

# Sustainable Development Strategies of University with System Dynamics Approach

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## Introduction


**Sustainable Development =**




✓ Burdland Report (1987)  
✓ Our Common Future (1992)  
✓ Rio Conference (1992)  
✓ MDGs (2000-2015)  
✓ SDGs (2015-2030)



**Sustainable Development for Universities**



✓ Educate Governor  
✓ A large number of people

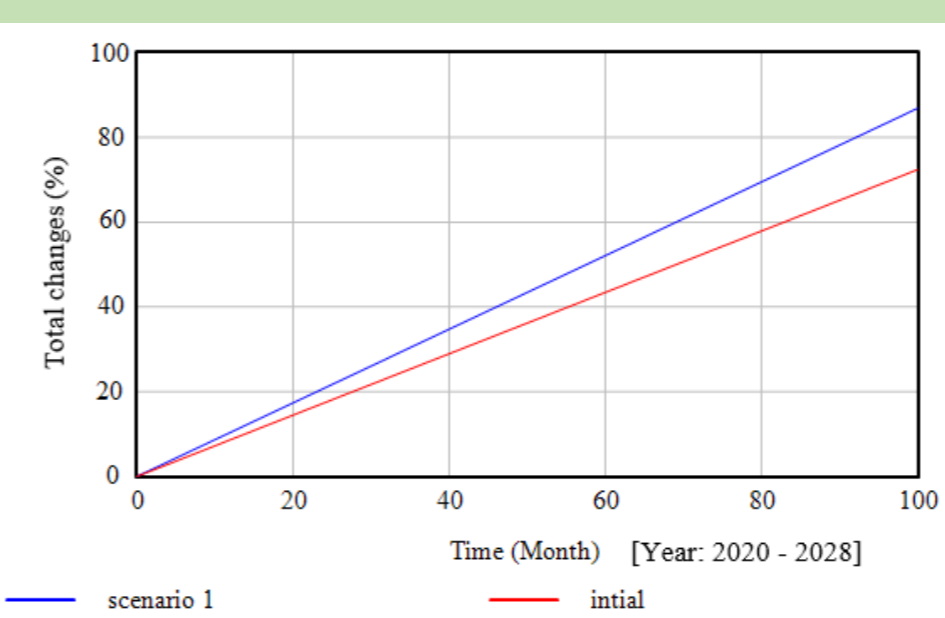
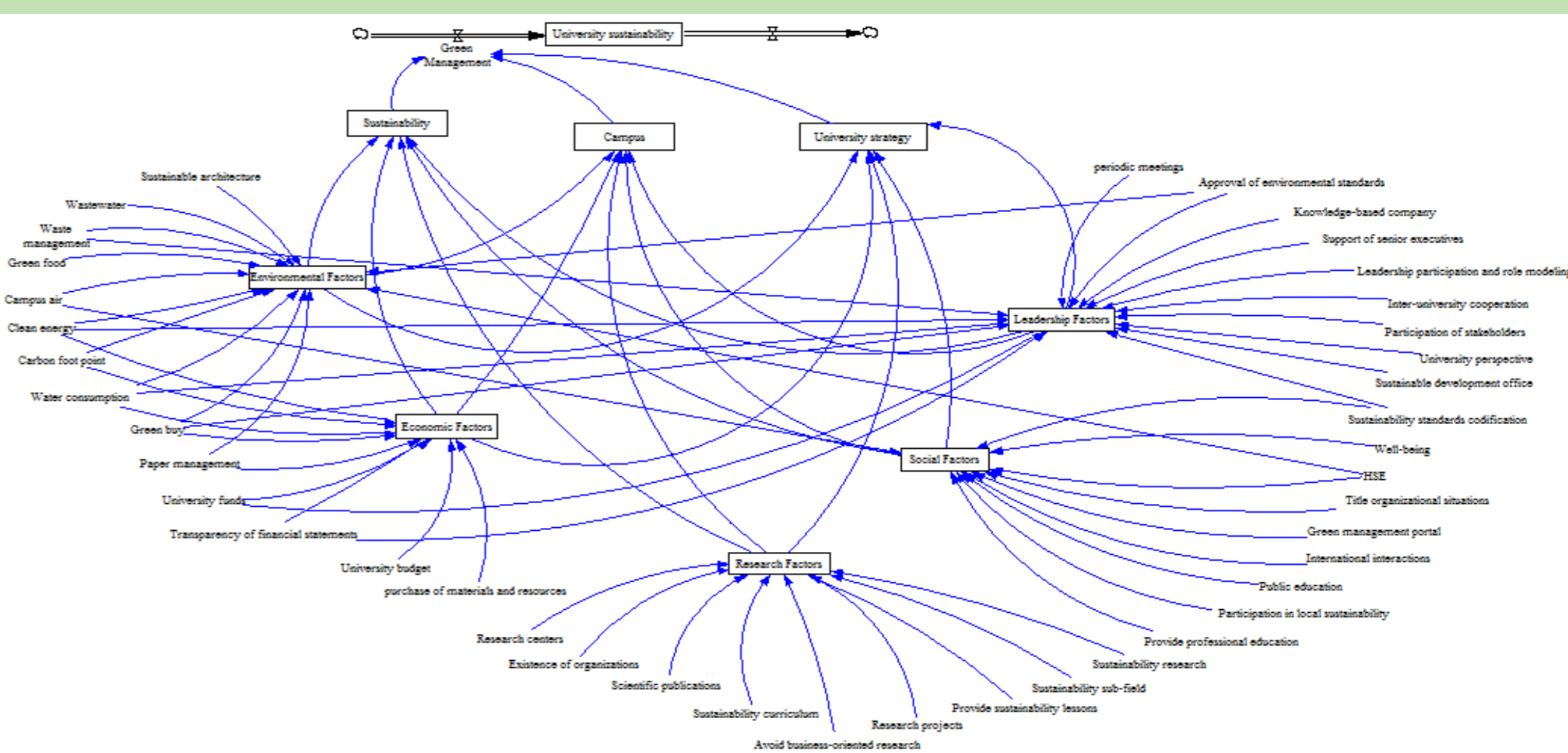



## Method

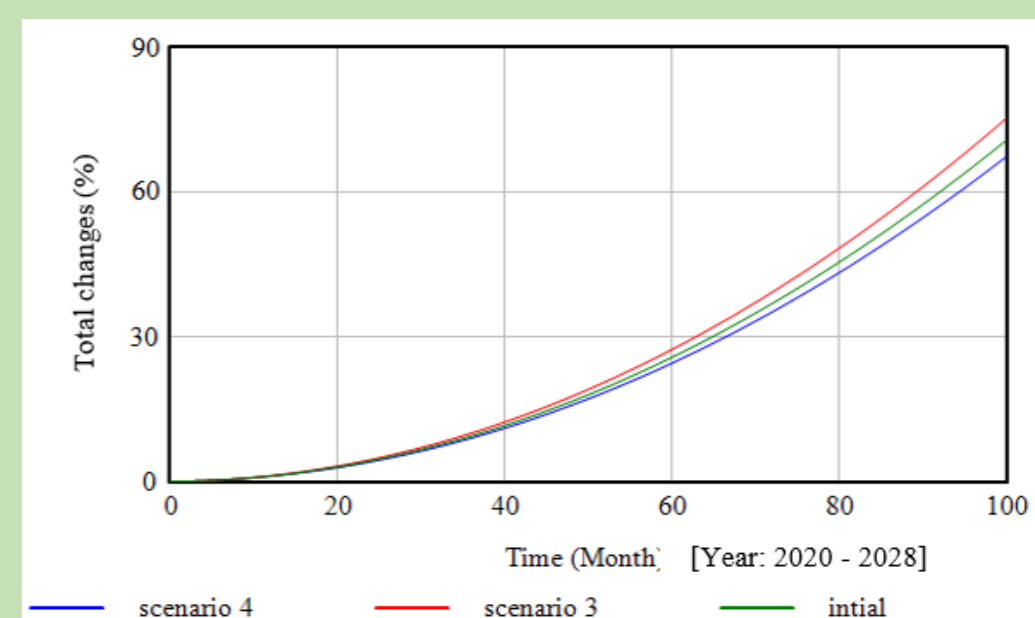


4) Governance	18	International Interactions and Joining the Green World Community System
	19	Collaboration in the development of rules and standards related to sustainable development issues
	20	Launching a green management portal to publicly announce policy, inspection results and social accountability
	21	Title of organizational positions for green management and ranking of personnel according to green goals
	22	Applying Occupational Health and Safety Principles (HSE)
	23	Efforts to live well on campus
	24	Formation of a specialized green working group (establishment of an office or unit for sustainable development)
	25	Integrating Sustainable Development in the University Vision and Reviewing the Strategic Goals, Missions, Commitments and Services of the University with the Sustainable Development Approach
	26	Involvement of university stakeholders in decision making and appreciation of related efforts of managers and employees with sustainable development
	27	Inter-university cooperation with the aim of sustainable development
5) Sustainable education and research	28	Participation and role model of higher education leaders in organizational change with a green management approach
	29	Attract the support of senior managers, faculty and staff for greater success in university green management
	30	Supporting knowledge-based companies and individuals for the production of green ideas
	31	Approval of environmental standards and efforts to obtain environmental certificates
	32	Hold periodic meetings to review and explain the goals, programs and problems of establishing green management
	33	Having research centers in the field of environment and sustainable development
	34	Existence of various organizations (especially students) active in the field of sustainable development
	35	Existence of scientific journals related to environment and sustainable development
	36	Trans-interdisciplinary curriculum and research with a focus on sustainable development
	37	Avoiding a mere commercial view of research
	38	Support for research projects related to sustainable development (from implementation to publication of results)
	39	Offering courses related to sustainable development in undergraduate courses
	40	Existence of tendencies related to sustainable development in postgraduate courses
	41	Research and development and interdisciplinary and interdisciplinary research with a green approach

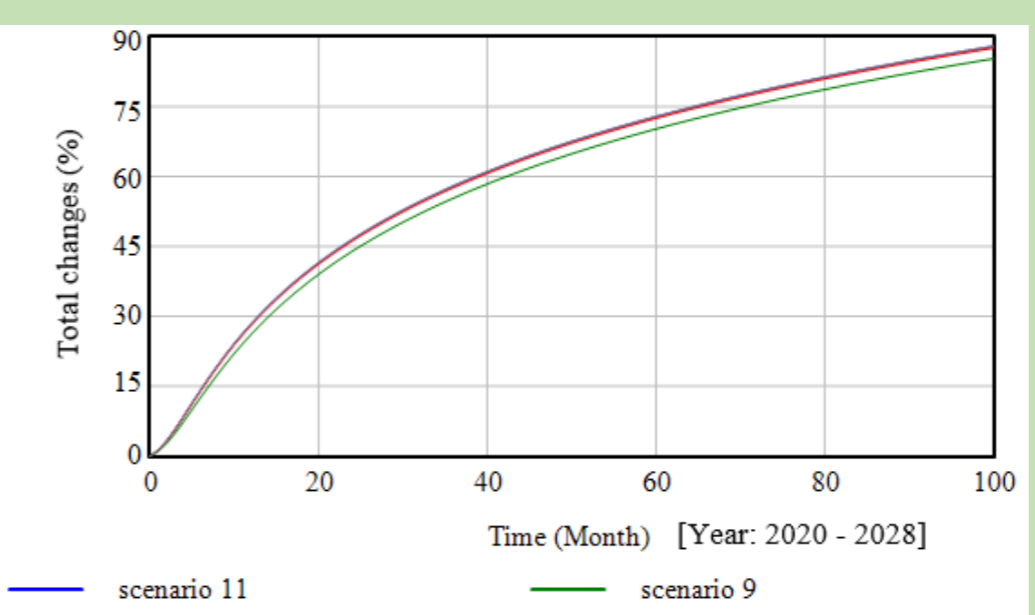
## Results



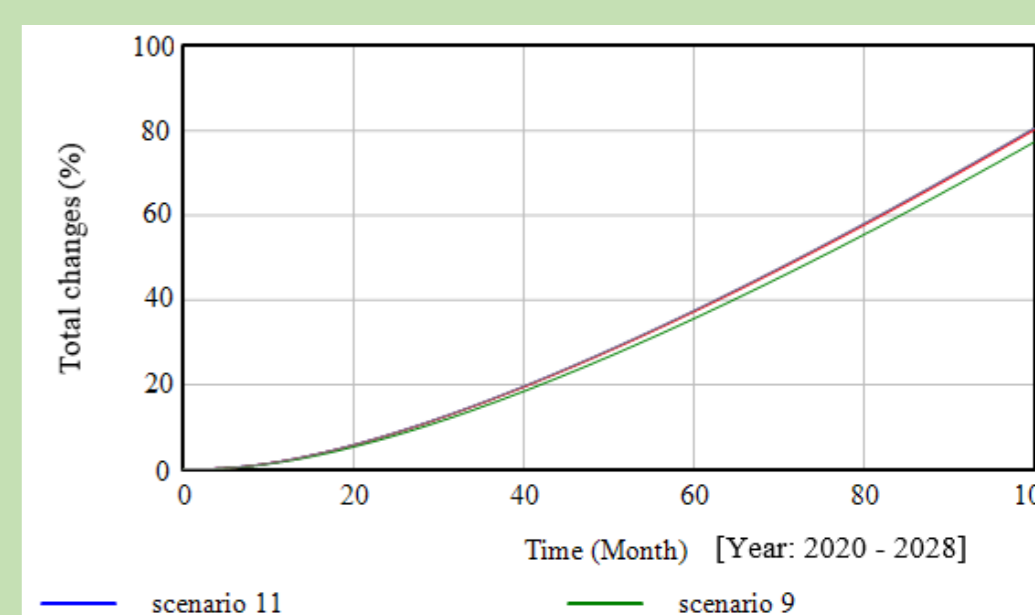
Conclusion based on optimism on the Research cluster



The effect of changes in the Economic Factors cluster on University Strategy



The effect of change scenarios of components of more than one cluster on the flow variable (Green Management)



The effect of change scenarios of components of more than one cluster on the stock variable (University Sustainability)

classification	Row	Component
1) Environmental management	1	Paying attention to environmental issues in building maintenance and also paying attention to environmental issues in new university constructions (sustainable architecture)
	2	Reduce energy consumption and use clean energy
	3	Use of alternative transportation system or alternative fuel in the direction of green transportation (carbon footprint)
	4	University water consumption management by taking measures such as converting valves to better types and ...
	5	Wastewater management and if possible use of rainwater
	6	Waste management and recycling
	7	Planning to buy green and buy green electronics (for example, buying low-energy electronics)
	8	Management and purchase of office paper due to its high consumption in the office and student
	9	Preparation and use of green food (organic ingredients, etc.)
	10	Paying attention to the outdoor air quality of the university (university campus)
2) Sustainable financial principles	11	Diversification of university financial resources through green measures (planning and supporting investments for green income and sustainable development)
	12	Transparency of University Financial Statements
	13	Determining and providing financial resources and budget for long-term, medium-term and short-term green management plans (planning and paying attention to the annual increase of the university's green management budget)
	14	Supervise the purchase of materials and resources, equipment and administrative costs of the university for the purposes of green management
3) Providing services to the	15	Provide professional and vocational training to organizations in order to achieve sustainable development
	16	Active participation in local and national sustainable development
	17	Partnership with the community and public education through seminars and scientific and specialized conferences on sustainable development



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