Net Zero Nature Positive Accelerator Integrated Programme

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To accelerate implementation of nature-positive, net-zero pathways by investing in nature and new technologies

Objectives:

- Support the adoption of ***net-zero long-term strategies and policies*** that are coordinated with national biodiversity and land degradation strategies.
- Promote the effective ***integration of the climate and nature agendas*** at the national and global level.
- Invest in ***NZNP-aligned pipelines*** of projects that generate multiple global environmental benefits
- Support the development of ***robust data systems*** to monitor progress towards NZNP targets

Program Framework Document (PFD)

Global Child (Coordination) Project

Global Knowledge Platform

Costa Rica (UNEP/ FAO)	Chile (UNEP)	Cote D'Ivoire (UNDP)	Indonesia (UNDP/ UNEP)	Mauritius (UNEP)	Mexico (UNEP)	Morocco (UNDP)	Nigeria (UNDP)	Tanzania (UNDP)	Thailand (UNIDO/ UNEP)	T&T (UNEP)	Viet Nam (UNDP)

Global Programme Structure

Upstream component

- **Cross-ministerial coordination processes**
- **Socio-economic analysis** and investment scenario development
- **Net-zero Nature Positive strategies/LTSs** and/or policies implementation
- **Capacity-building** activities needed
- **Tracking progress and curating/sharing knowledge**

Downstream component

- Development of sectoral **NZNP investment plans** and pipelines
- Technical assistance for **project preparation**
- **Co-investment of GEF resources** in specific projects

Defining, mobilizing and scaling up integrated NZNP financing

ADB + CAF	Integrate NZNP standards and guidance into their operations and portfolios to enable and catalyze NZNP-aligned investmen. Support the deployment of net-zero and nature-positive diagnostic tools, metrics, standards, and approaches for countries in their respective regions and support catalytic investments that produce integrated development and NZNP outcomes. Capacity development and implementation support the adoption of the UNEP-University of Oxford Sustainable Budgeting Approach as proof of concept in the preparation of one policy-based loan in each region.
CPI	Identify and analyze key barriers to NZNP investment at a regional level through a standardized methodology Lead on a definition of “NZNP-aligned finance” and provide guidance for Fis and DBs, in consultation with key stakeholders Mobilize and engage the CPI network of key financial sector stakeholders to co-create and validate outputs, promote guidance, and support capacity development efforts as part of the broader Global Programme workshops.
DB NZNP coordination structure	Enhance coordination among DBs for internal Integration of climate and nature agendas, enabling the mobilization of downstream investment in integrated solutions to tackle development, climate, and nature issues, and fostering the creation of a durable financial ecosystem.

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Tools for Integrating Nature

WCMC	Inclusion of biodiversity elements into strategy and planning through tools such as IBAT, UN Biodiversity Lab, WDPA Metrics to measure the impacts of investments on nature/collation of data sets and risk/dependency screening tools A user guide on ENCORE - for governments and financial institutions (sectoral level)

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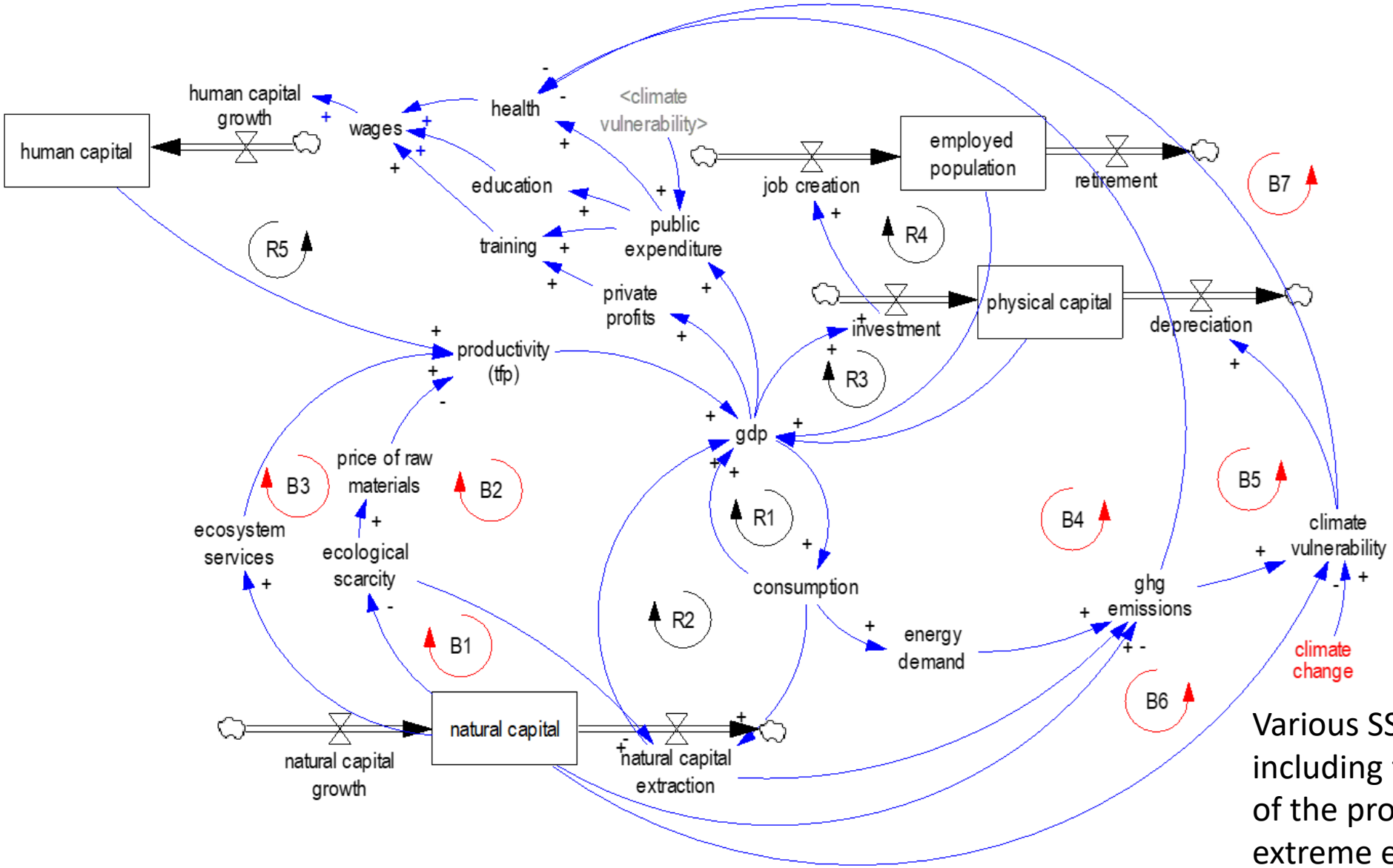
Upstream level support: integrating nature in the NZNP strategy through macro-economic model

- Integrating nature in development planning via:
  - **Quantification** of changes to ecosystem extent, condition, ecosystem services (in alignment with SEEA-EA)
  - **Integration** of ecosystem service provisioning in production functions (e.g. Green Economy Model – GEM)
  - **Creation** of an investment, and policy focused Cost Benefit Analysis (CBA) that is both financial (i.e. it only consider cash flows) and economic (i.e. it considers the economic valuation of externalities) via the **economic valuation** of ecosystem services

- The result is an analysis that allows to assess the contribution of nature to (i) **cost reduction** (e.g. via improved climate resilience), (ii) **value generation** and (iii) **improved equity**.

Overview of methods, and their implementation

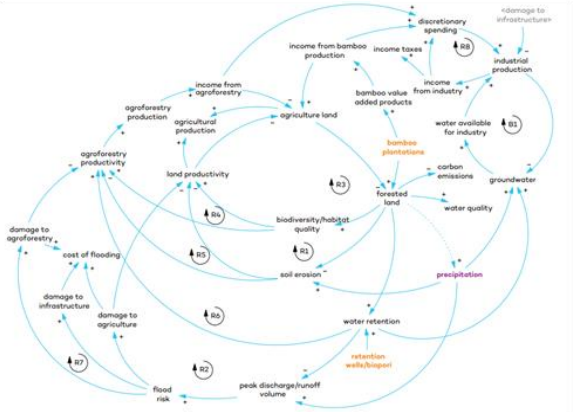


Various SSP scenarios, including the estimation of the probability of extreme events

Overview of methods, and their implementation

Summary of the modelling process

We create a CLD to investigate, understand and explain the main drivers of change of the system, including those factors that have resulted in past land cover change and those that may determine future changes.



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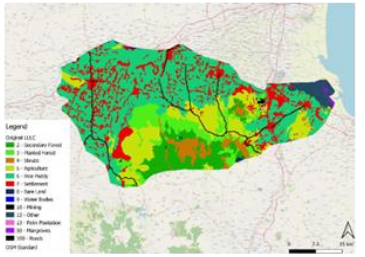

We collect data from various sources, including from historical land use maps.

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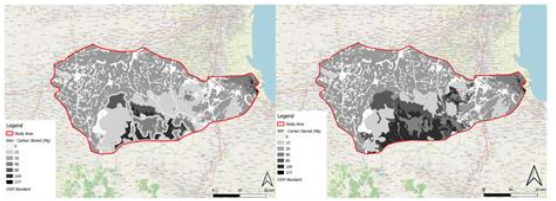

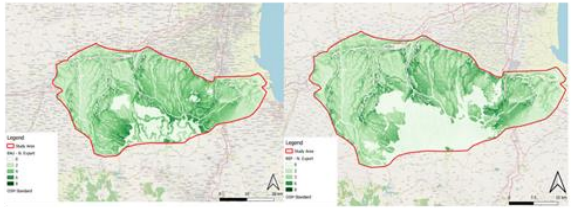

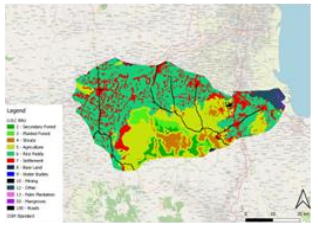

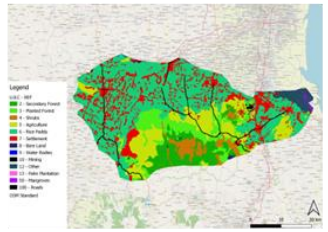

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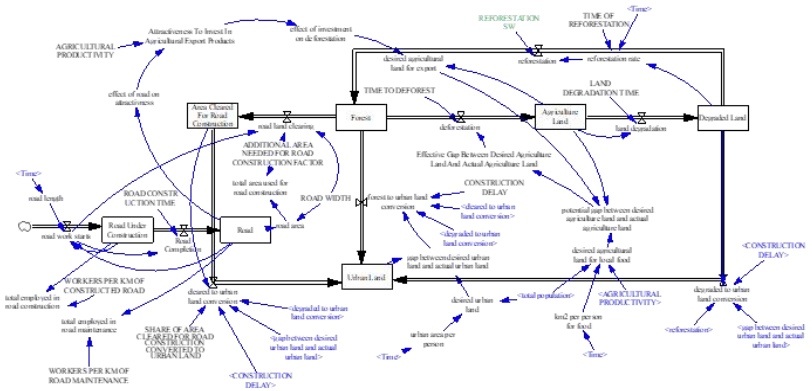
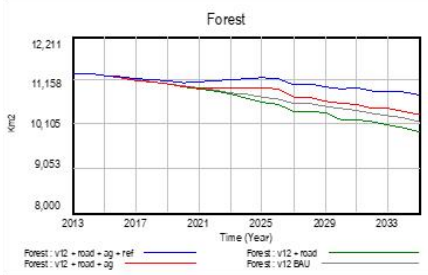
We then develop a mathematical, System Dynamics model. This model uses the CLD as blueprint, and we parametrize it and calibrate it using historical data, including those that are spatially explicit.





We use the quantitative model to generate various scenarios. Among the indicators forecasted are land use and land cover. These results are then used to generate new, future land cover maps, so that we can estimate a range of ecosystem services.

Overview of methods, and their implementation

Urban green spaces

Increase in

- Property values
- Physical and mental health
- Biodiversity
- Water retention and groundwater recharge
- Carbon sequestration

Decrease in

- Exposure to heat
- Exposure to air pollution

Stormwater infrastructure

Increase in

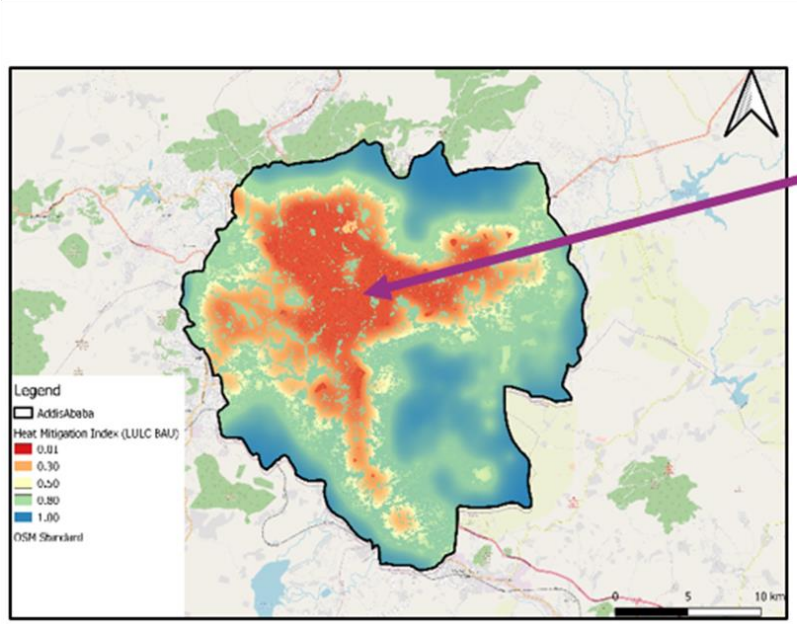
- Recreation
- Water quality
- Property values
- Biodiversity
- Water retention and supply
- Carbon sequestration

Decrease in

- Exposure to heat
- Exposure to air pollution

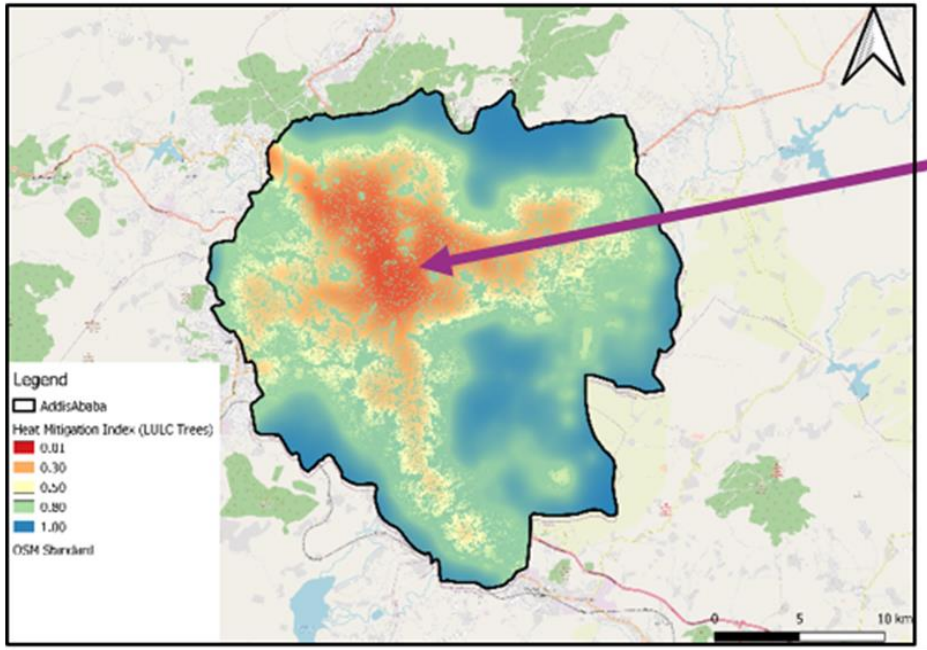
Overview of methods, and their implementation

Assessing the impact of tree planting on the heat island effect

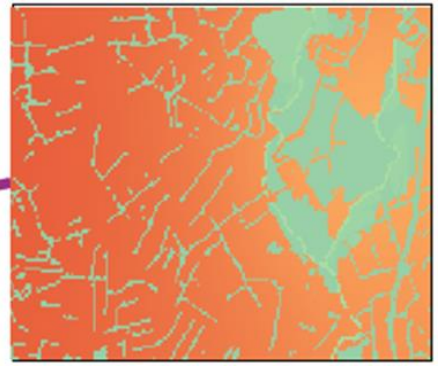


Heat mitigation index using the current LULC

Zoom on roads



Heat mitigation index using the LULC with trees



Zoom on roads and trees

Average temperature (degC)

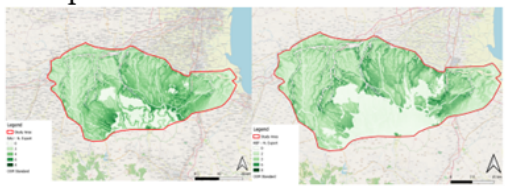
31.06

Overview of methods, and their implementation

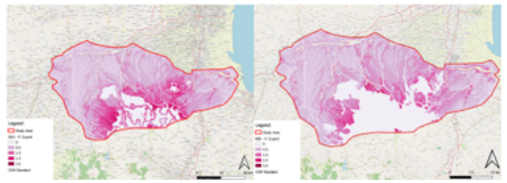
Integrated Cost Benefit Analysis
economic and financial

Carbon storage in two land cover scenarios

N export in two land cover scenarios



P export in two land cover scenarios



InVEST integrated valuation of ecosystem services and tradeoffs →

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	20-year lifetime (2021-2040)		30-year lifetime (2021-2050)	
	RCP 4.5	RCP 8.5	RCP 4.5	RCP 8.5
Added Benefits				
Value of bamboo exports	0.21	0.21	0.35	0.35
Value of agroforestry benefits	2.12	2.12	3.35	3.35
Tree planting wages	0.52	0.52	0.52	0.52
Carbon storage benefit	31.99	31.99	31.99	31.99
TOTAL ADDED BENEFITS	34.84	34.84	36.21	36.21
Avoided Costs				
Avoided flood damages to households	24.00	24.53	486.79	77.96
Avoided flood damages to agriculture	12.06	14.00	193.73	36.90
Avoided erosion damages to agriculture	17.85	42.64	41.65	52.56
Avoided nitrogen pollution	17.10	17.10	25.65	25.65
Avoided phosphorus pollution	8.08	8.08	12.12	12.12
TOTAL AVOIDED COSTS	79.09	106.34	759.93	205.18
Investment & Maintenance Costs				
Improved land management investment cost	8.94	8.94	8.94	8.94
Absorption wells and biopori investment cost	0.56	0.56	0.56	0.56
Annual maintenance costs	0.10	0.10	0.14	0.14
TOTAL COSTS	9.60	9.60	9.64	9.64
NET BENEFITS	104.34	131.59	786.50	231.75
BENEFIT TO COST RATIO	11.87	14.71	82.56	25.03

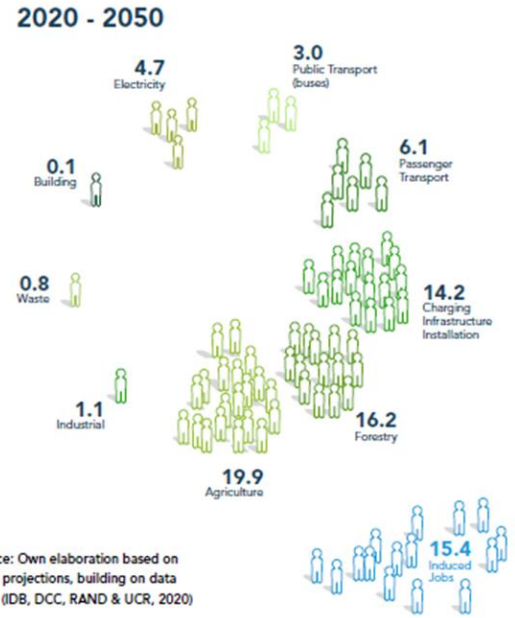
Overview of methods, and their implementation

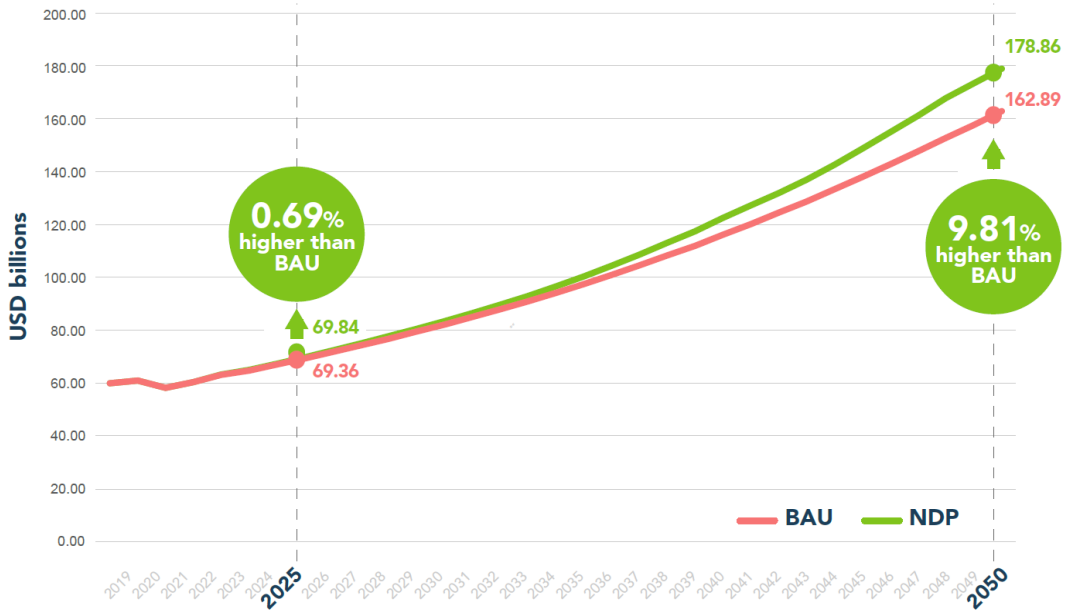
Transport (public, private, freight)

Indicators	2015 - 2020 BAU and NDP	BAU 2050	NDP 2050
Motorized passengers using public transport	39%	37%	50%
Motorized passengers using private transport	61%	63%	40%
Demand reduction due to non-motorized transport and digitalization	0%	0%	10%
Electrification of buses and minibuses	0%	0%	85%
Electrification of taxis, private and institutional transport	0%	5%	100%
Penetration of hydrogen buses and minibuses	0%	0%	10%
Demand absorbed by Limon's electric freight train and logistics	0%	0%	10%
Electrification of freight transport	0%	0%	10%
Penetration of hydrogen-fueled cargo transport	0%	0%	10%
Electricity			
Electricity from renewable resources	98.5%	100%	100%
Buildings			
Reduction in energy use per household	0%	0%	2.9%
Households electrified	62%	62%	80%

Industry

Indicators	2015 - 2020 BAU and NDP	BAU 2050	NDP 2050
Process decarbonization	0%	30%	65%
Energy demand electrified	17%	17%	60%
Waste			
Waste composted	2.2%	5%	55%
Recycled waste	3.7%	12.5%	55%
Sewage treated	3%	13.7%	75%
Agriculture, Livestock and Forestry			
Energy demand electrified	32%	32%	50%
Reduction in carbon intensity of crop production	0%	0%	30%
Enteric fermentation and manure reduction	0%	0%	60%
Deforestation reduction	0%	0%	100%
Increased sequestration per hectare	0%	0%	10%





Thank you

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