		Strengthen Enablers	Community Engagement	Community Engagement	Financial Incentives	Pay-As-You-Go LPG	Pay-As-You-Go LPG	
5.c	Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels			As 5.1 and 5.5	(1) World Bank. 2020. Kenya Petroleum Sector Assistance Project (KEPTAP) aiming to strengthen Kenyan petroleum supply chain and capacity building. (2) Sectoral Indicators that include gender equality and the empowerment of all women and girls at all levels: responsive policies that are substantive, not symbolic, and implementable.					Strengthen Enablers	Political Recognition	Financial Incentives	Political recognition of Kenya means consideration of informal settlements in national policy and decision-making and inclusion of their gender and energy needs of households.	Policy must be context responsive and gender aware, appropriately implemented and monitored to ensure they reach targeted households and achieve policy goals.	(1) GNEED 2014. Country report (Kenya). Energy poverty in developing countries' urban poor communities: assessments and recommendations. Urban and Petroleum energy access III. (2) ENERGIA 2019. Gender in the transition to sustainable energy for all: From evidence to inclusive policies (International Network on Gender & Energy)		Overcome Inhibitors	Political Recognition	Community Engagement	Community Engagement	Financial Incentives	Programmes to raise awareness in urban poor communities: assessments and recommendations (GNEED)	(1) Singh et al. 2015. Energy access realities in urban and rural areas: Kenya. (2) Kojima. 2011. The Role of Liquefied Petroleum Gas in Reducing Energy Poverty (World Bank)
Goal 6. Ensure availability and sustainable management of water and sanitation for all																							
6.1	By 2030, achieve universal and equitable access to safe and affordable drinking water for all			Proven interlinkages between provision of energy and water services. Unaffordable water fees and lack of income limit the ability to purchase water.	(1) Fuso-Neleti et al. 2018. Mapping Synergies and trade-offs between Energy and Water in Sustainable Development Goals (2) UN Water and Energy Implementing the Decade for Action "Water for Life" 2005-2015 at http://www.un.org/waterforlife/decadewa.htm (3) Crow & Odaba. 2009. Scarcity, poverty and uncertain water access: lessons from Kenya. (Global, International and Regional Studies)					Strengthen Enablers	Financial Incentives	Political recognition	Direct financial incentives - subsidies, flexible tariffs - improves affordability of electricity bills for households and achieves policy goals.	Direct financial incentives must be implemented and monitored to ensure they reach targeted households and achieve policy goals.	(1) GNEED 2014. Country report (Kenya). Energy poverty in developing countries' urban poor communities: assessments and recommendations. Urban and Petroleum energy access III. (2) ENERGIA 2019. Gender in the transition to sustainable energy for all: From evidence to inclusive policies (International Network on Gender & Energy)		Overcome Inhibitors	Financial Incentives	Programmes to raise awareness in urban poor communities: assessments and recommendations (GNEED)		Financial Incentives	Programmes to raise awareness in urban poor communities: assessments and recommendations (GNEED)	(1) GNEED 2014. Country report (Kenya). Energy poverty in developing countries' urban poor communities: assessments and recommendations. Urban and Petroleum energy access III. (2) ENERGIA 2019. Gender in the transition to sustainable energy for all: From evidence to inclusive policies (International Network on Gender & Energy)
6.2	By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations									Creates Enabler	Political Recognition	Political recognition of Kenya means consideration of informal settlements in national policy and decision-making	Policy must be context responsive, appropriately implemented and monitored.	(1) UN. Water and Energy Implementing Decade for Action "Water for Life" 2005-2015 at http://www.un.org/waterforlife/decadewa.htm (2) Crow & Odaba. 2009. Scarcity, poverty and uncertain water access: lessons from Kenya. (Global, International and Regional Studies)		Overcome Inhibitors	Financial Incentives	(1) UN. Water and Energy Implementing Decade for Action "Water for Life" 2005-2015 at http://www.un.org/waterforlife/decadewa.htm (2) Crow & Odaba. 2009. Scarcity, poverty and uncertain water access: lessons from Kenya. (Global, International and Regional Studies)		Financial Incentives	Programmes to raise awareness in the safe use and storage of LPG can be utilised as an educational platform to empower women.	(1) GNEED 2014. Country report (Kenya). Energy poverty in developing countries' urban poor communities: assessments and recommendations. Urban and Petroleum energy access III. (2) ENERGIA 2019. Gender in the transition to sustainable energy for all: From evidence to inclusive policies (International Network on Gender & Energy)	
6.3	By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally			Electricity, as a substitute, reduces risk of damage from leachates. Electricity generation through fossil fuels contributes to water scarcity and water pollution.	(1) Kasaija et al. 2004. Energy Access and the Urban Poor (PRETEN/PW). (2) International Energy Agency 2016. Energy and Air Pollution					Creates Enabler	Strengthening Supply Chain	Financial Incentives	Introduction of Renewable Energy Sources in electricity generation. Implementing energy efficiency measures coupled with renewable energy sources in generation to limit inhibitor.	Financial incentives that encourage increased energy efficiency measures coupled with renewable energy sources in generation to limit inhibitor.	(1) GNEED 2014. Country report (Kenya). Energy poverty in developing countries' urban poor communities: assessments and recommendations. Urban and Petroleum energy access III. (2) The World Bank & ESMAP. 2018. Kenya's National Electrification Plan. (3) Kojima and van der Burg. 2010. Fossil Fuel Subsidy Reform in Sub-Saharan Africa. From Ricotta to Shampoo. (4) London and Washington, DC		Strengthen Enablers	Community Engagement	Programmes to raise awareness in the safe use and storage of LPGs for scaling up clean cooking for households and middle-income countries (GNEED)		Financial Incentives	(1) GNEED 2014. Country report (Kenya). Energy poverty in developing countries' urban poor communities: assessments and recommendations. Urban and Petroleum energy access III. (2) ENERGIA 2019. Gender in the transition to sustainable energy for all: From evidence to inclusive policies (International Network on Gender & Energy)	
6.4	By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity			Proven interlinkage between energy and water.	(1) IEA 2016. Water Energy Nexus: Excerpt from the World Energy Outlook. (International Energy Agency)					Interlinkage stand			Increased electricity consumption can affect water resources.		(1) IEA 2016. Water Energy Nexus: Excerpt from the World Energy Outlook. (International Energy Agency)		Creates Enabler	Political Recognition	Political recognition and community engagement supports efficient programme design.		(1) IEA 2016. Water Energy Nexus: Excerpt from the World Energy Outlook. (International Energy Agency)		
6.5	By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate			As 6.4 with special regards to hydro power in Kenya's power production.	(1) IEA 2016. Water Energy Nexus: Excerpt from the World Energy Outlook. (International Energy Agency)					Interlinkage stand			Increased electricity consumption can affect water resources.		(1) IEA 2016. Water Energy Nexus: Excerpt from the World Energy Outlook. (International Energy Agency)		Creates Enabler	Political Recognition	Political recognition and community engagement supports efficient programme design.		(1) IEA 2016. Water Energy Nexus: Excerpt from the World Energy Outlook. (International Energy Agency)		
6.6	By 2030, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes			As 6.5						Interlinkage stand			Increased electricity consumption can affect water resources.		(1) IEA 2016. Water Energy Nexus: Excerpt from the World Energy Outlook. (International Energy Agency)		Creates Enabler	Political Recognition	Political recognition and community engagement supports efficient programme design.		(1) IEA 2016. Water Energy Nexus: Excerpt from the World Energy Outlook. (International Energy Agency)		
6.b	Support and strengthen the participation of local communities in improving water and sanitation management									Creates Enabler	Political Recognition	Political recognition and community engagement supports efficient programme design.	Policy must be context responsive and appropriately implemented and monitored to increase the number of outlets and enterprises in developing economies: assessments: urban and petroleum energy access III.		(1) GNEED 2014. Country report (Kenya). Energy poverty in developing countries' urban poor communities: assessments and recommendations. Urban and Petroleum energy access III. (2) ENERGIA 2019. Gender in the transition to sustainable energy for all: From evidence to inclusive policies (International Network on Gender & Energy)		Strengthen Enablers	Political Recognition	Strengthening Supply Chain	Financial Incentives	(1) ENERGIA 2019. Gender in the transition to sustainable energy for all: From evidence to inclusive policies (International Network on Gender & Energy)		
Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all																							
5.a	Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws			As 5.1			As 5.1			Strengthen Enablers	Political Recognition	Financial Incentives	Political recognition of Kenya means consideration of informal settlements in national policy and decision-making and inclusion of their gender and energy needs of households.	Policy must be context responsive and gender aware, appropriately implemented and monitored to ensure they reach targeted households and achieve policy goals.	(1) GNEED 2014. Country report (Kenya). Energy poverty in developing countries' urban poor communities: assessments and recommendations. Urban and Petroleum energy access III. (2) ENERGIA 2019. Gender in the transition to sustainable energy for all: From evidence to inclusive policies (International Network on Gender & Energy)		Strengthen Enablers	Political Recognition	Strengthening Supply Chain	Financial Incentives	LPG outlets and local enterprises must be established to empower youth and increase the number of outlets and enterprises in developing economies: assessments: urban and petroleum energy access III.	(1) GNEED 2014. Country report (Kenya). Energy poverty in developing countries' urban poor communities: assessments and recommendations. Urban and Petroleum energy access III. (2) ENERGIA 2019. Gender in the transition to sustainable energy for all: From evidence to inclusive policies (International Network on Gender & Energy)	
5.b	Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women			Electricity access allows for the use of ICT.	(1) Army & Hosman. 2016. The centrality of electricity to ICT use in low-income countries. (Telecommunications Policy)					Interlinkages Stand	Political Recognition	Financial Incentives	Political recognition of Kenya means consideration of informal settlements in national policy and decision-making and inclusion of their gender and energy needs of households.	Flexible paying require mobile payment methods.	(1) GNEED 2014. Country report (Kenya). Energy poverty in developing countries' urban poor communities: assessments and recommendations. Urban and Petroleum energy access III. (2) ENERGIA 2019. Gender in the transition to sustainable energy for all: From evidence to inclusive policies (International Network on Gender & Energy)		Strengthen Enablers	Community Engagement	Community Engagement	Financial Incentives	Pay-As-You-Go LPG	(1) ENERGIA 2019. Gender in the transition to sustainable energy for all: From evidence to inclusive policies (International Network on Gender & Energy)	
5.c	Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels			As 5.1 and 5.5	(1) World Bank. 2020. Kenya Petroleum Sector Assistance Project (KEPTAP) aiming to strengthen Kenyan petroleum supply chain and capacity building. (2) Sectoral Social Lessons from a Context-Responsive Approach to Market-Based Policies in Kenya (3) Decentralized Solutions in Kenya (4) EnerG 2019. Gender in the transition to sustainable energy for all: From evidence to inclusive policies (International Network on Gender & Energy)					Strengthen Enablers	Political Recognition	Financial Incentives	Political recognition of Kenya means consideration of informal settlements in national policy and decision-making and inclusion of their gender and energy needs of households.	Policy must be context responsive and gender aware, appropriately implemented and monitored to ensure they reach targeted households and achieve policy goals.	(1) GNEED 2014. Country report (Kenya). Energy poverty in developing countries' urban poor communities: assessments and recommendations. Urban and Petroleum energy access III. (2) ENERGIA 2019. Gender in the transition to sustainable energy for all: From evidence to inclusive policies (International Network on Gender & Energy)		Overcome Inhibitors	Community Engagement	Community Engagement	Financial Incentives	Programmes to raise awareness in urban poor communities: assessments and recommendations (GNEED)	(1) GNEED 2014. Country report (Kenya). Energy poverty in developing countries' urban poor communities: assessments and recommendations. Urban and Petroleum energy access III. (2) ENERGIA 2019. Gender in the transition to sustainable energy for all: From evidence to inclusive policies (International Network on Gender & Energy)	
Goal 6. Ensure availability and sustainable management of water and sanitation for all																							
6.1	By 2030, achieve universal and equitable access to safe and affordable drinking water for all			Proven interlinkages between provision of energy and water services. Unaffordable water fees and lack of income limit the ability to purchase water.	(1) Rikitika et al. 2011. Cost of domestic drinking water in selected towns in Kenya (2) UN Water and Energy Implementing the Decade for Action "Water for Life" 2005-2015 at http://www.un.org/waterforlife/decadewa.htm (3) Crow & Odaba. 2009. Scarcity, poverty and uncertain water access: lessons from Kenya. (Global, International and Regional Studies)					Strengthen Enablers	Financial Incentives	Political recognition	Direct financial incentives - subsidies, flexible tariffs										

6.7	Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all forms																				
8.8	Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment		Formalisation of electricity access enables labour rights and promotes safe and secure working environments; empower otherwise marginalised groups; improve economic; Protect illegal connections; create hostile and unsafe working environments for utility workers.	(1) Karakez et al. 2016. Energy Access for the Urban Poor (EAPW) (2) The World Bank. 2015. Beyond Best Practices: best practices to transform Kenya's urban electrification program.	LPG access can promote safe and secure working environments; reducing IAP and empower otherwise marginalised groups socio-economically.	(1) Gao & Van Leeuwen. 2019. Sustainable Development Goals: the Contribution of LPG (Global LPG Partnership (GLP) and the World LPG Association (WPLGA)) (2) Karakez et al. 2008. Energy Access for the Urban Poor (AIREPEN/PWDO)	Strengtheners Enabler Overcome Inhibitor	Strengthening Supply Chain Community Engagement	Expansion of distribution grid networks and community engagement means improved energy access in urban areas, the creation of new jobs, trust building and consensus..	Interventions must be inclusive of residents in informal settlements.	(1) GNESD 2014. Country report (Kenya). Energy poverty in developing countries: poor communities: assessments and recommendations. Urban and Peri-Urban Energy (UPE) (2) The World Bank & ESMAP. 2003. Beyond Best Practices to transform Kenya's urban electrification program.	Strengthen Enablers Political Recognition	Domestic reserves of LPG improves supply security, stabilizes prices and enables import economy of scale.	Dependence on LPG imports ultimately limits the energy sovereignty of Kenya.	(1) Kojima. 2011. The Role of Liquefied Petroleum Gas in Reducing Energy Poverty (World Bank) (2) van den Berg. 2010. Kenya's Strategy to Make Kenya's Primary Cooking Fuel (World Bank) (3) Muto et al. 2017. Energy Justice for all? Re-thinking Energy Use in Kenya (Energy Policy) (4) Matthews 2014. Opportunities and Challenges for Petroleum and LPG Markets in Sub-Saharan Africa (Energy Policy)						
8.9	By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products		Electricity access enables productive employment in SMEs providing tourism services	(1) Chege and Mwakia. 2013. Benefits of slum tourism in Kibera slum in Nairobi, Kenya (International Journal of Arts and Commerce)	LPG enables productive employment in SMEs providing tourism services	(1) Chege and Mwakia. 2013. Benefits of slum tourism in Kibera slum in Nairobi, Kenya (International Journal of Arts and Commerce) (2) Gao & Van Leeuwen. 2019. Sustainable Development Goals: the Contribution of LPG (Global LPG Partnership (GLP) and the World LPG Association (WPLGA)) (3) Krommes and Arendsen. 2012. Household Energy Use, Safety and Consumption in Urban South Africa (Energy & Environment Research)	Interlinkages Stand			Electricity access enables productive employment in SMEs providing tourism services	(1) Chege and Mwakia. 2013. Benefits of slum tourism in Kibera slum in Nairobi, Kenya (International Journal of Arts and Commerce)	Interlinkages Stand		Dependence on LPG imports ultimately limits the energy sovereignty of Kenya.	(1) Kojima. 2011. The Role of Liquefied Petroleum Gas in Reducing Energy Poverty (World Bank) (2) van den Berg. 2010. Kenya's Strategy to Make Kenya's Primary Cooking Fuel (World Bank) (3) Muto et al. 2017. Energy Justice for all? Re-thinking Energy Use in Kenya (Energy Policy) (4) Matthews 2014. Opportunities and Challenges for Petroleum and LPG Markets in Sub-Saharan Africa (Energy Policy)						
8.10	Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all		Electricity access initiatives require mobile payment methods	(1) Sanyal et al. 2016. Stimulating Pay-As-You-Go Energy Access in Kenya and Tanzania: The Role of Development Finance (World Resource Institute)	Information and communication technology can use mobile payment methods that promote LPG access such as Pay-As-You-Go	(1) Envirogas. 2020. SmartGas (2) PayGo Energy. 2020. Transforming downstream LPG through digital innovation	Interlinkages Stand			Electricity access initiatives require mobile payment methods	(1) Sanyal et al. 2016. Stimulating Pay-As-You-Go Energy Access in Kenya and Tanzania: The Role of Development Finance (World Resource Institute)	Strengthen Enablers Financial Incentives	Pay-As-You-Go LPG initiatives, removal of VAT, subsidies, removal of import tariff, affordable LPG household.	Dependence on LPG imports ultimately limits the energy sovereignty of Kenya.	(1) Kojima. 2011. The Role of Liquefied Petroleum Gas in Reducing Energy Poverty (World Bank) (2) van den Berg. 2010. Kenya's Strategy to Make Kenya's Primary Cooking Fuel (World Bank) (3) Muto et al. 2017. Energy Justice for all? Re-thinking Energy Use in Kenya (Energy Policy) (4) Matthews 2014. Opportunities and Challenges for Petroleum and LPG Markets in Sub-Saharan Africa (Energy Policy)						
8.8	Increase Aid for Trade support for developing countries, in particular least developed countries, including through the Enhanced Integrated Framework for Trade-Related Technical Assistance to Least Developed Countries		Evidence that Aid for Trade can include improving energy and electricity infrastructure.	(1) Prooor/World Bank and Institute of International Economics. 2009. Aid for Trade: making trade effective for development: Case studies from Kenya, Tanzania and Uganda.	Evidence that Aid for Trade can include improving energy infrastructure.	(1) Gao & Van Leeuwen. 2019. Sustainable Development Goals: the Contribution of LPG (Global LPG Partnership (GLP) and the World LPG Association (WPLGA)) (2) van den Berg. 2018. Kenya's Strategy to Make Kenya's Primary Cooking Fuel (Gas the Nation's Primary Cooking Fuel) (3) Prooor/World Bank and Institute of International Economics. 2009. Aid for Trade: making trade effective for development: Case studies from Kenya, Tanzania and Uganda.	Strengtheners Enabler	Strengthening Supply Chain	Expansion of grid distribution networks mean improving energy and electricity infrastructure.	Interventions must be inclusive of residents in informal settlements.	(2) The World Bank & ESMAP. 2015. Bringing global best practices to transform Kenya's slum identification program	Strengthen Enablers Strengthening Supply Chain	Domestic reserves of LPG improves supply security, stabilizes prices, and enables import economy of scale.	Dependence on LPG imports ultimately limits the energy sovereignty of Kenya.	(1) Kojima. 2011. The Role of Liquefied Petroleum Gas in Reducing Energy Poverty (World Bank) (2) van den Berg. 2010. Kenya's Strategy to Make Kenya's Primary Cooking Fuel (World Bank) (3) Muto et al. 2017. Energy Justice for all? Re-thinking Energy Use in Kenya (Energy Policy) (4) Matthews 2014. Opportunities and Challenges for Petroleum and LPG Markets in Sub-Saharan Africa (Energy Policy)						
8.8	By 2020, develop and operationalize a global plan for youth employment and implement the Global Jobs Pact of the International Labour Organization							Creates Enabler Strengthening Supply Chain Political Recognition	Community Engagement Strengthening Supply Chain Political Recognition	Community engagement enables youth employment Consideration of informal settlements in national policy and decision-making and inclusion of the youth and energy needs of households.	Interventions must be inclusive of residents in informal settlements.	(1) GNESD 2014. Country report (Kenya). Energy poverty in developing countries: poor communities: assessments and recommendations. Urban and Peri-Urban Energy (UPE) (2) de Berugote & Monstad. 2018. The Kenya Slum Electrification and Local politics of electricity networks in Kibera. Energy Research & Social Science	Create Enabler Strengthen Supply Chain	Consideration of informal settlements in national policy and decision-making, youth employment and energy needs of households.	Programmes to increase the number of households and the establishment of local enterprises as distributors per household. Means improved possibility of LPG creation of new jobs	(1) Kojima. 2011. The Role of Liquefied Petroleum Gas in Reducing Energy Poverty (World Bank) (2) van den Berg. 2010. Kenya's Strategy to Make Kenya's Primary Cooking Fuel (World Bank) (3) Muto et al. 2017. Energy Justice for all? Re-thinking Energy Use in Kenya (Energy Policy) (4) Matthews 2014. Opportunities and Challenges for Petroleum and LPG Markets in Sub-Saharan Africa (Energy Policy)					
Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation																					
9.1	Develop quality, reliable, sustainable and resilient infrastructure, including regional and intraregional infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all		Reliable, sustainable, resilient infrastructure enables electricity access through grid expansion	(1) African Development Fund. Last Mile Connectivity Project (2014) (2) SE4All. 2016. Kenya Action Agenda (Government of Kenya)	Reliable, sustainable, resilient infrastructure enables LPG access.	(1) World Bank. 2020. Kenya Petroleum Technology Assistance Project (KETPAT) (2) Gao & Van Leeuwen. 2019. Sustainable Development Goals: the Contribution of LPG (Global LPG Partnership (GLP) and the World LPG Association (WPLGA)) (3) van den Berg. 2018. Kenya's Strategy to Make Liquid Petroleum Gas the Nation's Primary Cooking Fuel (World Bank)	Strengthening Enablers	Strengthening Supply Chain	Expansion of grid distribution networks mean improving energy and electricity infrastructure.	Interventions must be inclusive of residents in informal settlements.	(1) African Development Fund. Last Mile Connectivity Project (2014) (2) SE4All. 2016. Kenya Action Agenda (Government of Kenya)	Strengthen Enablers Strengthening Supply Chain	Domestic reserves of LPG improves supply security, stabilizes prices, and enables import economy of scale.	Dependence on LPG imports ultimately limits the energy sovereignty of Kenya.	(1) Kojima. 2011. The Role of Liquefied Petroleum Gas in Reducing Energy Poverty (World Bank) (2) van den Berg. 2010. Kenya's Strategy to Make Kenya's Primary Cooking Fuel (World Bank) (3) Muto et al. 2017. Energy Justice for all? Re-thinking Energy Use in Kenya (Energy Policy) (4) Matthews 2014. Opportunities and Challenges for Petroleum and LPG Markets in Sub-Saharan Africa (Energy Policy)						
9.2	Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries							Creates Enabler Strengthening Supply Chain		Expansion of grid distribution networks mean improving energy and electricity infrastructure.	Interventions must be inclusive of residents in informal settlements.	(1) African Development Fund. Last Mile Connectivity Project (2014) (2) SE4All. 2016. Kenya Action Agenda (Government of Kenya)	Create Enabler Strengthening Supply Chain	Domestic reserves of LPG improves supply security, stabilizes prices, and enables import economy of scale allowing for increased industrial use	Dependence on LPG imports ultimately limits the energy sovereignty of Kenya.	(1) Kojima. 2011. The Role of Liquefied Petroleum Gas in Reducing Energy Poverty (World Bank) (2) van den Berg. 2010. Kenya's Strategy to Make Kenya's Primary Cooking Fuel (World Bank) (3) Muto et al. 2017. Energy Justice for all? Re-thinking Energy Use in Kenya (Energy Policy) (4) Matthews 2014. Opportunities and Challenges for Petroleum and LPG Markets in Sub-Saharan Africa (Energy Policy)					
9.3	Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets		As 8.1 and 8.10		As 8.1 and 8.10			Strengthen Enablers Political Recognition		Political recognition of local business; consideration of informal settlements in national policy and decision-making encouraging SMEs.	Policy must be context responsive, appropriately implemented and monitored.	(1) Singh et al. 2015. Energy access baseline for urban poor communities: assessments and recommendations (GNESD)	Strengthen Enablers Financial Incentives	Direct financial incentives; subsidies, removal of VAT, micro-finance - improves affordability of LPG for households.	Dependence on LPG imports ultimately limits the energy sovereignty of Kenya.	(1) Singh et al. 2015. Energy access realities in urban poor communities: assessments and recommendations (GNESD) (2) Puzzolo et al. 2019. Supply considerations for energy access in Kenya: implications for household energy in low-income and come communities (GasHub)					

10.b	Encourage official development assistance and financial flows, including foreign direct investment, to States where the need is greatest, in particular least developed countries, African countries, small island developing states and landlocked developing countries, in accordance with their national plans and programmes		Cross-sectorial initiatives, private-public partnerships, NGOs programmes promote the access to electricity	1) SE4ALL 2016, Kenya Action Agenda (Government of Kenya)	Cross-sectorial initiatives, private-public partnerships, NGOs programmes promote the access to LPG	1) SE4ALL 2016, Kenya Action Agenda (Government of Kenya)		Interlinkage Stands		Cross-sectorial initiatives, private-public partnerships, NGOs programmes promote the access to electricity.	1) SE4ALL 2016, Kenya Action Agenda (Government of Kenya)		Interlinkage Stands					
10.c	By 2025, reduce to less than 5 per cent the transaction costs of migrant remittances and eliminate remittance corridors with costs higher than 5 per cent																	
Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable																		
11.1	By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums		Legal electricity access supports basic services, including electricity, fires caused by faulty electrical and can be fuelled by solid fuels, through upgrading programs. LPG as a substitute for biomass, reduces IAP and associated costs, increase energy use, increase burden on household income limiting access to basic services.	1) ONESD 2014, Country report (Kenya): Energy poverty in developing countries: urban poor communities; Urban and Peri-urban energy access III; 1) GIZ 2015, Beyond Connections 2015: Bringing global best practices to transform Kenya's slum electrification program.	LPG, as a substitute for biomass, reduces IAP and associated costs, increase energy use, increase burden on household income limiting access to basic services	1) ONESD 2014, Country report (Kenya): Energy poverty in developing countries: urban poor communities; Urban and Peri-urban energy access III; 1) GIZ 2015, Beyond Connections 2015: Bringing global best practices to transform Kenya's slum electrification program.	Strengthen Enabler Overcome Inhibitors	Political Recognition Financial Incentives	Political recognition of Kibera means consideration of informal settlements in national policy and decision-making and inclusion of the energy needs of households.	Policy must be context-responsive, appropriately implemented and monitored.	1) ONESD 2014, Country report (Kenya): Energy poverty in developing countries: urban poor communities; assessments and recommendations. Urban and Peri-urban energy access III; 1) The World Bank & ESMAP, 2011. Health and poverty: Implications for health in informal settlements (International Institute for Environment and Development)	1) ONESD 2014, Country report (Kenya): Energy poverty in developing countries: urban poor communities; assessments and recommendations. Urban and Peri-urban energy access III; 1) The World Bank & ESMAP, 2011. Health and poverty: Implications for health in informal settlements (International Institute for Environment and Development)	Strengthen Enabler Overcome Inhibitors	Financial Incentives	Direct financial incentives, subsidies, removal of VAT, micro-finance - improves affordability of LPG for households	Direct financial incentives, subsidies, removal of VAT, micro-finance - improves affordability of LPG for households	1) ONESD 2014, Country report (Kenya): Energy poverty in developing countries: urban poor communities; assessments and recommendations. Urban and Peri-urban energy access III; 1) Puzzolo et al. 2019. Supply considerations for LPG as a vehicle fuel for household energy access in low-income countries	1) ONESD 2014, Country report (Kenya): Energy poverty in developing countries: urban poor communities; assessments and recommendations. Urban and Peri-urban energy access III; 1) Puzzolo et al. 2019. Supply considerations for LPG as a vehicle fuel for household energy access in low-income countries
11.2	By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road infrastructure, developing sustainable and resilient transport policies and specific measures for those in vulnerable situations, women, children, persons with disabilities and older persons				LPG offers an alternative fuel with lower GHG and particulate emissions. LPG for vehicle fuel can compete with LPG for cooking fuel.	1) Kojima, 2011. The role of Liquified Petroleum Gas in Reducing Energy Poverty. (World Bank)					1) Kojima, 2011. The role of Liquified Petroleum Gas in Reducing Energy Poverty. (World Bank)					1) Kojima, 2011. The role of Liquified Petroleum Gas in Reducing Energy Poverty. (World Bank)	1) Kojima, 2011. The role of Liquified Petroleum Gas in Reducing Energy Poverty. (World Bank)	
11.3	By 2030, enhance inclusive and sustainable urbanization and sustainable space planning, including sustainable human settlement planning and management in all countries		Electricity access and use can empower otherwise marginalized groups socio-economically, giving voice in planning and policy making	1) Singh et al. 2014. Energy Access Realities in Urban Poor Communities of Developing Countries: Assessments and Recommendations (Global Network on Energy for Sustainable Development)	LPG access can empower other wise marginalized groups socio-economically, giving voice in planning and policy making	1) Singh et al. 2014. Energy Access Realities in Urban Poor Communities of Developing Countries: Assessments and Recommendations (Global Network on Energy for Sustainable Development)	Strengthen Enablers	Political Recognition Community Engagement	Political recognition of Kibera means consideration of informal settlements in national policy and decision-making and inclusion of the energy needs of households.	Policy must be context-responsive, appropriately implemented and monitored.	1) ONESD 2014, Country report (Kenya): Energy poverty in developing countries: urban poor communities; assessments and recommendations. Urban and Peri-urban energy access III; 1) The World Bank & ESMAP, 2011. Health and poverty: Implications for health in informal settlements (International Institute for Environment and Development)	1) ONESD 2014, Country report (Kenya): Energy poverty in developing countries: urban poor communities; assessments and recommendations. Urban and Peri-urban energy access III; 1) The World Bank & ESMAP, 2011. Health and poverty: Implications for health in informal settlements (International Institute for Environment and Development)	Strengthen Enablers Strengthening Supply Chain	Strengthening Supply Chain	Domestic reserves of LPG improve supply security, improve availability of the fuel for all uses, reducing but not eliminating competition for LPG as a vehicle fuel versus cooking fuel	Domestic reserves of LPG improve supply security, improve availability of the fuel for all uses, reducing but not eliminating competition for LPG as a vehicle fuel versus cooking fuel	1) ONESD 2014, Country report (Kenya): Energy poverty in developing countries: urban poor communities; assessments and recommendations. Urban and Peri-urban energy access III; 1) van den Berg 2018. Kenya's Strategy to Make Liquified Petroleum Gas the Nation's Primary Cooking Fuel (World Bank)	1) ONESD 2014, Country report (Kenya): Energy poverty in developing countries: urban poor communities; assessments and recommendations. Urban and Peri-urban energy access III; 1) van den Berg 2018. Kenya's Strategy to Make Liquified Petroleum Gas the Nation's Primary Cooking Fuel (World Bank)
11.4	Strengthen efforts to protect and safeguard the world's cultural and natural heritage		Formal, legal supply of electricity increases energy security through energy systems, e.g. hydro power, impact on cultural and natural heritage	1) Egli & Selsic, 2003. Social Implications of Oil and Gas Development: The World lessons learned over two decades (Impact Assessment and Project Appraisal)	Loss of cultural heritage with decreased demand for charcoal production, due to LPG as a substitute for biomass, loss of specialised knowledge and skills in rural areas. As a fossil fuel, LPG is a byproduct of natural gas and crude oil extraction - extraction of energy resources impact on natural and cultural heritage (mine and terrestrial)	1) Munro et al. 2017. Energy justice for SDG 7 through struggles over traditional energy practices in Sierra Leone (Energy Policy)					1) Egli & Selsic, 2003. Social Implications of Oil and Gas Development: The World lessons learned over two decades (Impact Assessment and Project Appraisal)					1) Egli & Selsic, 2003. Social Implications of Oil and Gas Development: The World lessons learned over two decades (Impact Assessment and Project Appraisal)	1) Egli & Selsic, 2003. Social Implications of Oil and Gas Development: The World lessons learned over two decades (Impact Assessment and Project Appraisal)	
11.5	By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations				LPG is a fossil fuel - a byproduct from natural gas and crude oil extraction and refinement - and Kenya is reliant on imports: a concern for supply security	1) Munro et al. 2017. Energy justice for SDG 7 through struggles over traditional energy practices in Sierra Leone (Energy Policy)					1) Munro et al. 2017. Energy justice for SDG 7 through struggles over traditional energy practices in Sierra Leone (Energy Policy)					1) Kojima, 2011. The role of Liquified Petroleum Gas in Reducing Energy Poverty (World Bank)	1) Kojima, 2011. The role of Liquified Petroleum Gas in Reducing Energy Poverty (World Bank)	
11.6	By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management		Formal, legal supply of electricity increases efficiency of use and reduces dependence on fossil fuels through fossil-based energy sources to combat air pollution	1) Kansakal et al. Energy Access for the Urban Poor (AIREPEN/2009)	LPG is a clean burning fuel reducing ambient air pollution	1) Gai & Van Leeuwen, 2019. Sustainable Development Goals in the Context of the Sustainable Development Goals (SDG) 2030. Beyond Connections: Redefining Energy Access (World Bank)	Strengthen Enabler Limit Inhibitor	Strengthening Supply Chain Financial Incentives	Renewable energy sources in electricity generation.	Increased electricity consumption must be coupled with sustainable electricity production generation and distribution	1) Gai & Van Leeuwen, 2019. Sustainable Development Goals in the Context of the Sustainable Development Goals (SDG) 2030. Beyond Connections: Redefining Energy Access (World Bank)					1) Gai & Van Leeuwen, 2019. Sustainable Development Goals in the Context of the Sustainable Development Goals (SDG) 2030. Beyond Connections: Redefining Energy Access (World Bank)	1) Gai & Van Leeuwen, 2019. Sustainable Development Goals in the Context of the Sustainable Development Goals (SDG) 2030. Beyond Connections: Redefining Energy Access (World Bank)	
11.7	By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities																	
11.8	Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning		Electricity access through expansion of transmission and distribution grids, in urban, peri-urban and rural areas	1) African Development Fund, Last Mile Connectivity Project (2014)	LPG, as a substitute for biomass, will reduce income for rural producers of biomass (fertilizer and firewood)	1) Munro et al. 2017. Energy justice for SDG 7 through struggles over traditional energy practices in Sierra Leone (Energy Policy)					1) Munro et al. 2017. Energy justice for SDG 7 through struggles over traditional energy practices in Sierra Leone (Energy Policy)					1) Munro et al. 2017. Energy justice for SDG 7 through struggles over traditional energy practices in Sierra Leone (Energy Policy)	1) Munro et al. 2017. Energy justice for SDG 7 through struggles over traditional energy practices in Sierra Leone (Energy Policy)	
11.b	By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels	Ar 11.3			Ar 11.3		Strengthen Enabler	Political Recognition	Political recognition of Kibera means consideration of informal settlements in national policy and decision-making and inclusion of the energy needs of households.	Policy must be context-responsive, appropriately implemented and monitored.	1) ONESD 2014, Country report (Kenya): Energy poverty in developing countries: urban poor communities; assessments and recommendations. Urban and Peri-urban energy access III; 1) Munro et al. 2017. Energy justice for SDG 7 through struggles over traditional energy practices in Sierra Leone (Energy Policy)	1) ONESD 2014, Country report (Kenya): Energy poverty in developing countries: urban poor communities; assessments and recommendations. Urban and Peri-urban energy access III; 1) Munro et al. 2017. Energy justice for SDG 7 through struggles over traditional energy practices in Sierra Leone (Energy Policy)	Strengthen Enablers Limit Inhibitor	Political Recognition Strengthening Supply Chain	Domestic reserves of LPG improve supply security, improve availability of the fuel for all uses, reducing but not eliminating competition for LPG as a vehicle fuel versus cooking fuel	Domestic reserves of LPG improve supply security, improve availability of the fuel for all uses, reducing but not eliminating competition for LPG as a vehicle fuel versus cooking fuel	1) ONESD 2014, Country report (Kenya): Energy poverty in developing countries: urban poor communities; assessments and recommendations. Urban and Peri-urban energy access III; 1) van den Berg 2018. Kenya's Strategy to Make Liquified Petroleum Gas the Nation's Primary Cooking Fuel (World Bank)	1) ONESD 2014, Country report (Kenya): Energy poverty in developing countries: urban poor communities; assessments and recommendations. Urban and Peri-urban energy access III; 1) van den Berg 2018. Kenya's Strategy to Make Liquified Petroleum Gas the Nation's Primary Cooking Fuel (World Bank)
11.c	Support least developed countries, including through official technical assistance, in building sustainable and resilient buildings utilizing local materials																	
Goal 12. Ensure sustainable consumption and production patterns																		
12.1	Implement the 10-year framework of programmes on sustainable consumption and production, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries	As 7.3			As 7.3 LPG is a fossil fuel - a byproduct from natural gas and crude oil extraction and refinement	1) Kojima, 2011. The Role of Liquified Petroleum Gas in Reducing Energy Poverty (World Bank)					Awareness programmes can include the safe and efficient use of electricity.					1) Kojima, 2011. The Role of Liquified Petroleum Gas in Reducing Energy Poverty (World Bank)	1) Kojima, 2011. The Role of Liquified Petroleum Gas in Reducing Energy Poverty (World Bank)	

12.2	By 2030, achieve the sustainable management and efficient use of natural resources		As 7.3															
12.3	By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses		Electricity access supports refrigerators and food storage	(1) Kaukai et al. Energy Access for the Urban Poor (AFREPEN/FWD 2008)														
12.4	By 2030, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment		Electricity access through nuclear power requires management of waste	(1) Republic of Kenya. Ministry of Energy. 2018. National Energy Policy														
12.5	By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse																	
12.6	Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle			Imports of LPG requires large and transnational companies as key actors. LPG is a fossil fuel product of natural gas and crude oil extraction and refinement - and therefore its sustainability is questionable.	(1) Kojima. 2011. The Role of Liquified Petroleum Gas in Reducing Energy Poverty (World Bank)	(2) van den Berg. 2014. Kenya's Role in Making Liquified Petroleum Gas the Nation's Primary Cooking Fuel (World Bank)												
12.7	Promote public procurement practices that are sustainable, in accordance with national policies and priorities		Procurement management	(1) The World Bank & ESMAP. 2018. Energy Sector Decarbonization Brief: Key Highlights														
12.8	By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature		Information and awareness about electricity access opportunities key to adopting sustainable energy practices	(1) The World Bank. Bringing global best practices to transform Korea's clean electrification program (2015).		Access to, and education regarding, LPG can be a platform for raising awareness of sustainable development	(1) Kojima. 2011. The Role of Liquified Petroleum Gas in Reducing Energy Poverty (World Bank)											
12.a	Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production		Technical capacity can enable RET for power production. Poor infrastructure inhibits sufficient uptake if the needs of the host country are not taken into account	(1) Kaukai & Kojima. 2003. RENEWABLE ENERGY DEVELOPMENT: The Workshop for NEPAD: The Role of RET in Operationalizing the NEPAD Energy Initiative (Republic of Senegal and United Nations)														
12.b	Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products																	
12.c	Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out inefficient subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities		Target reduces burden on consumers which then frees money to electrification. This is provided if it is complemented with direct financial support covering the increasing electricity tariffs for the poor.	(1) White & van der Burg. 2015. Fossil Fuel Subsidy Reform in Sub-Saharan Africa: From Rhetoric to Reality New Climate Economy		Inefficient LPG subsidies due to meet targeted households meaning LPG is not affordable	(1) Singh et al. 2015. Energy access realities in urban poor communities of developing countries: assessments and recommendations (GNESD)											
Goal 13. Take urgent action to combat climate change and its impacts																		
13.1	Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries		Efficient energy planning can increase energy systems resilience, and reduce through climate vulnerable energy systems. This will strengthen resilience of Kenya's energy system.	(1) Berga. 2016. The Role of Energy in Climate Change Mitigation and Adaptation: A Review (Energy Policy)		LPG is a fossil fuel - a byproduct from natural gas and crude oil extraction and refinement. Kenya is reliant on imports of LPG - a concern for security of supply.	(1) Munro et al. 2017. Energy justice for all? Rethinking SDG 7 through struggles over energy practices in Sierra Leone (Energy Policy)	(2) Mathews 2014. Opportunities and Implications of the Renewable Energy Markets in Sub-Saharan Africa (Energy Policy)	Strengthen Enabler	Strengthening Supply Chain	Financial Incentives	Renewable energy sources in electricity generation.	Increased electricity consumption must be coupled with sustainable electricity production generation and distribution.		(1) Berga. 2018. The Role of Hydroelectric Climate Change Mitigation and Adaptation Review (Engineering News)	(2) Ministry of Energy. 2018. National Energy Policy	(1) Kojima. 2011. The Role of Liquified Petroleum Gas in Reducing Energy Poverty (World Bank)	(2) van den Berg. 2014. Kenya's Role in Making Liquified Petroleum Gas the Nation's Primary Cooking Fuel (World Bank)
13.2	Integrate climate change measures into national policies, strategies and planning		Electricity access can be provided through renewable as well as fossil-fuel based energy.	(1) Republic of Kenya. 2018. Ministry of Environment and Forestry Policy	(2) Government of Kenya. 2018. National Climate Change Action Plan (Kenya's National Climate Change Action Plan)	Increasing LPG access is a target of Kenya's National Climate Change Action Plan (Kenya's National Climate Change Action Plan)	(1) Government of Kenya. 2018. National Climate Change Action Plan (Kenya): Opportunities and Challenges for Energy and Environment and Forestry.	(2) van den Berg. 2014. Kenya's Role in Making Liquified Petroleum Gas the Nation's Primary Cooking Fuel (World Bank)	Strengthen Enabler	Strengthening Supply Chain	Integration of renewable energy sources in power production.		(1) GNESD 2014. Country report Kenya. Energy poverty in developing countries: urban poor communities: assessments and recommendations. Urban and peri-urban energy access III	(2) Ministry of Energy. 2018. National Energy Policy	(1) GNESD 2014. Country report Kenya. Energy poverty in developing countries: urban poor communities: assessments and recommendations. Urban and peri-urban energy access III	(1) Government of Kenya. 2018. National Climate Change Action Plan (Kenya): Opportunities and Challenges for Energy and Environment and Forestry.	(2) van den Berg. 2014. Kenya's Role in Making Liquified Petroleum Gas the Nation's Primary Cooking Fuel (World Bank)	
13.3	Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning		As 12.8 Kenya has limited reserves of LPG and reliant on imports: a concern for security of supply.	(1) Kojima. 2011. The Role of Liquified Petroleum Gas in Reducing Energy Poverty (World Bank)					Strengthen Enabler	Community Engagement		Programmes to raise awareness educate households in the safe and efficient use of electricity and consider the fuel preferences and practices of households	Programmes to raise awareness educate households in the safe and efficient use of electricity and consider the fuel preferences and practices of households	(1) GNESD 2014. Country report Kenya. Energy poverty in developing countries: urban poor communities: assessments and recommendations. Urban and peri-urban energy access III	(2) Ministry of Energy. 2018. National Energy Policy	(1) Kojima. 2011. The Role of Liquified Petroleum Gas in Reducing Energy Poverty (World Bank)	(2) van den Berg. 2014. Kenya's Role in Making Liquified Petroleum Gas the Nation's Primary Cooking Fuel (World Bank)	

13.a	Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly \$100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible																									
13.b	Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities			Cross-sectoral initiatives, private-public partnerships, NGOs, government, local elected access and climate change-related planning and management	(1) SE4All 2016, Kenya Action Agenda (Government of Kenya)		Cross-sectoral initiatives, private-public partnerships, NGOs, programmes promote the use of LPG for climate change-related planning and management	(1) SE4All 2016, Kenya Action Agenda (Government of Kenya)		Strengthen Enabler	Political Recognition	Political recognition of policies, a consideration of informal settlements in national policy and decision-making and inclusion of the energy needs of households.	Policy must be context responsive, appropriately implemented and monitored.	(1) Kenya Power, 2016, Kenya Electricity System Improvement Project Resettlement Policy Framework (2) African Development Fund, 2014, Last Mile Connectivity Project (3) World Bank, 2015, Bringing global best practices to transform Kenya's electricity program				Strengthen Enabler	Strengthening Supply Chain		Cooperation and knowledge sharing above the levels of LPG and electricity access, realised through existing initiatives, partnerships and programmes e.g. World Bank GACC	(1) GNEED 2014, Country Report Kenya, on energy poverty in developing countries' urban poor communities: assessments and recommendations. Urban and Peri-urban energy access III.				
Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development																										
14.1	By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution																									
14.2	By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, by taking action to strengthen their resilience, and take action for their restoration in order to achieve healthy and productive oceans																									
14.3	Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels			Electricity through fossil-fuel-based sources contributes to ambient air pollution.	(1) International Energy Agency, 2016, Energy and Air Pollution	LPG is a fossil fuel - a byproduct of natural gas and crude oil extraction and refinement - whose production contributes to ocean acidification	(1) Munro et al. 2017, Energy justice for all? Rethinking SDG 7 through struggles over traditional energy practices in Sierra Leone (Energy Policy)		Creates Enabler	Strengthening Supply Chain	Integration of renewable energy sources in power production.	The increase of electricity consumption must be met by sustainable electricity generation	(1) GNEED 2014, Country report Kenya, on energy poverty in developing countries' urban poor communities: assessments and recommendations. Urban and Peri-urban energy access III			Interlinkages Stand				LPG is a fossil fuel - a byproduct of natural gas and crude oil extraction and refinement - whose production contributes to ocean acidification	(1) Munro et al. 2017, Energy justice for all? Rethinking SDG 7 through struggles over traditional energy practices in Sierra Leone (Energy Policy)					
14.4	By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore stocks in the shortest time feasible, while allowing them to produce maximum sustainable yield as determined by their biological characteristics																									
14.5	By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information																									
14.6	By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation																									
14.7	By 2030, increase the economic benefits to Small Island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism																									
14.8	Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the living resource conservation, sustainable use of marine resources and marine biodiversity, and promote the transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries																									
14.b	Provide access for small-scale artisanal fishers to marine resources																									
14.c	Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in UNCLOS, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of The Future We Want																									
Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss																										
15.1	By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements			Legal electricity regimes, efficient use of resources and reduce dependence on fossil fuels. Efficient transmission grids and electricity production can impact land	(1) Kashezai et al. Energy Access for the Urban Poor, 2009 (2) GfFischer et al. 2007, Energy and Land Use. (UNCCD & RENA)					Interlinkages Stand		Expansion of distribution grid network and integration of renewable energy technology can affect the environment.	(1) Kenya Power, 2016, Kenya Electricity System Improvement Project Resettlement Policy Framework (2) African Development Fund, 2014, Last Mile Connectivity Project (3) GfFischer et al. 2007, Energy and Land Use. (UNCCD & RENA)													
15.2	By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally				As 15.1											Interlinkages Stand		Expansion of distribution grid network and integration of renewable energy technology can affect the environment.	(1) Kenya Power, 2016, Kenya Electricity System Improvement Project Resettlement Policy Framework (2) African Development Fund, 2014, Last Mile Connectivity Project (3) GfFischer et al. 2007, Energy and Land Use. (UNCCD & RENA)							
15.3	By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world				As 15.1											Interlinkages Stand		Expansion of distribution grid network and integration of renewable energy technology can affect the environment.	(1) Kenya Power, 2016, Kenya Electricity System Improvement Project Resettlement Policy Framework (2) African Development Fund, 2014, Last Mile Connectivity Project (3) GfFischer et al. 2007, Energy and Land Use. (UNCCD & RENA)							

17.9	Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the sustainable development goals, including through North-South, South-South and triangular cooperation		As 17.6						As 17.3					Interlinkages stand						
17.10	Promote a universal, rules-based, open, non-discriminatory and equitable multilateral trading system under the World Trade Organization, including through the conclusion of negotiations under the Doha Development Agenda																			
17.11	Significantly increase the exports of developing countries, in particular with a view to doubling the least developed countries' share of global exports by 2020																			
17.12	Realize timely implementation of duty-free and quota-free market access on a lasting basis for all least developed countries, consistent with World Trade Organization decisions, including by ensuring that preferential rules of origin applicable to imports from least developed countries are transparent and simple, and contribute to facilitating market access																			
17.13	Enhance global macroeconomic stability, including through policy coordination and policy coherence	Electricity access can be provided by renewable energy sources or fossil based sources.		(1) Republic of Kenya: Ministry of Energy. National Energy Policy (2018) (2) SE4All. Kenya Action Agenda	Price of LPG is elastic with global oil price therefore, reliant on global macroeconomic stability		(1) Kojima. 2011. The Role of Liquefied Petroleum Gas in Reducing Energy Poverty (World Bank)			Strengthening Enabler Limit Inhibitor	Strengthening Supply Chain	Integration of renewable energy sources mean domestic, affordable and available energy.		(1) African Development Fund. 2014. Last Mile Connectivity Project (2) SE4All. 2016. Kenya Action Agenda		Interlinkages Stand				
17.14	Enhance policy coherence for sustainable development	Coherent policies recognizing the energy needs of the urban poor that supports sustainable development.		(1) GNESD 2014. Country report (Kenya). Energy poverty in developing countries: urban poor communities: assessments and recommendations. (2) GNESD 2014. Country report (Kenya). Energy poverty in developing countries: urban poor communities: assessments and recommendations. (3) SE4All. 2016. Kenya Action Agenda (4) AFREPEN FWI	Coherent policies recognize the energy needs of the urban poor that supports sustainable development.		(1) SE4All 2016. Kenya Action Agenda (2) GNESD 2014. Country report (Kenya). Energy poverty in developing countries: urban poor communities: assessments and recommendations. (3) SE4All. 2016. Kenya Action Agenda (4) GNESD 2014. Country report (Kenya). Energy poverty in developing countries: urban poor communities: assessments and recommendations. (5) SE4All. 2016. Kenya Action Agenda (6) AFREPEN FWI			Strengthening Enabler	Political Recognition	Political recognition of Kenya means consideration of informal settlements in national census; reliable data enables effective policy-making and projects enabling electricity access.		(1) Singh et al. 2015. Energy access realities in urban poor settlements in developing countries: assessments and recommendations. (2) GNESD 2014. Country report (Kenya). Energy poverty in developing countries: urban poor communities: assessments and recommendations. (3) SE4All. 2016. Kenya Action Agenda (4) AFREPEN FWI		Strengthen Enabler	Political Recognition	Consideration of informal settlements in national census; reliable data enables effective policy-making and projects enabling electricity access.		
17.15	Respect each country's policy space and leadership to establish and implement policies for poverty eradication and sustainable development	Consideration of energy sovereignty to enable energy access		(1) Castan Broto et al. 2018. Energy Justice and sustainability transitions in Mozambique (Applied Energy)	Consideration of energy sovereignty to enable energy access				Strengtheners Enabler	Strengthening Supply Chain	Domestic energy resources, e.g. Hydro power, solar power or wind power; reliable data enables energy sovereignty of Kenya.		(1) GNESD 2014. Country report (Kenya). Energy poverty in developing countries: urban poor communities: assessments and recommendations. (2) GNESD 2014. Country report (Kenya). Energy poverty in developing countries: urban poor communities: assessments and recommendations. (3) SE4All. 2016. Kenya Action Agenda (4) AFREPEN FWI		Strengthening Enabler	Strengthening Supply Chain	Domestic reserves of LPG improve supply security; dependence on LPG imports ultimately limits the energy sovereignty of Kenya.			
17.16	Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, experience and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries		As 17.6			As 17.3				Interlinkages Stand				(1) Hasleby et al. 2017. Reflections on experience with the global supply chain and network for energy for sustainable development as a South-South knowledge sharing initiative, partnerships and programmes e.g. World Bank GACC.		Interlinkages Stand		Cooperation and knowledge sharing above the locale of LPG supply chain and network for energy for sustainable development as a South-South knowledge sharing initiative, partnerships and programmes e.g. World Bank GACC.		
17.17	Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships		As 17.6			As 17.3				Interlinkages Stand				(1) Hasleby et al. 2017. Reflections on experience with the global supply chain and network for energy for sustainable development as a South-South knowledge sharing initiative, partnerships and programmes e.g. World Bank GACC.		Interlinkages Stand		Cooperation and knowledge sharing above the locale of LPG supply chain and network for energy for sustainable development as a South-South knowledge sharing initiative, partnerships and programmes e.g. World Bank GACC.		
17.18	By 2020, enhance capacity-building support to developing countries, including for least developed countries and small island developing States, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, ethnicity, migration status, disability, geographic location and other characteristics relevant in national contexts	Reliable data enables effective policy-making and projects enabling electricity access.		(1) GNESD 2014. Country report (Kenya). Energy poverty in developing countries: urban poor communities: assessments and recommendations. (2) GNESD 2014. Country report (Kenya). Energy poverty in developing countries: urban poor communities: assessments and recommendations. (3) SE4All. 2016. Kenya Action Agenda (4) AFREPEN FWI	Reliable data enables effective policy-making, programmes and projects enabling LPG access.		(1) GNESD 2014. Country report (Kenya). Energy poverty in developing countries: urban poor communities: assessments and recommendations. (2) GNESD 2014. Country report (Kenya). Energy poverty in developing countries: urban poor communities: assessments and recommendations. (3) SE4All. 2016. Kenya Action Agenda (4) AFREPEN FWI		Strengthen Enabler	Political Recognition	Political recognition of Kenya means consideration of informal settlements in national census; reliable data enables effective policy-making and projects enabling electricity access.		(1) GNESD 2014. Country report (Kenya). Energy poverty in developing countries: urban poor communities: assessments and recommendations. (2) GNESD 2014. Country report (Kenya). Energy poverty in developing countries: urban poor communities: assessments and recommendations. (3) SE4All. 2016. Kenya Action Agenda (4) AFREPEN FWI		Strengthen Enabler	Political Recognition	Consideration of informal settlements in national census; reliable data enables effective policy-making and projects enabling LPG access.			
17.19	By 2030, build on existing initiatives to develop measurements of progress on sustainable development that complement gross domestic product, and support statistical capacity-building in developing countries		As 17.18			As 17.18				Interlinkages Stand				(1) GNESD 2014. Country report (Kenya). Energy poverty in developing countries: urban poor communities: assessments and recommendations. (2) GNESD 2014. Country report (Kenya). Energy poverty in developing countries: urban poor communities: assessments and recommendations. (3) SE4All. 2016. Kenya Action Agenda (4) AFREPEN FWI		Interlinkages Stand			Existing initiatives, partnerships and programmes e.g. World Bank promote electricity access	
COUNT	105	42		84	38		111	25							95	21				