



Introduction

Background

- We need to transition to sustainable energy because of several reasons (e.g., climate change)
- The transition process is hampered due to lack of **viable business models**

Goal

To facilitate the design of **viable business models** for sustainable energy

Objective

To develop a business model design framework for **viability** that adopts an business ecosystem approach

Research Question

How to design **viable business models** in context of **business ecosystems**?

Definitions

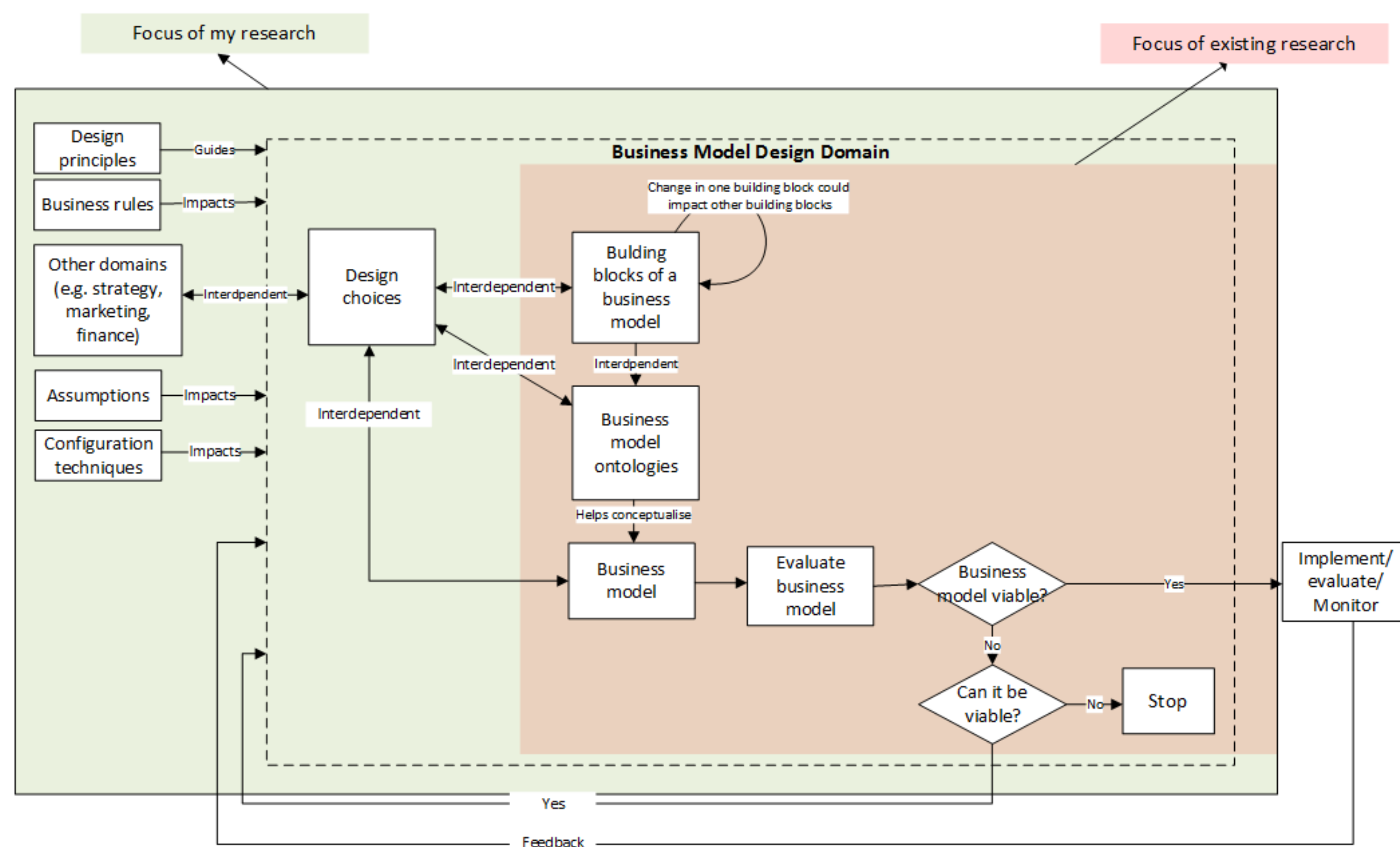
A **Business model** describes how an enterprise or a group of enterprises intend to create, exchange, and capture value ([Dsouza et al. 2014](#))

A **business ecosystem** consists of enterprises that coevolve capabilities around a new innovation: they work cooperatively and competitively to support new products, satisfy customer needs, and eventually incorporate the next round of innovations ([Moore 1993](#)).

Methodology

Design science research framework ([Peffer et al. 2007](#))

Business model design framework for viability

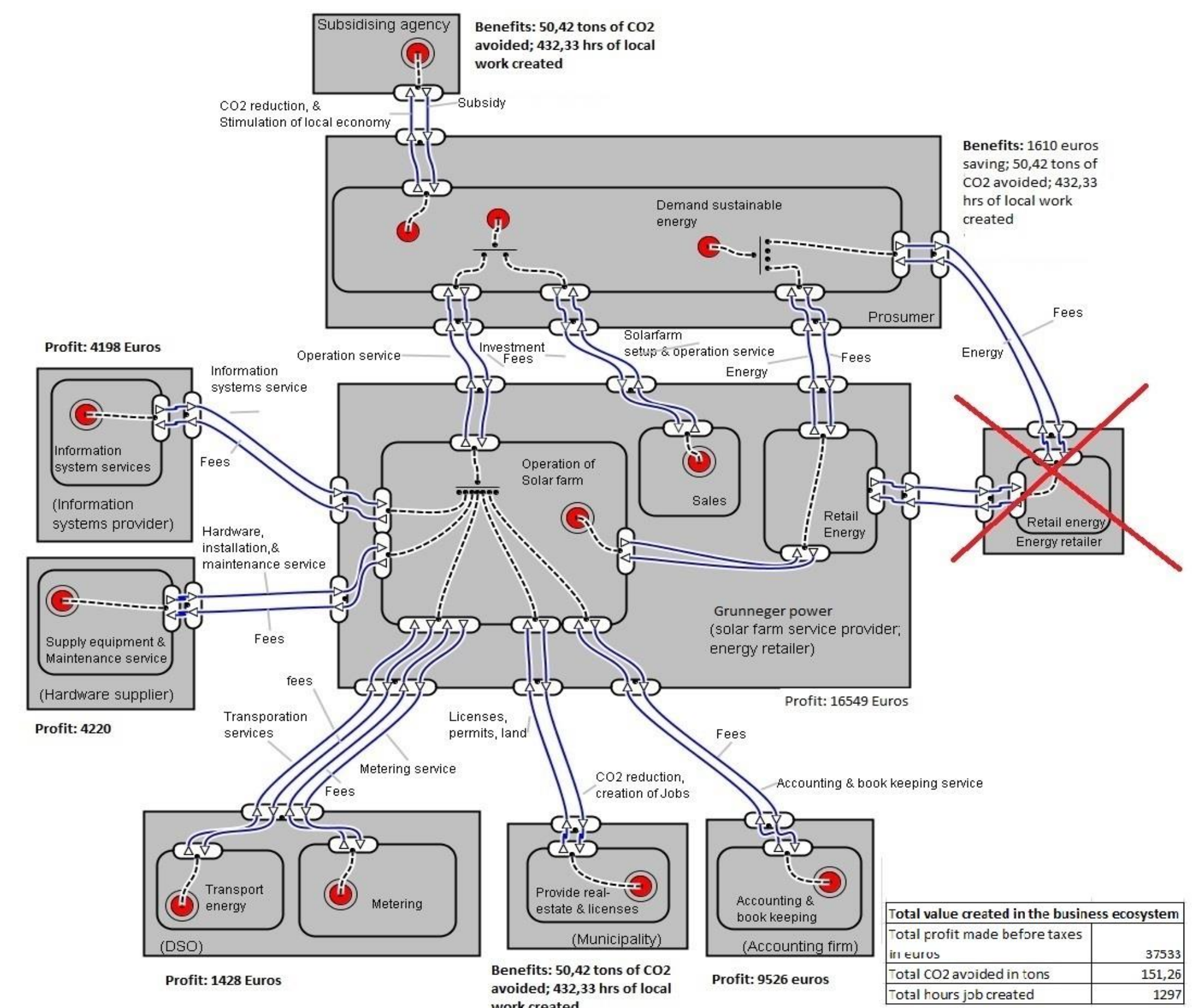


Application (solar farm business)

Figure 1 Business model of the solar farm service provider

Key Partners	Key Activities	Value proposition	Customer Relationship	Customer Segment
Municipality Distribution system operator (DSO) – Enexis Suppliers - IS suppliers - Hardware suppliers Investors/customers Finance service provider	Marketing/advertising Sales Setup solar farm Operate solar farm Customer/investor relationship management (CRM) Partner management	Green energy Social benefits Good ROI Self sufficiency Reduction of environmental impact Social engagement Reports Convenience Reliable Positive self image	Communities Personal Automated Co-creation	Customers who are interested in a sustainable lifestyle, and without the possibility of installing solar panels on their own roof. Furthermore, customers in this segment are also interested in creating social benefits.
	Key Resource Finance Knowledge Human resource Information systems Hardware (e.g. solar panels) Accounting capability Billing capability Energy transport capability Realestate		Channels Sales force Website Internet communities Community representatives	Energy retailers who want to buy green energy and retail it.
Cost Structure Capital expense Setup of the solar farm (150 solar panels) = 37.773€ Operational expenses Average annual operational expenses = 3.242€ Investor (prosumer) rents 1785€ (Average annual revenue through sale of electricity) - 1.333€ (Average charged operational expenses) = 452€			Revenue Stream	
			Transactional revenue	Amount
			Investment in the solar farm	37.773 €
			Recurring revenue	
			Average annual revenue through sale of electricity	1.785 €
			Average operational expenses charged to prosumer	1.333 €
			Total	3.118 €
			Average annual revenue before taxes (recurring revenue - opex)	-512 €

Figure 2 Solar farm business ecosystem



Result

The framework has been successfully applied to design a viable business model



Ministerie van Economische Zaken



Nederlands

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English

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