Study	Description	Scenario name	Scenario description	Reference	URL	Year	
IPCC	The report from IPCC Group III explains developments in emission reduction and mitigation efforts, assessing the impact of national dimate pledges in relation to long-term emissions goals.	IPCC	This document does not correspond to a unique scenario, but describes the mitigation options.	IPCC, Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Skth Assessment Report of the Intergovernmental Panel on Climate Change, 2022	https://www.ipcc.ch/report/sixth-assessment- report-working-group-3/	20)22
	The French Agency for Ecological Transition ADEME has carried out a foresight exercise, which proposes four coherent and contrasting paths leading France towards carbon neutrality by 2050. It bioblights major lessons and raises issues that can feed	Business-As-Usual	As the name indicates, the business-as-usual scenario.		https://www.adoms.fr/ap/fictures_in_transition/		
	into debates on possible and desirable options.	Prugai Generation	Society relies on a progressive but steady change of the economic system towards a sustainable path combining energy sufficiency and efficiency. Consumption		Additional resource: https://www.arcep.		
Ademe Transition 2050		Regional Cooperation	of goods becomes measured and responsible, sharing becomes widespread. Technological development provides more of the answers to environmental challenges than changes towards more moderate consumption patterns or energy		2030-2050_mars2023.pdf	20	J22
		Green Technologies	sufficiency.				
		Restauration Gamble	Society places its trust in its ability to manage and even repair social and ecological systems with more material and financial resources to maintain a liveable world. Lifestyles of the early 21st century are safeguarded. But the abundance of goods consumes a great deal of energy and materials with a potentially high environmental impact				
negaWatt	The ndgWatt association particidically release energy transition scenarios for Finnos. The scenarios achieve carbon neutrality by 2050, as well as a near 100% (86%) renewable energy mix, while sharply reducing the extraction of raw materials from the earth's crust, and are also compatible with the 55% greenhouse gait target set at European level for 2000.	negaWatt	This 2022 scenario is the 5th one.	Scénario négaWatt 2022, association négaWatt (2021)	https://www.negawatt.org/IMG/pdf/scenario- negawatt-2022-rapport-complet-partie4.pdf	October 2021	-
	Europe's amotion is to be the first climate-neutral comment. I or mis end, the European Commission presented its Green Deal in December 2019. The objective is to reduce greenhouse gas emissions by 55% by 2030 compared with 1990 levels. In addition, it aims to create jobs and simulate growth, combat fuel poverty, reduce external energy dependency, and improve health and well-				nttps://eur-lex.europa.eu/resource.ntmi? uri=cellar:b828d165-1c22-11ea-8c1f- 01aa75ed71a1.0002.02/DOC_18format=PDF.		
EU green deal	being. The green deal was followed by the European climate law applicable in July 2021, which is based on an impact assesment. Both documents are used to describe the EU scenario. In addition, we studied EU Green Action Plan for SMEs.	EU green deal	The European Green Deal is a new growth strategy that aims to transform the EU into a fair and prosperous society with a modern, resource-efficient and competitive economy where there are no net emissions of greenhouse gases in 2050 and where economic growth is decoupled from resource use.	European Commission, The European Green Deal, 2019	Additional resources :- Impact assessment report (<u>https://eur-lex.europa.eu/resource.html?</u> <u>uri-celiar:749e04bb:Rc5-11ea-991b-</u> <u>01aa75ed71a1.0001.02/DOC_184/cmat=PDE</u>) ; EU SMEs strategy (Unleashing the full potential of European SMEs)	December 2019	
	In 2020, the foresight group within the European Environment Agency's (EEA) country network (Eionet) initiated 'Scenarios for a sustainable Europe in 2050' (SSE 2050). This co-creation project, developed and implemented jointly with the EEA, aims to	Great decoupling	In The great decoupling', innovative companies are the central actors. They succeed thanks to technological breakthroughs, especially in the bioeconomy, enabling the decoupling of gross domestic product (GDP) growth from adverse environmental impacts.				
	produce a set or imaginaries orening engaging, plausible and clearly contrasting images of what a sustainable Europe could look like in 2050. The imaginaries were developed through a participatory process, involving EEA staff, experts from the Elonet group to an advect the start of the star	Ecotopia	In 'Ecotopia', stakeholders from civil society have brought about a shift in collective thinking and action. Local communities reconnect to nature while technology is used sparingly to enable sustainable lifestyles. Consumption and resource use are being scaled back markedly.	European Environment Agency (2021) The Scenarios for	https://www.eea.europa. eu/publications/scenarios-for-a-sustainable-		
Eionet	on oresign, and externa sakenodes. The project employed he were-testadished methodology of key factor and consistency- based scenario construction (as outlined below).	Unity in adversity	Faced with recurrent environmental and climate disasters, geopolitical insecurity and financial shocks, Europe has become much more unified. In 'Unity in adversity', Europeans respond to severe crises by empowering the EU to use stringent, top-down regulatory and market-based measures to set rigorously enforced boundaries for economic activity.	a sustainable Europe in 2050 project. Publications Office. https://data.europa.eu/dol/10.2800/688810	europe-2050/the-scenarios	May 2022	
		Technocracy for the common good	In Technocracy for the common good" ((Digital technocracy), sustainability is achieved through state control at the national level, which prioritises society's collective interests. Information and communication technologies enable unprecedented monitoring and control of social and ecological systems.				
	Arup is a group of collective of designers, consultants and experts working across 140 countries, dedicated to sustainable development. This report is a collaboration between Arup's Foresight, Research and Innovation and Sustainable Development teams. Foresight, Research and Innovation is Arup's internal	Greentocracy	The protection and regeneration of Earth's systems is a global priority which all humans are obligated to adhere to with no civil liberties. Strict consumption quotas, facilitated by invasive monitoring technology and authoritarian leadership, have forced a societal transition from a linear to a circular economy. Extreme urban density has been enforced to preserve wild lands and the econsystem services they corvide.				
	think-tank and consultancy which focuses on the future of the built environment and society at large. It helps organisations understand treads, explore new ideas, and radically rethink the future of their builsenses. The report develops four plausible futures. These futures hinge on whether we prioritise social and economic development over environmental health or vice versa. The core narrowine of each second is accompanied by a story toff from the narsequence of a network with hith world. A timeline of	Post Anthropocene	People are living in harmony with the planet thanks to international and domestic collaboration. Value-based economies that respect and integrate nature- based services motivate circular thinking affecting resource use as well as intensive restoration of degraded natural capital. These advances have improved the outility of life crail species and human equality to sursed through cacessible healthcare, housing, and a stable living water.				
Arup	events between today and 2050 describes how each world could come to exist, along with key facts and references. The extent to which each scenario satisfies the 17 I/N SDGs is also indicated		Pursuing economic growth has caught up with the planet and affected humanity's quality of life. The depletion of Earth's natural resources has necessitated	Arup (2019). 2050 Scenarios: four plausible futures	https://www.arup. com/perspectives/publications/research/section/2	December 2019	
		Extinction Express	the expansion of new extractive induces in space and the deep sea, the absence or social services makes coping with the heatin inducations of an pollution, job insecurity, destruction of property from extreme weather events, and drough funded food insecurity only possible for affluent people. Consequently, domestic and international political stability has broken down, and corporations determine policy.		050-scenarios-four-plausible-futures#		
		Humans Inc.	business-a-usual: Social progress is achieved at the cost of planetary health. A focus on technological innovation coupled with tight resource reserves drives efficiency. While applied of the has variesly improved for a migrity of the population, humanity must adapt to an increasingly inhospitable environment. Significant funds are used to offset financial loss from extreme weather-related damage				
	The Danish Design Center (IDC) is Denmark's national center for design. DDC designed the Living Futures: Scenario Kit for understanding, discussing, and shaping the future. The kit is built around a set of four alternative futures set in the year 2050. Each scenario is explored through narrated stories by fictive people living in them. Each story offers a view into the human	Controller of Mardart, ship are	Businesses have developed minds of their own. Large tech companies have grown into huge Al-powered behemoths that feed on the data of their comprehensive eco-systems. People are offered hyper-personalised services and products within the walled gardens of large corporations — often referred to as networks.				
	experience of existing in these societies. The kit can be used to future proof business models, develop new strategy, and understand and discuss important trends and developments .	Centralised Market-driven	Networks can provide everything from housing and healthcare to entertainment and insurance but everything comes with a price and plans and premiums vary. You can seek out other networks but most people are simply born into one — not unlike a citizenship of the past.				
Danish Design Center (DDC)		Centralised Society-driven	Systemic issues were destroying the planet and fuelling unprecedented levels of inequality — but not anymore. People have put their trust in a political solution. Coornerments have been enyowered with a value manate to regulate society as needed to ensure society its socially and environmentally constructive. The geopolitical states have been risked as strategic resources are not necessarily readily available on the market and the us vs. them rhetoric bas chosened relate and of a fail concent to the gradmat and the threse and there uses to match and use run readil.	Danish Design Center (2022). Living futures: Sce-nario kit.	https://livingfutures.org	202)20
		Distributed Market-driven	Society is driven by independent and entrepreneurial individuals. The world is moving faster and faster and faster. Stability, roots, and belongingness in the real world are orbitians research for those who marke it. Even one also must find comfort and community in the temporary or virtual				
			Society was heading for ecological and social collapse in the name of profit and all proposed changes were too little, too late. If something radical was to happen				
		Distributed Society-driven	It needed to start from the bottom — and so it did. All the bureaucary was redundant: It was too slow and too far removed from the trom the people it was supposed to look after. Community and a symbiotic relationship to nature is nore important than material riches. Not saying that involution thas half at it has simply taken on a more open and community based approach focused on creating shared value for societies. But, as the world in some ways becomes smaller, conflicts also moves closer to home.				
	The National Low Carbon Strategy (SNBC) describes a roadmap for France on how to steer its climate change mitigation policy. It provides guidelines to enable the transition to a low carbon economy in all sectors of activity. The SNBC is one of two components		The SNBC is based on a baseline scenario developed through a modelling exercise also used in the Multi-annual Energy Programming. scenario, also called "With Additional Measures" (Avec Mesures Supplémentaires: AMS), details the public policy measures, in addition to those already in place, which will allow				
SNBC	of French dimate policy, it works alongaide the National Climate Change Adaptation Plan that focuses on French adaptation policy. The SNEC is based on a reference scenario developed through a modelling exercise also used in the Multi-annual Energy Programming. Remark: we here consider both	Baseline	France to meet its short, medium- and long-term dimate and energy objectives as best it can. It outlines a possible trajectory for reducing genohuse gas emissions unit canon neutrality is a solutied by 2009, which is used as he basis or defining the carbon budgets. The scenario relies on a reasoned use of sobrely levers, with the needs of the population decreasing slightly in all sectors, alongside a significant change in patterns of consumption, which any loss of construct. Encory ethicinary is also benefits. The hypotheses related to not relate the horizongies are here today. This will lead to a sharp decrease in encory consumption for all sectors together. The hypotheses related do not rely on major technological gambles. Nevertheles, the scenario relies with reason on a certain number of neutra herbondines. ("Administration of the result of the scholagies and thereas do the scholagies are therbondines").	Ministère de la Transition écologique et solidaire (2020). Stratégie nationale bas carbone.	https://www.ecologie.gouv.fr/strategie-nationale- bas-carbone-snbc	march 2020	
	Study published with IEA on the technical conditions necessary for a power system with a High Share of Remembles in France. Towards 3500, under the RCP 44 signiciarly from IRCS the report. Second on samurptions are based on public quicklines for decarbonizing the economy, in particular these set out in the SMBC (Strategie nationale bas-carbone) and the most recent public entry. Clines to collicies, as well as on the outdoor korowed by manufacturers and stakeholdes in the sector. First each scenario.	Baseline	Gradual electrification (subhilduron for foest fuely) and ambitious targets for energy efficiency (NLCS assumption). Assume continued consist justice and a sub- energy and an energy and an energy and ambitious targets for energy efficiency (NLCS assumption). Assume continued consist justice and plans (dimulae, hydrogen, indexiny). The manufacturing industry expands, and its share of CDP cases to decrease. Building renovation is factored in but so is the related relation (effect.		https://assets.rte-france.com/prod/2022- 06/Futurs%20%C3%A9nero%C3%A9tiques%		
RTE	some variants including more or less electrification, hydrogen, or less economic growth are studied in the report but without much influence in the current study. Voluntarily, few technological challenges or bets are taken into account into the design of scenarios.	Extensive Reindustrialisation	Without returning to the same level as the early 1990s, the manufacturing industry's share of GDP rebounds sharply, reaching 12-13% in 2050. This scenario models an investment in cutting edge, strategic technologies and takes into account the reshoring of some high-carbon production in order to reduce the carbon footinint of consumotion in France.	RTE (2022). Energy pathways to 2050.	202050%20_%20rapport%20complet.zip, Key findings : https://assets.rte-france, com/prod/public/2022-01/Energy%20pathways%	February 2022	
		Sufficiency	Lifestyles change to increase energy sufficiency in terms of end-uses and consumption (less individual travel favouring soft mobility and mass transport, less consumption of manufactured goods, sharing economy, lower set point temperatures for heating, increase in remote working, dioital sustainability etc. b, resultion in an overall reduction in ensort works, and thus less circitaix needs.		202050_Key%20results.pdf		
		Acceleration 2030	An acceleration of the fossil fuel phase-out is considered in the "Acceleration 2030" variant of the report. It implies rapidly changing the pace of switching to electricity in the three biggest greenhouse gas-emitting sectors in France: transport, industry and buildings.		·		
Shift	The Shift Project is a French think tank advocating the shift to a post-carbon economy. It published a plan for transforming French economy (PTEF) in 2022, with the objective of reducing carbon emissions to remain below 2°C with a plan for each sector of the economy A repliningar remaining and the shift of the new the regime here.	PTEF	We here consider mainly the ppian specific to the digital sector (ICT-specific) to which we have added some applications found in other sectors plan . The objective for the digital sector is 3% of the world energetic consumption.			October 2020	
	This research work models two contrasting lifestyles for France in 2072, one digital-based and one based on increased operating the research work models the contrasting lifestyles for France in 2072, one digital-based and one based on increased operating the research work of the life of the life of the life the lif	Digital society		Briens, Edi Assoumou, et al France 2072 : Lifestyles at the			-
France 2072	cooperation: their tested of question is the following. To what extent to intersystes inductive or entry system is capacity to achieve carbon neutrality? And amongs other, is a digital world compatible with the need to decarbonize the energy system, as usually thought?	Collective society		core of carbon neutrality challenges. Glannakidis, G.; Karlsson, K.; Labriet, M.; Ó Gallachóir, B. Limiting Global Warming to Well Below 2 °C: Energy System Modelling and Policy Development, 64, Springer, 2018, Lecture Notes in	https://minesparis-psl.hal.science/hal-01896027	20	J18
		Planetary destabilization	world in which digital technologies increase efficiency but also result in system-level increases in energy demand, runaway resource consumption and planetary destabilization, increased centralization of knowledge and power incompatible with democratic deliberation, and increased inequality	E			-
	This research study presents the past, present, and future of digitalization through the lens of three interdependent elements of the Anthropocene: (a) planetary boundaries and stability. (b) equity within and between countries,	Green but inhumane	world in which digital technologies such as AI and big data provide opportunities to steer and support technological change away from fossil fuels and toward the rapid deployment of renewable and energy-efficient technologies, while avoiding overconsumption and redeployment of technologies, but with human agency increasionly constrained				
Digitalization&Anthropocene (DRA)	and (c) human agency and governance. It presents three illustrative future pathways that span the possibility space for digitalization and decarbonization in the Anthropocene. The authors conclude by identifying leverage points that shift human-digita Farth interactions toward sustainability.	Deliberate for the good	world in which At technologies alongside decentralized computing structures are used efficiently and effectively, with trusted data practices and high levels of distributed anency.	Creutzig et al. Digitalization in the anthropocene, Annual	https://www.annualreviews.org/doi/pdf/10, 1146/annurev-environ-120920-100056	201	022
	groups and at different times of digital life, as well as the resulting risks to individual and collective freedoms. The exploration of	Renowed	a future where rating-reputation is the law.	Contraction and Coolings, 2022		20.	
Chill	ure rurure or private lives has been made in two phases: 1) a first phase dedicated to documenting possible futures of privacy in 2030, collecting fragments of imaginary worlds and formulating speculative futures; 2) a second phase based on these based on these based on the second phase based phased phased phased phased phase ba	Meddling	the State implements interference in the public interest.	Chill Destination in study of 2000, 2004	https://linc.cnil.fr/proteger-la-vie-privee-en-2030-		
GNIL	speculative interest to (re)interfogate and pluralize and pluralize these perspectives.	nume sour Home	nomes become impregnated with data.	Civil, Proteger la vie privee en 2030, 2021	une-exploration-prospective-et-speculative	20	:21

	In line with the ecological transition, the Université de Montéal and Espace pour la vie have joined forces to propose Chemins de transition (Pahafis for transition). The aim of this project is to bring together the university community and cuebes society to tackle together the most complex challenges of this transition. There was no off-the-shelf method for combining a participative approach with major systemic challenges on a provincial scale. By combining different methodologies (backcasting, change-oriented						
Digital Challenge	approaches, transition management, etc.), a 4 stages approach has been adoptet: 1) explore all the possible futures we can already antioptet; 2) choose collectively, from among all these possible developments, the future that seems most desirable for 2040. 3) draw up trajectories linking the current situation to the desired future. 4) share not only the transition paths, but also the method used to develop them. Three challenges have been specificarly addetesset: food, igital, territory.	Quebec 2040	We here focus specifically on the result of the digital challenge. Once agreed that current digital are not compatible with the imperatives of the ecological transition, participative framework aimed at answer to the questions: in which direction do we want to go? What do we want collectively to achieve in order to best recorder digital transition and ecological transition? The scarard descriptes a scanario made ut 32 mileitones for a desirable future.	Chemins de transition (2022). Comment faire converger la transition numérique et la transition écologique au Québec dans un horizon de 20 ans ? Rapport final du défi numérique	https://cheminsdetransition.org/defi-numerique, pdf	202	22

Scenario typology														
Study	Inclusion of norms - Normative (probable or preferable futures) - Descriptive (possible futures)	Vantage point	Subject	Time scale	Spatial scale (perimeter)	Data	Method of data collection	Resources	Institutional conditions	Temporal nature	Variables	Dynamics	Level of deviation (range of possible futures) - conventional=b usiness-as- usual	Level of integration (high=interdisci plinary)
IPCC	normative	backcasting	issue-based	long term	global/supranatio	qualitative	participatory	extensive	constrained	chain	heterogeneous	trend	alternative	high
Ademe Transition 2050	normative	forecasting	area-based	long term	national/local	quantitative	participatory	?	?	chain	heterogeneous	trend	alternative	high
negaWatt	normative	forecasting	issue-based	long term	national/local	quantitative	participatory	?	open	chain	heterogeneous	trend	alternative	high
EU green deal	normative	backcasting	issue-based	long term	global/supranatio	qualitative	participatory	?	constrained	chain	heterogeneous	trend	conventional	high
Eionet	descriptive	forecasting	issue-based	long term	global/supranatio	qualitative	participatory	limited	constrained	snapshot	heterogeneous	peripheral	alternative	high
Arup	descriptive	backcasting	issue-based	long term	global/supranatio	qualitative	participatory	?	open	chain	heterogeneous	peripheral	alternative	high
Danish Design Center (DDC)	descriptive	backcasting	issue-based	long term	global/supranatio	qualitative	participatory	limited	constrained	snapshot	heterogeneous	peripheral	alternative	high
SNBC	normative	backcasting	issue-based	long term	national/local	quantitative	participatory	extensive	constrained	chain	heterogeneous	trend	conventional	high
RTE	descriptive	backcasting	area-based	long term	global/supranatio	quantitative	participatory	extensive	constrained	chain	heterogeneous	trend	alternative	high
Shift	normative	backcasting	area-based	long term	national/local	quantitative	participatory	limited	open	snapshot	heterogeneous	trend	conventional	high
France 2072	normative	forecasting	area-based	long term	national/local	quantitative	desk research	limited	open	snapshot	heterogeneous	peripheral	alternative	low
Digitalization&Anthropocene (D	{ normative	forecasting	issue-based	long term	global/supranatio	qualitative	desk research	limited	open	snapshot	homogenous	peripheral	alternative	low
CNIL	descriptive	backcasting	issue-based	long term	national/local	qualitative	participatory	?	?	chain	homogenous	peripheral	alternative	low
Digital Challenge	descriptive	forecasting	issue-based	long term	national/local	qualitative	participatory	?	?	chain	homogenous	peripheral	alternative	low

										General Societal variables					
Study	Scenario name	Damography	Lifestyles					Economy			Technics other than digital		Governance		
800	IRCC	Demography	Sobriety/hugality	Urban development, housing	Work Ed	ducation	Type of farming	Economic growth	Decoupling	Taxes and financing transition Re-industrialization	Resource circularity and availability	Decarbonation	Importance of the state (vs territories, large international	Fragmentation of the world and/or Europe,	Increase or decrease of inequalities
	Duringer de Unuel							(Structural deceleration in growth, continuation of historical deceleration							
	Enumi Generation		frugal use of resources due to active constraints and consumer self- methodol or anamy sufficiency. Ins tech developed					Less attention paid to GDP growth than to other indication of annulation content)		aciding invasioned mobilized for installion	High life time of environment receipt rate materials should	en strong antistaty (and afficiancy)	Important role of territories. The state sets the objectives, the choice of means fails to the territories and local article.	Increased local weight weak international conservation	Status quo or reduction of inequalities and sharing of work
			Progressive but steady change of the economic system towards a												
	Regional Cooperation	low scenario from INSEE, ageing population	Consumption of goods becomes measured and responsible, sharing becomes widespread.					7 (qualitative rather than quantitative growth, "reindustrialization" of key sectors, redistribution)		Growing carbon and environmental bases		sobriety, efficiency and diversification of local renewable energies	Protective and strategic state	weak international cooperation outside the EU	Strong reduction in inequalities
	Green Technologies		frugal use of resources due to active constraints and consumer self restraint or energy sufficiency					economy, metropolization and techno-push, supply-side policy)		Increasing carbon tax on sectors not subject to international competition, topping up the State budget	Focus on e-waste collection and recycling	decarbonaled energies, efficiency	the climate issue is taken care of and addressed by the economic community	weak international cooperation	Geographic and social inequalities maintained, social issue addressed by growth
								++ (Activity still relatively carbon-intensive, poverty		Minimalist, broated carbon tax, investments financed by crowth and				Strong international cooperation but limited to a few key	society, with people having access to KT equipment and services, and others not because of
Ademe Transit	on Restauration Gamble		abundance of goods					reduction through strong growth)	relying on technologies and CCS	debt	Optimized recycling	decarbonated energies, CCS and technology sinks	Economic development policies without coercion, constitution	programs and sectors	economic/geographical reasons
											circular bio-economy, austainable use of resources,				
					create						sources. The circular economy action plan will also include measures to encourse businesses to offer an	d			
					sustainable, local and well-		plans should lead to the use of sustainable practices, such			broad based tax reforms, removing subsidies for fossil fuels, shifting the	to allow consumers to choose, reusable, durable and repairable products. New business models based on	Energy efficiency must be prioritised. A power sector must b developed that is based largely on renewable sources,	•		
EU green deal	EU green deal				paid jobs across Europe.		as precision agriculture, organic farming, agro-ecology, agro-forestry and stricter animal welfare standards.	boost economic growth	economic growth is decoupled from resource use	tax burden from labour to pollution, and taking into account social considerations	renting and sharing goods and services will play a role as long as they are truly sustainable and affordable	complemented by the rapid phasing out of coal and decarbonising gas.		Strong Europe	
														Fragmentation of Europe. Competition between EU Member States increased . eurozone has broken up	
														(Euroxit). EU countries were no longer major players in the global arena. In 2050, cooperation between EU	Equality of opportunity, rather than equality of
Eionet	Great decoupling	ageing populations			crowd working		Large farms, crop yields increases growing climate change impacts, frequent droughts and floods	++ (green growth)	extraordinary decoupling of GDP growth from adverse environmental impacts		fully integrated into daily life.	aternative fuels such as algae-based biofuels or 'green hydrogen'	Government corrects market tailunes and drives forward innovation. Ovi society organisations are mediators between policymakers and the public	countries is pragmatic. Members States focus on a small number of areas of European competence.	outcomes. Job insecurity and inequality but generous social protection
				Less urban, ecovilages and local sustainable	reduced							Private households and commercial units produce and store energy through a mix of renewable sources. Centralised		EU persists but is relatively weak (tackies policy areas	Decrease, sharing and collaboration over competition,
	Looropa		magar intertyees, west consumption	communities	working hours		Smail famile, local tood	(scaled back)		Compute massively to climate change mitigation EU-level taxation of individuals and companies cushioning the effects of	repair and exchange cases	energy production is angely reserved for industries	Power has shree to local communities and ove society organizations.	such as detends, taxation or social artists)	especially at local and regional levels.
										localised shocks and crises and enabling peripheral and other disadvantaged regions to catch up step by step and to build up			strengthening EU laws on environmental and social governance.		
	Unity in adversity		less consumption-oriented lifestyles				agroforests	society's economic performance.		tensecto to cirrase change impace, digtai takes, marcial transactions takes, progressive consumption takes and wealth takes.			sined more influence in business life and in politics	Large facal transfers between regions,	addressed through top-down policies
	Technocracy for the com	mon good	digital technocracy, personal carbon budgets made public				large scale and intensive			*	manufacturing, construction and agriculture		restrictions"	EU cut back to a well-functioning partnership	
Arup	Greentocracy		indvidual carbon allowances	Externe urbandensification			'meatlike' protein is grown in labs			Pervasive carbon taxation			strict national regulation and large-scale punitive measures		highly unequal
					Hig	igh Literacy des, Life-Long			shift in industrial practices, transport and consumption has decoupled GDP growth from		*++* life-cycle and ecological resource assessments a				
	Post Anthropocene		carbon quota		Le	saming		* Growth has been concentrated in major developed and	resource consumption	global carbon taxation scheme	mandatory for all new products		mult-stakeholder vision		•
	Extinction Express					overnmental	large farms and many fertilisers	emerging economies.			Resource colonies on the moon and in the deep sea.			Dominant position of China. Resource conflicts.	
					foc	cus on sproving living									
					00 80	onditions, coses to									Welfare in most of the
	Humans Inc.		transport, Governmental focus on improving living conditions,		governmental to an	nd resources.	agicultural technology.	business-as-usual		ambitious adaptation programmes.		limited, and ineffective		building codes)	conditions, access to education, jobs and resources.
Danish Design	Cert Centralised Market-drive												Notion of state has less importance. Humans feel more connected to corporate providers.		
	Centralized Society-drive	n	CO2 credits	Large cities									States consolidate their influence and efforts around centres of power. Freedom but no possible sedition.	Conflict between states	
	Distributed Market-driver			Only the most affuent can afford the privilege of owning places in the physical world	,								Power is distributed far and wide as rapidly changing circumstances makes adaption the only viable strategy. Everything is moving lowards the markets with the more lowards endeducing		
	Distributed Society-drive		Digital fabrication makes it easier to be more self-sufficient. Can't										Local communities have their own powerful political institutions with control over local economy and regulation. Everyone is expected to control what they can		
	Charloune Society en la		Significant change in consumption patterns, without loss of comfort,	regulation for new builds will be progressively tightened.			increase of agroforentry, organic agriculture, grass-led						Control wat the Cart		
SNUC	Daseline	low fertility	rational use or energy-salving levers, lower nearing costs	energy mix will be totally carbon tree.			INVESTIGATION AND INVESTIGATION OF A STATE AND A STATE	-		*	wase vectorsion			TEVOTEDIS PERMISIONIE COMINI	
	Extensive Reindustrialis	low fertility								++, especially electro electrical equipment.	ics and				
RTE	Sufficiency Acceleration 2010	icw fertility	higher average light vehicle occupancy, less advertising	More house sharing				-			++ : reuse, recycling				
		an a shy	More under Menule, countinging compared bability from extendicion	sharing of Julian spaces and environment \$17 met-of-set			increase of appropriate control anticulture and others in			Relocation of activitie	(e¢				
shift	PTEF	1997 bishes the second	less transport, abbriety in new buildings, no high resolution videos	heating temperature,			herd size			boox prining, datasy manufacturing)					
France 2072	Digital society	lower birth rate	higher IT equipment level		greater place of work	rk in society		73% increase of GDP							13% unemployment rate
	Collective society	+18%, continuation of current trends is aging of the			and start place of wo	nde in time oron	animation	St. Investor of GDD							The unconstitute of the
	and a solution of the solution	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			contract place of wo	and a state of the	precision agriculture through sensors and satellites								
	Planetary destabilization			amart cities			growth, and livestock						High risks for democracy, Medium agency		High inequalities
	Green but inhumane			amart cities			providing information on soil molature, temperature, crop growth, and livestock						Limited agency: loss of democratic rights		High inequality in power (but equality in consumption)
					e-e dg	education, gital skills and									
					ite be	eracy should embedded in	precision agriculture through sensors and satellites								
Digitalization&	with Deliberate for the good			zero carbon urban planning practices	act wo	chool curricula oridwide	providing information on soil moisture, temperature, crop growth, and livestock			taxation systems for the digital economy			Healthy democracy, High agency: high social trust and participation		- : Medium inequalities
	Renowed				constant evaluation										
	Medding				'micro-remote									Fragmentation due to fear of stong hacking	
CNL	Home Sour Home			connected house	working"									Decisions on minerals criticity taken with USA and	
Digital Challen	pe Quebec 2040										cirular economy			Canada. Workvide ecision to limit the influence of big tech and the attention economy	

								. ICT Infrastructure									
			Usage & Society								Lev	vers from equipment					
Study	Scenario name	Evolution of usages	Sobriety	Digital Social Equity	Data management and policies	t	Data flow	Number of user terminals	Number of Network equipment	Number of datacenters	Datacenters location	cloud	Data center consumption	Ecodesign of equipment/ eco-conception	Equipment lifetime	Energy efficiency	Challenges
Ademe Transition 2050	Business-As-Lisual						++, in particular in small										
	Frugal Generation	embedded intelligence because of equipment limitations, digitial mutalization					data flow growth to stop from 2025 onwards	number of user equipment stable compared to 2020. IoT equipement number stable compared to 2020. equipment rental services are developed. embedded intelligence because of equipment limitations.	mutualization/sharing of network equipment number of network equipment = 2020 refie to ware then to BA11	no data center development. data volume from small DCs decreases to zero in 2050. that of large DCs grows by 15% per year. growth in data from small DCs stagnates then doclines while that from	development of local DC. surface of DC reduced tw 25%	digital sobriety	efficiency of DC increases by 13% / year. PUE diminishes to 1.02. optimization of data centers, smaller cooling appliances . DC efficiency	improved energy efficiency, eco-design of equipment, low tech, embedded intelligence because of equipment limitations.	, equipment that can be repaired by citizens, public purchases based on reconditioned equipment	increases. unitary consumption divided by 3	significant behavioural changes required, raw materials shortages
	Regional Cooperation	controlled digital uses					negotiations between players	rationalize their equipment purchases and uses	scenario. will prefered to mobile networks	large DCs increases by 15%/year	compared to BAU scenario	externalization of	year. PUE decreases to 1.02.	improved efficiency.	life time extended by 1 year	increases. unitary consumption divided by 2	possible rebound effects
	Green Technologies	Digital deployment, increasing usage, Software not optimized					+ increases	increasing number of equipment.	same network deployment as BAU scenario			infrastructures by firms and public services development of cloud	very sharp increase	Software not optimized	recycling increases, but obsolescence is high	++. unitary consumption = same as BAU	high rebound effects
	Restauration Gamble	frequent software updates => software less optimized						number of user equipment increased ++.	high deployment of 5G and plus (6G etc.)	multiplication of DC in terms of number and size.		services. externalization of infrastructures by firms and public services	n dedicated (solar) energy production, use of waste heat	frequent software updates => software less optimized	repairability increases, but obsolescence is high. frequent software updates	increased energy efficiency of equipment. unitary consumption = same as BAU	high rebound effects
negaWatt	negaWatt	prioritization of uses after 2030, reduction in the use of large "traditional" appliances,					regulation of the quantities of data exchanged after 2030, capping of energy consumption by telecommunications operators, network consumption remains high but limited by prioritization of uses	reduction in purchases (repair, pooling, etc.).		migration to the cloud					+ reduction in purchases (repair, pooling, etc.).	sustained efficiency gains	
EU green deal	EU green deal	Up to 240 Digital Innovation Hubs will advise SMEs on how to integrate digital innovations into their products, business models and processes.				*	demand for data handling is expected to grow.		demand for data handling is expected to grow.			more cloud and edge computing			encourage businesses to offer, and to allow consumers to choose, reusable, durable and repairable products.		Tensump the supply of sustainable raw materials, in particular of oritical raw materials ensessing for clean technologies, digital, space and definota applications, by sources, is therefore on of the part-exclusions to management of the environmental impact of electronic communication services, more stringent measures when devices and therefore the environmental impact of electronic communication services, more stringent measures when devices and therefore the services and the services and the stransparency on the services the services and and the services and the services and the services and devices such as mobile phones, tablets and chargers".
	Great decoupling Ecotopia																
	Unity in adversity Technocracy for the																
Eionet	common good																
	Post Anthropocene						high (Data collection is high, but anonymised, open, shared, and inclusive with high accountability)										
	Extinction Express																
Arup	Humans Inc. Centralised Market-driver	1				++	Loud streams of data										
	Centralised Society- driven Distributed Market-driven					**											Data security, strategic resources are not necessarily readily available on the market
Danish Design Center (DD	Distributed Society-driver	1				**									Increased reparability of digital equipment, and	ſ	
SNBC	Baseline												x3 (2019 : 3TWh, 2030 5TWh, 2040 : 6.5 TWh,		recycling		
	Baseline Extensive					**	very rapid growth				snaring		2050:9.5 TWh) x3 (2019:3.5TWh,			continuous efficiency gains	ressources supply
	Reindustrialisation	lace advartision, amails sunnession and				**	very rapid growth				sharing		2050 : 9.5TWh)		++, fighting programmed obsolescence, increased equipement	continuous efficiency gains	
	Sufficiency	reduced Internet searches				+	videos	Fewer screens			sharing		2050 : 7.6TWh)		lifetime,	continuous efficiency gains	
кТЕ	Acceleration 2030	usages priority, each new infrastructure				**	very rapid growth				snaring		x3			increased efficiency gains	
Shift	PTEF	must be justified, no high resolution videos, no cloud gaming -increase of the use of ICT in many sectors (higher education, defense, etc.). Equal employment level in ICT sector					controlled growth	bounded equipment rate pe	e				decrease thanks to efficiency and limitation of data transfer		5 years for profesional use	+ (world energetic consumption : 3.2% with a 1.5%/year growth)	
	Digital society	increased consumption in some branches (housing, health, leisure activities)	increased number of equipment												shorter lifespan		
France 2072	Collective society		number of equipment stable	e											longer lifespan		
	Planetary destabilization		,				Data accumulation									limited efficiency gains	
	Green hut inhumann		Limitations on individual consumption may be operationalized by a strong surveillance etate													hinh efficiency rains	

		ICT Infrastructure													
			Usage & Society						Lev	ers from equipment					
Study	Scenario name	Evolution of usages	Sobriety	Digital Social Equity	Data management and policies Data flow	Number of user terminals	Number of Network equipment	Number of datacenters	Datacenters location	cloud	Data center consumption	Ecodesign of equipment/ eco-conception	Equipment lifetime	Energy efficiency	Challenges
Digitalization&Anthropoce	n Deliberate for the good	Reduced demand. utilizing digitalization for realizing a high-service level, low-resource use accely, drawing on demand to align with intermittee renewable energy walkability.	reduced demand.	regulating the data-based monopoly power of big tech companies.	Decentralized computing computing trusts, suite and high levels of distributed agency, that make keeping private the default. In that make keeping private the default. In that account with the infrastructures via distributed with the minimum of the default with a count of the distributed with the distributed with the distributed with the distributed with the distributed with the distributed with the distributed with the distributed with the distr							Durable designs, legislation against planned obsize chains for closed-loog production, zero e-waste circular economy	Laws mandating durability and repart targets for recycled content in new electronic products, electronics as a service	medium-high efficiency gains	
	Renowed	Digital reputation is used everywhere		Constant evaluation increases inequality											
	Meddling				ultra-sovereign digital and data management		6G brieffly mentioned								
CNIL	Home Sour Home	quota on digital use starting 2039	from 2039 but possible to buy credits	- data credits		**									
Digital Challenge	Quebec 2040		of usage and purchase of goods from individuals and organisations	Digitalization for everyone. Setting of some digital commons	Digitalization is seen as a limited resource. Protoes time impacts of digital technologies in the technologies in the technologies in the economy of attention	- equipment mutualisation in companies	6G but no 7G+					eco-conception, circular economy, reconditioning	++, law against obsolescence	**	

										Applications of IC1								
														Optimization of other Communication and sensitialization or	Education Johnson,			Heating and matteries
Sharky	Scenario name	Televisiting	Transportation	Industry	(Peula) medecine	High tech / automation of agriculture	Bology	Administration	Boaromy / Digitalization of ourrency	Art and Leisure activities	Breegy.	Buildings Dian planing	Boological, economic and social monitoring	sectors endowned	Communication universities etc)	e-converse 3	lavellance	100
																supply chair management (pas.		
arr	arc.	 (but savings depend on the context of load) 	a based and shared mobility.			Second Second Section					a descent size Textbilly	at an in a Weight of the state of a Party		spreading sublativability culture via the indexed and district hetheritest		specifique e commerce mais y		
			- person and a second contact of											can terre a participat				
And the second of	Bullette Bulletet															The angle strengthment of P		
	Prused Deneration	realition of prevent			Includings, Internedicine					Interded Marce		diabel building control				- decides to a commerce		
					-								details in the set of the set of the set					
													management of water and eater shortages.					
													collaborative environmental management, etc.					
													development of digital look to assist purchasing and	digital still present, communication or				
					priority to digital sensions useful to the								consumption (mable applications, environmental	eco-gedures and using ICT for		- Sector a constance		
	Augusta Califeration				saciety sacras rear	and concern our maps		at the fight of plane, devices				enarrey as	mend ent	entraneous approximity		and the protect of the second se		
	Green increasingles									reprises conservation to many account		TT ABLE DE LETTERE, ETAT LETT, ETAT SETER				· and apprend of P caroline		
			constrained and constrained adjustments											community of a first state of a first st		++, autonomous delivery robots,		
	Review all in Candile	**	including shared orbities		dutatedb pretained, translative	field transfells, well's relation				Internet continues to distlice, but data flows	ament and	++ Smart Hanes, smart cities		impact of C7 and moveling		In a commence		
			a particular second lines and second a franchistory of the															
resident.	real for	a growing	postro, cer sherina.		e-teath					a shalled block proves	shart and	a subriety but also more intelligent equipment						
_														Chattering on all here incrove the				
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													monitoring and optimizing how energy and natural	by digital means, on defaits such as				
			sound and and the second second										resources are used. European scientific and industrati	where the food comes from, its				
The second start	The second second		and and			contribute and to find					tion frame.	increased distribution of the boldship shock	reaction of the Karth	Training cards, and its incommental				
						Aprinalized automation for largently precision fermings vertical fermine					-			apar.				
		land and the second sec				maintenam in European citizaturge unde farms, data analytics, sensor			National currencies replaced by digital alternatives operated by									
	cases seconding	sense assessed			surrous secondos, protectadas	answell we must a minutiseries passed			manager and a second seco									
									Decertificational digital currentities to board facial economies or reward									
	Restaura .	and the second part of the second sec							and the industry is had and other on provided barrantime	duth sheet					and all set of a			
	Their is advected.								Property in the second s	and an								
	and a surger	1											had bed increasing and it manys					
	Technological for the company	1				Approximate in targe scale and intensive, use although tech solution from its applications, association foreigns, and discourse and							methoday of evolution and and evolution	Character was efficient	Musi citizens princad			
Eastel	good .	1				against a second s			economy			Advanced adamma in a in city!	cyclema.	use of materials	highly personalized apps personal exclusion			
		Advantage Meeting story on the local	d .												comes hash and acclosed		Third case motion contex facilitated to investor	
	Greenhankiy	bauel													education		manifaring bechnalogy	
														Everyone has and knows. Their carbo				
														quite and dely spend. Al provides de				
														updales, state governments penalse				
	Pud Arthrupscene				x	precision apriculture, vertical farms							planetary health monitoring	competit.				
	Extinction Express.	×	automatic cars	tech work, resource processing	x	industrial factories with robots			All agents find patients in the market								micro-drones for police	
										galgets and a TV the length of the wall, digital walls displaying images.								
Jesp	Humana Inc.	8		assessment of many dangerous and reprint rejul		Apricultural technology improves crop resilence				of a clean valention to protect readents from the unpleasant view;		Tacuum and find robots			unitre courses			
																	EveryBung is being backed and used to optimize to extend on a bird advantation of the dealer which have a	Date .
																	N are surveying most sites on their own through	
	Centralised Market-situen	when affice	Al decides what the best route is		What health comparison, remote surgery		Individually optimizes and enhances processes	personalised services and insurance policies	Decision made by R	Virtual assessment suggest and black activities. At sport coach, writial band					in sirkai wirki	× 4	diones and sabelbe imagery	
		Web harrises with other			Receipt and according and according											×	Autocompany apportant to	
	Centralised Society-driven									Exhibition of autonomous soulplanes								
	Centralised Society-driven		Bed transport is desided automatically.							Exhibition of autonomous subplanes								
	Centralised Society-driven		Best transport is decided automatically. Insee private dranes or industrial							Exhibition of autoromous subplanes								
Davish Design Cent	Centralised Society-driven	Remails working	Best transport is decided automatically, from private dranes or includinal beighter, unmanned cargo canters,	manufasturing robolis	Manuci, remaile medecitie					Exhibition of autonomous samplanes neuro-constabled games, obsams, while sport, while boot camps					in shad world	x		
Darish Design Certi (DDC)	Entratued Maket-shown Datributed Maket-shown Datributed Saciety-shown	Remaile working Remaile working	Best transport is decided automatically, from private drones or industrial beighter, unmanned cargo canters,	manufacturing robotic Robotis for manufacturing	lainics, remain medecine					Earliften of autonomus subplues neuro simulated games, steares, vitual spot, vitual boal camps special mined really event		dramestaging out the nort lites			in shlud world	x		
Danish Design Cent (DDC)	Centraluel Existy-share Distributed Market-share Distributed Sastely-share	Remarks mainling Remarks mainling	Bed transport is dealed automatically, from priorite drawes or included beighter, unwarved cargo carriers, optimizing vehicle use in Suth passenger	nandadurng robots Robots for manufacturing	biancos, remote medecine					Robbins of autoramous surgicles neuro constated games, cleans, votual spot, votual boot camps special stated ready event	Make local use of the inclusion we have body (his	arises loging out the his/files		Rabing anarotess of climateissues	in sinisat works	×		
Darish Design Certi (DDC) 3NBC	Centralized Society-shrees Databased Market-shrees Databased Market-shrees Resettine	Remute auching Remute auching >* (mak limitation de Yeldement urbain)	Bed transport is desided automatically, from private droves or industrial freighter, unnarried cargo cardens, optimizing vehicle use in: both passenger and goods transport	manufacturing robots Robots for manufacturing	Bianuca, remute medicitire					Endelisis of automasis subjects neuro-simulatic games, estames, voluet spot, voluet lood camps special missed castly event	Idde bed us of the boloulogies we have body (to instanted toroutling)	d tresting out the softline		Robing Insurances of Almahricans Antiphiling (Daris	in shhaif world	x		
Danish Design Certi (DDC) 3NBC	Certralows Booling- driven Datributed Market-shrven Datributed Sackety-shrven Bandine	Remule solding Remule solding Initiality (was limitation de Mildemend urbain)	Bed lisraport is decided automatically, from private droves or industrial frequese, summaries (ango carriers, optimizing vehicle use in both passenger and goods literaport	manufacturing robotic Robotic for manufacturing	lance, wrote reductor					Endeduce of automatuse scapicos; neuro constated games, elevante, voluat spot, voluat bost camps, special initiad reality event	Side Lett up of the technologies we have badly the essented invasion	Bioles traing auf Re-nucl Tax.		Rebing anaryses of cloude indues and polyg citizes	in shind world	×		
Darish Design Cert (DDC) 3MBC	Centralised Society-shows Datricules Market-shows Datricules Society-shows Bootine Bootine	Benute schling Benute schling V (vak Indation de Midemeri utabi) 175. store ensteler Schle bel alter S	Bed Surgeof is dealed advantably, from private devices of inhabitid brighter, universe of inhabitid hypothesis and provide the set of the set optimising which use in Soft passenger and production provide the set and production of the set of the set and production of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set	manufasturing noises Robots for manufasturing	lännucs, servade medecitie					Exhibition of Automations schipplenes means estimated games, ethearing, volume sport, volume boot camps appeal a minimit readily access	NMe bed are of the technologies are have hadey (for executed innovation) Produce execution consumption control added by digital	di seestaging suite suittass consumation products of the sales stopp of forces and constraining spectrum, can also some access the		Robig suprovs of cliniteicans and gaby class	in shaf world	*		
Davah Desge Cent (DDC) 3MBC	Centralised Excitely-alven Distributed Market-alven Distributed Sackety-alven Boostine Boostine	Remule aucting Remule aucting 19 (sat build to de Vitalemer) utabil 19 s. uture remuley for plat bui alow it	Bed Transport is decided automatically, from plrade droves or including benjates, unnarrowd cargo santees, optimisting which use in both passenger and goods transport	manufakturng ndobi Robols for manufakturng	lionoco, nevole medecine					Excludion of advantume scappores resure emulated games, other spot, where boot camps special model cally sheet	Nute local one of the biothesisgies we have baday (Na assumed transmissio) Provide electronic account of a check by digital biothesings	diversibility out the northese community states or the walks large of fourie automation upper states, call while states are assess to access the states and the state access the states there are there are also access to a state the state there are there		Robig samme of dividences and galaxy dises	In shired world	x		
Danah Desge Cerd (DCC) 3MBC	Centralized Existing Adven. In Calificated Market-doven. Calificated Excisity-doven. Resettine Resettine	Renaite anching Renaite anching 1** (mas brokalium de feldement urbain) 12% ultime renaitely for pilo Rut allow it	Bed Insepper's de tide a Asterdanding Seno private drivers or Induction Tenglides, manamed Large Landers, optimizing which one in Soft passenger and goods Strenger E	manufasturing robots Robots for manufasturing	Manaca, revolte medincitie					Endeline of automates scapped	Nobe send we of the following as we have budy (to assumed invasion) mediate electricity consumption control asked by digital biologicy mediate electricity consumption control asked by digital	diversitying bullie-software conversitying parties of the addressing of these manufacture oppositions to some a scale scale. The Reading of the lower		Robig assesses of chole issue and public classes	is shart world	x		
Daroh Drage Cerd (DDC) 3NBC	Cerkuland Backel-aktern Dicklauted Backel-aktern Dicklauted Backel-aktern Bacetore Bacetore Bacetore Extension Prenduch statution	Remine society Remine society ** (nas location de Mildement urbain) 19%, uttore remainly for jobs that allow it 19%, uttore remainly for jobs that allow it	Bed transports de tode automatisatiy from private invess or industrial heighter, unvariant ango canters, spfinishing which use in fulfit passenger and positiviterious in fulfit passenger	manufasturing robots Robots for manufasituring	lannoc, renule medicine					Endeline of adversion scalptors	Nida land on of the historicagins we have today (his assumed instantion) multite electronic generations control activity again particular producting	Boreas buying and the react large of forms accommoding search or the radio large of forms building of the large of the search large of the large commoding of products or the acchimation of the large of the large commoding of the large		Rabig internet of cloude inter and pulsy etterns	in shiftsandi	x		
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Darish Design Cert (DOC) 35/8C	Celebabe Ecity - Steen Districted Market-siteen Districted Market-siteen Biostice Resette Eciencie Revolucitabution Sufficiency	Remain encloy Remain encloy Remain encloy 12% attained as Middeneral usually 12% attaine encloy to juin fait alow it 12% attaine monitory for juin fait alow it 12% attaine monitory for juin fait alow it	Best torought is decided advertuding toroughter development of the set of the telepher, unnament dargo sarters, updreiding which our is fully passenger and passis torought I I I I I I I I I I I I I I I I I I I	nauhakang okon	lance, ande nedecte					Exclude of Advances and power	Made beed over of the McNuchagins on Name Scales, PDL missared Networkship (Nameta mencular) Paneta mencular) paneta see the Name Scale Scale Scale Scale Montogy Paneta Scales Scale Scale Scale Scale Scale Scale Paneta Scale Scale Scale Scale Scale Scale Scale Scale Paneta Scale Scale Scale Scale Scale Scale Scale Scale Scale Paneta Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Paneta Scale Scale Scale Scale	A per special de soften		Rang pasaran na di dinatrikan ang palip diteri	n abdied d	x		
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		Digital technologies												
Study	Scenario name	data analytics/monitoring	AI	cloud and edge computing	Automation/robotics	InT	Dropes	Satellite images	Virtual/Mixed Reality	3D printing	Open data	environmental impact assessment (Life-cycle	Mobile Networks (6G, 7G)	low tech
IPCC	IPCC		x		x	x							,	
Ademe Transition 2050	Business-As-Usual					+ Increasing number of connected objects							66	
	Frugal Generation		ves but limited because embedded		+	- decrease	+							x
	Regional Cooperation		,			used for energy optimization and public					onen data for environmental monitoring			
	Course Technologies					+ development but lower than present					open data for environmental monitoring			
	Green rechnologies		**		massive robotization. massive use of	++ Increasing number of connected					Al widely used for knowledge of climatic			
	Restauration Gamble		+++		blockchain	objects					events and decision support			
negawatt	negawatt		x smarter devices in building											
EU green deal	EU green deal	predict and manage environmental disasters, develop	al intelligence solutions, natinate evidence-based decisions and expand the capacity to understand and tackle environmental challenges, artificial intelligence can accelerate and maximise the impact of policies to deal with climate change a ad context the environment	cloud and edge computing can accelerate and maximise the impact of policies to deal with climate change and protect the environment	automated mobility	internet of things can accelerate and maximise the impact of policies to deal with climate change and protect the environment					Accessible and interoperable data are at the beart of data-driven innovation	Electronic product passport could provide information on a product's origin, composition, repair and dismantling possibilities, and end of life handlino.		
					For productivity gains and economic							- and		
	Great decoupling Ecotopia	×	For productivity gains and economic growth		growth		For farming							
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[]	T	for agriculture, fishing and forestry , to personalised	delto andete en embre anno electros bertito encloses. A diffe	det latettionen in energie energie	d in made them		in and a dura			for manufacturing, construction and				
Elonet	rechnocracy for the common good	appo	dairy opdate on carbon quota, planetary nearth monitoring, Artino	an intelligence is pervasive across municipa	a in agriculture		in agriculture			agriculture				-
	Greentocracy	People and environments are highly sensored.	Mainty involvemented for individual and assesses poles. Prevides							for food				
	Post Anthropocene		daily update on on carbon quota, planetary health monitoring, Al is pervasive across municipal systems.			Mainly implemented for individual and corporate gains					x	Full life-cycle and ecological resource assessments are mandatory for all new products		
	Extinction Express		economic transaction		tech work, Food and resource processing, automatic driving		micro-drones for police		×					
Arup	Humans Inc.		universal basic income.		universal basic income.									
			Sophisticated Al-powered businesses with rich data feeds are capable of automated decision making, research and production											
	Centralised Market-driven	Satellite inspections	of welfare technology		For medecine		for surveillance	for surveillance	Vitrual everywhere					
	Centralised Society-driven	satellite inspections	Al for production of welfare technology, for surveillance		Autonomous security units	Public sensor data	for surveillance		For work	4-D printing				
									++technology allows you to see, feel, touch, an even smell your friends and family from the other side of the planet. Private permanent simulated works are becoming increasingly					
Danish Design Center	Distributed Market-driven	Importance of data	for distribution		unmanned cargo carriers, manufacturing	robolic	delevery drones, drones fo	r monitoring,	popular;					
(DDC)	Distributed Society-driven		local Als		for manufacturing,		drones for builling		special mixed-reality event					
SNBC	Baseline													-
	Baseline Extension Delectrosterio	Data processing to anticipate damage and improve the performance of petwork operations, know the "real												
	Sufficiency	age" of components, optimize their operating life and			flexibility management, smart demand									
OTF	Assolution 2020	rationalize maintenance actions through better			management, home automation									
RIE Chille	Acceleration 2030	monitoring or asset nearor.			appreations							for each service and an inwest		-
Smit	Pier Delet											for each service and equipment		
Plance 2072	Collective society													
					widespread automation of production									
	Planetary destabilization	x	Al technologies, could enable effective and continuous		systems									
	Green but inhumane	×	population control											
Digitalization&Anthroport	Deliberate for the good	x	are used efficiently and effectively, with trusted data practices and high levels of distributed agency.								++ Open source datasets, data cooperatives			
	Renowed	х												
	Meddling	x					х						6G	
CNIL	Home Sour Home	x	Al in Chief Home Offficer.			x								x
													6G - discussions around 7G led to its non	
Digital Challenge	Quebec 2040											x	deployement	x